Meeting of the DDA Board of Directors
City Hall – Meeting Room A
215 West Main Street
November 20, 2018 - 8:00 a.m.

AGENDA

1. Call to Order – Shawn Riley

2. Audience Comments

3. Approval of Agenda and Consent Agenda

4. Consent Agenda
   a. October 2018 Financial Statement (Attachment 4.a)
   b. October August 2018 Invoice Report (Attachment 4.b)
   c. October 16, 2018 Meeting Minutes (Attachment 4.c)

5. Presentation of Audit
   a Audit Letter (Attachment 5.a)
   b. DDA Financial Report (Attachment 5.b)

6. Parking Deck Repair Update
   a. Center Street Report (Attachment 6.a)
   b. MainCentre Report (Attachment 6.b)
   c. Financing Strategy (Attachment 6.c)

7. Committee Information and Updates
   a. Design Committee – Robert Miller (Attachment 7.a)
   b. Marketing Committee – Shawn Riley (Attachment 7.b)
   c. Parking Committee – John Casey
   d. Organizational Committee – Carolann Ayers
   e. Economic Development Committee – Aaron Cozart (Attachment 7.e)

8. Future Meetings / Important Dates
   a. Marketing Committee – December 6
   b. First Friday/Holiday Shopping Event – December 7
   c. Design Committee – December 10
   d. Executive Committee – December 12
   e. Economic Development Committee – December 17
   f. DDA Board Meeting – December 18

9. Board and Staff Communications

10. Adjournment – Next Meeting November 20, 2018

REVENUE AND EXPENDITURE REPORT FOR CITY OF NORTHVILLE
PERIOD ENDING 10/31/2018
% Fiscal Year Completed: 33.70
OCTOBER BENCHMARK 33%

GL NUMBER	DESCRIPTION	2018-19 ORIGINAL BUDGET	2018-19 AMENDED BUDGET	YTD BALANCE 10/31/2018 NORM (ABNORM)	ACTIVITY FOR MONTH 10/31/18 INCR (DECR)	AVAILABLE BALANCE NORM (ABNORM)	% BDGT USED
Fund 370 - DOWNTOWN DEVELOPMENT AUTHORITY							
Revenues							
Dept 000							
PROPERTY TAXES							
370-000-403.000	CURRENT PROPERTY TAXES	669,444.00	669,444.00	580,377.47	0.00	89,066.53	86.70
370-000-403.010	DDA OPERATING LEVY	58,211.00	58,211.00	54,150.72	104.56	4,060.28	93.02
370-000-403.040	LOCAL COMMUNITY STABILIZATION SHARE	36,000.00	32,041.00	32,041.08	32,041.08	(0.08)	100.00
370-000-418.000	PROPERTY TAXES - OTHER	(5,000.00)	(5,000.00)	0.00	0.00	(5,000.00)	0.00
PROPERTY TAXES		758,655.00	754,696.00	666,569.27	32,145.64	88,126.73	88.32
GRANTS & OTHER LOCAL SOURCES							
370-000-586.020	SPONSORSHIPS	8,000.00	8,000.00	6,953.00	1,653.00	1,047.00	86.91
GRANTS & OTHER LOCAL SOURCES		8,000.00	8,000.00	6,953.00	1,653.00	1,047.00	86.91
COMMUNITY CENTER REVENUES							
370-000-659.110	RENTS-SHORT TERM	150.00	400.00	400.00	0.00	0.00	100.00
COMMUNITY CENTER REVENUES		150.00	400.00	400.00	0.00	0.00	100.00
INTEREST							
370-000-664.000	INTEREST - COMERICA INVESTMENT POOL	2,500.00	2,500.00	1,230.32	644.27	1,269.68	49.21
370-000-664.190	INTEREST - MI CLASS INVESTMENT POOL	0.00	100.00	216.89	82.90	(116.89)	216.89
370-000-664.200	LONG TERM INVESTMENT EARNINGS	5,000.00	5,000.00	1,429.19	0.00	3,570.81	28.58
370-000-664.300	UNREALIZED MARKET CHANGE IN INVESTMENTS	(2,000.00)	(2,000.00)	12.51	0.00	(2,012.51)	(0.63)
370-000-664.400	INVESTMENT POOL BANK FEES	(600.00)	(600.00)	(97.24)	(32.20)	(502.76)	16.21
370-000-664.500	INVESTMENT ADVISORY FEES	(750.00)	(750.00)	(110.68)	0.00	(639.32)	14.76
370-000-664.600	BANK LOCKBOX FEES	(300.00)	(300.00)	(72.82)	(5.83)	(227.18)	24.27
INTEREST		3,850.00	3,950.00	2,608.17	689.14	1,341.83	66.03
MISCELLANEOUS REVENUES							
370-000-666.000	MISCELLANEOUS REVENUE	200.00	200.00	858.00	733.00	(658.00)	429.00
370-000-667.000	INSURANCE PROCEEDS	0.00	0.00	5,427.00	5,427.00	(5,427.00)	100.00
370-000-673.000	GAIN ON DISPOSAL OF ASSETS	0.00	0.00	64.00	64.00	(64.00)	100.00
370-000-687.010	MMRMA DISTRIBUTION	0.00	2,390.00	2,389.50	0.00	0.50	99.98
MISCELLANEOUS REVENUES		200.00	2,590.00	8,738.50	6,224.00	(6,148.50)	337.39
FUND BALANCE RESERVE							
370-000-699.010	APPROP OF PRIOR YEAR'S SURPLUS	0.00	22,316.00	0.00	0.00	22,316.00	0.00
FUND BALANCE RESERVE		0.00	22,316.00	0.00	0.00	22,316.00	0.00
Total Dept 000		770,855.00	791,952.00	685,268.94	40,711.78	106,683.06	86.53
TOTAL REVENUES		770,855.00	791,952.00	685,268.94	40,711.78	106,683.06	86.53
Expenditures							
Dept 753 - DPW SERVICES							
370-753-706.000	WAGES - REGULAR FULL TIME	5,485.00	7,985.00	1,649.65	816.84	6,335.35	20.66
370-753-707.000	WAGES - REGULAR OVERTIME	570.00	570.00	332.52	332.52	237.48	58.34
370-753-939.000	AUTOMOTIVE SERVICE	500.00	500.00	0.00	0.00	500.00	0.00
370-753-943.000	EQUIPMENT RENTAL - CITY	2,650.00	3,400.00	404.33	229.84	2,995.67	11.89

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Fund 370 - DOWNTOWN DEVELOPMENT AUTHORITY							
Expenditures							
370-753-967.000	FRINGE BENEFITS	6,005.00	8,205.00	2,064.51	1,169.87	6,140.49	25.16
Total Dept 753 - DPW SERVICES		15,210.00	20,660.00	4,451.01	2,549.07	16,208.99	21.54
Dept 861 - DESIGN COMMITTEE							
370-861-706.000	WAGES - REGULAR FULL TIME	16,160.00	16,160.00	4,260.27	1,154.87	11,899.73	26.36
370-861-710.000	WAGES - PART TIME	18,505.00	18,505.00	8,601.21	0.00	9,903.79	46.48
370-861-726.000	SUPPLIES	475.00	475.00	120.13	0.00	354.87	25.29
370-861-740.050	DOWNTOWN MATERIALS	19,450.00	19,450.00	122.37	0.00	19,327.63	0.63
370-861-751.000	FUEL & OIL	0.00	1,000.00	324.57	0.00	675.43	32.46
370-861-801.000	CONTRACTUAL SERVICES	25,807.00	25,807.00	9,434.39	1,668.77	16,372.61	36.56
370-861-801.160	RESTROOM PROGRAM	2,750.00	2,750.00	1,415.00	465.00	1,335.00	51.45
370-861-801.940	BRICK REPAIR & MAINTENANCE	2,500.00	2,500.00	0.00	0.00	2,500.00	0.00
370-861-850.000	LANDSCAPE MAINTENANCE	31,750.00	31,750.00	38.00	0.00	31,712.00	0.12
370-861-913.000	VEHICLE INSURANCE	0.00	350.00	86.50	0.00	263.50	24.71
370-861-920.010	ELECTRIC POWER	1,500.00	1,500.00	188.71	64.73	1,311.29	12.58
370-861-920.020	NATURAL GAS	3,930.00	3,930.00	249.34	99.40	3,680.66	6.34
370-861-920.030	WATER & SEWER SERVICE	7,660.00	7,660.00	3,684.66	1,731.93	3,975.34	48.10
370-861-967.000	FRINGE BENEFITS	8,185.00	8,185.00	2,506.86	495.77	5,678.14	30.63
370-861-973.000	CAPITAL OUTLAY < $5,000	0.00	1,500.00	1,500.00	0.00	0.00	100.00
370-861-976.010	STREET FURNISHINGS	500.00	14,955.00	19,023.50	4,569.50	(4,068.50)	127.20
Total Dept 861 - DESIGN COMMITTEE		139,172.00	156,477.00	51,555.51	10,249.97	104,921.49	32.95
Dept 862 - MARKETING							
370-862-706.000	WAGES - REGULAR FULL TIME	16,160.00	16,160.00	4,260.13	1,154.86	11,899.87	26.36
370-862-710.000	WAGES - PART TIME	12,520.00	12,520.00	0.00	0.00	12,520.00	0.00
370-862-726.000	SUPPLIES	150.00	150.00	18.99	12.00	131.01	12.66
370-862-784.000	DOWNTOWN PROGRAMMING & PROMO	29,800.00	29,800.00	24,838.36	3,883.20	4,961.64	83.35
370-862-785.000	BUSINESS RETENTION PROGRAM	2,357.00	2,357.00	0.00	0.00	2,357.00	0.00
370-862-801.000	CONTRACTUAL SERVICES	65,500.00	65,500.00	24,622.76	6,733.76	40,877.24	37.59
370-862-801.340	WEB SITE MAINTENANCE	840.00	840.00	540.00	30.00	300.00	64.29
370-862-950.050	O/T TO PARKS & RECREATION	2,500.00	2,500.00	0.00	0.00	2,500.00	0.00
370-862-967.000	FRINGE BENEFITS	7,375.00	7,375.00	1,758.71	495.75	5,616.29	23.85
Total Dept 862 - MARKETING		137,202.00	137,202.00	56,038.95	12,309.57	81,163.05	40.84
Dept 863 - PARKING							
370-863-706.000	WAGES - REGULAR FULL TIME	8,080.00	8,080.00	2,165.39	577.47	5,914.61	26.80
370-863-710.000	WAGES - PART TIME	1,255.00	1,255.00	0.00	0.00	1,255.00	0.00
370-863-726.000	SUPPLIES	50.00	50.00	0.00	0.00	50.00	0.00
370-863-786.000	DOWNTOWN PARKING PROGRAM	400.00	400.00	0.00	0.00	400.00	0.00
370-863-950.210	OPER TFR TO GENERAL FUND	50,000.00	50,000.00	25,000.00	12,500.00	25,000.00	50.00
370-863-950.260	OPER TFR TO PARKING FUND	113,100.00	113,100.00	44,050.00	22,025.00	69,050.00	38.95
370-863-967.000	FRINGE BENEFITS	3,300.00	3,300.00	929.96	247.89	2,370.04	28.18
Total Dept 863 - PARKING		176,185.00	176,185.00	72,145.35	35,350.36	104,039.65	40.95
Dept 864 - ORGANIZATIONAL							
370-864-706.000	WAGES - REGULAR FULL TIME	20,200.00	20,200.00	5,378.03	1,443.61	14,821.97	26.62
370-864-710.000	WAGES - PART TIME	6,260.00	6,260.00	0.00	0.00	6,260.00	0.00

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PERIOD ENDING 10/31/2018
% Fiscal Year Completed: 33.70
OCTOBER BENCHMARK 33%

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Fund 370 - DOWNTOWN DEVELOPMENT AUTHORITY							
Expenditures							
370-864-726.000	SUPPLIES	1,150.00	1,150.00	408.38	405.88	741.62	35.51
370-864-730.000	POSTAGE	100.00	100.00	0.00	0.00	100.00	0.00
370-864-731.000	PUBLICATIONS	65.00	130.00	127.92	0.00	2.08	98.40
370-864-801.190	TECHNOLOGY SUPPORT & SERVICES	1,490.00	1,490.00	1,734.61	1,192.01	(244.61)	116.42
370-864-802.010	LEGAL SERVICES - GENERAL	3,000.00	3,000.00	556.00	556.00	2,444.00	18.53
370-864-805.000	AUDITING SERVICES	4,930.00	4,930.00	4,754.00	384.00	176.00	96.43
370-864-900.000	PRINTING & PUBLISHING	975.00	975.00	434.12	58.86	540.88	44.53
370-864-910.000	LIABILITY & PROPERTY INS POOL	5,610.00	4,120.00	2,398.25	0.00	1,721.75	58.21
370-864-920.000	UTILITIES	1,420.00	1,420.00	472.88	118.22	947.12	33.30
370-864-958.000	MEMBERSHIP & DUES	958.00	958.00	1,095.00	270.00	(137.00)	114.30
370-864-960.000	EDUCATION & TRAINING	1,400.00	1,400.00	0.00	0.00	1,400.00	0.00
370-864-967.000	FRINGE BENEFITS	8,495.00	8,495.00	2,338.19	637.94	6,156.81	27.52
370-864-967.020	OVERHEAD - ADMIN & RECORDS	11,520.00	11,520.00	5,760.00	2,880.00	5,760.00	50.00
Total Dept 864 - ORGANIZATIONAL		67,573.00	66,148.00	25,457.38	7,946.52	40,690.62	38.49
Dept 865 - ECONOMIC DEVELOPMENT							
370-865-706.000	WAGES - REGULAR FULL TIME	20,200.00	20,200.00	5,589.93	1,443.59	14,610.07	27.67
370-865-710.000	WAGES - PART TIME	2,505.00	2,505.00	0.00	0.00	2,505.00	0.00
370-865-726.000	SUPPLIES	200.00	200.00	33.30	33.30	166.70	16.65
370-865-785.000	BUSINESS RETENTION PROGRAM	1,000.00	1,000.00	0.00	0.00	1,000.00	0.00
370-865-801.000	CONTRACTUAL SERVICES	5,000.00	5,000.00	0.00	0.00	5,000.00	0.00
370-865-803.200	PLANNING & DESIGN STUDIES	25,000.00	25,000.00	0.00	0.00	25,000.00	0.00
370-865-967.000	FRINGE BENEFITS	8,205.00	8,205.00	2,578.12	619.70	5,626.88	31.42
Total Dept 865 - ECONOMIC DEVELOPMENT		62,110.00	62,110.00	8,201.35	2,096.59	53,908.65	13.20
Dept 945 - DEBT SERVICE							
370-945-950.490	OPER TFR TO DEBT SERVICE FUND	173,170.00	173,170.00	16,585.00	0.00	156,585.00	9.58
Total Dept 945 - DEBT SERVICE		173,170.00	173,170.00	16,585.00	0.00	156,585.00	9.58
Dept 999 - RESERVE ACCOUNTS							
370-999-999.000	UNALLOCATED RESERVE	233.00	0.00	0.00	0.00	0.00	0.00
Total Dept 999 - RESERVE ACCOUNTS		233.00	0.00	0.00	0.00	0.00	0.00
TOTAL EXPENDITURES		770,855.00	791,952.00	234,434.55	70,502.08	557,517.45	29.60
Fund 370 - DOWNTOWN DEVELOPMENT AUTHORITY:							
TOTAL REVENUES		770,855.00	791,952.00	685,268.94	40,711.78	106,683.06	86.53
TOTAL EXPENDITURES		770,855.00	791,952.00	234,434.55	70,502.08	557,517.45	29.60
NET OF REVENUES & EXPENDITURES		0.00	0.00	450,834.39	(29,790.30)	(450,834.39)	100.00
BEG. FUND BALANCE		403,977.08	403,977.08	403,977.08			
END FUND BALANCE		403,977.08	403,977.08	854,811.47			

INVOICE GL DISTRIBUTION REPORT FOR CITY OF NORTHVILLE
POST DATES 10/01/2018 - 10/31/2018
BOTH JOURNALIZED AND UNJOURNALIZED
BOTH OPEN AND PAID

Attachment 4.b

GL Number	GL Desc	Vendor	Invoice Desc.	Invoice	Due Date	Amount	check #
Fund 370 DOWNTOWN DEVELOPMENT AUTHORITY							
Dept 861 DESIGN COMMITTEE							
370-861-801.000	CONTRACTUAL SERVICES	CLEAR RATE COMMUNICATI	PHONE & INTERNET	10/4/18	10/09/18	299.00	500322
370-861-801.000	CONTRACTUAL SERVICES	CHARLES J. BURKE	PAINT LIGHT POSTS	101218	10/24/18	750.00	108394
370-861-801.000	CONTRACTUAL SERVICES	COMCAST CORPORATION	EXPANDED WIFI	101718	10/24/18	233.27	108413
370-861-801.000	CONTRACTUAL SERVICES	MARC DUTTON IRRIGATION	IRRIGATION REPAIR	177236	10/24/18	386.50	108425
370-861-801.160	RESTROOM PROGRAM	JOHN'S SANITATION	PORTA POTTY	A-54029	10/24/18	465.00	108442
370-861-920.010	ELECTRIC POWER	DTE ENERGY	ELECTRICAL CHARGES	101618	10/24/18	64.73	108422
370-861-920.020	NATURAL GAS	CONSUMERS ENERGY	GAS USAGE 9/718 - 10/6/18	100618	10/24/18	99.40	500323
370-861-976.010	STREET FURNISHINGS	SIGNS BY TOMORROW	US FLAGS FOR DOWNTOWN	1-29231	10/24/18	4,557.00	108429
370-861-976.010	STREET FURNISHINGS	BIDNET	SURPLUS PROPERTY AUCTION CHARGES	2743	10/24/18	12.50	108458
			Total For Dept 861 DESIGN COMMITTEE			6,867.40	
Dept 862 MARKETING							
370-862-726.000	SUPPLIES	OFFICE DEPOT	28571763 SIGN HOLDERS	2222846043	10/09/18	12.00	108271
370-862-784.000	DOWNTOWN PROGRAMMING & PRC	SIGNS BY TOMORROW	SIGNS FOR SKELETONS	1-29299	10/09/18	85.50	108298
370-862-784.000	DOWNTOWN PROGRAMMING & PRC	SIGNS BY TOMORROW	SKELETON SIGNS	1-29299A	10/09/18	237.50	108298
370-862-784.000	DOWNTOWN PROGRAMMING & PRC	GRAPHIC VISIONS INC.	BANNER SIGN UPDATE	55099	10/09/18	86.00	108310
370-862-784.000	DOWNTOWN PROGRAMMING & PRC	JAG ENTERTAINMENT	SOUND AND BAND FOR SKELETONS EVENT	1869	10/09/18	1,500.00	108326
370-862-784.000	DOWNTOWN PROGRAMMING & PRC	NORTHVILLE PARKS & REC	TUNES ON TUESDAY	1800002480	11/07/18	1,930.05	108610
370-862-784.000	DOWNTOWN PROGRAMMING & PRC	SIGNS BY TOMORROW	SKELETON SIGNS	1-29344	10/24/18	19.00	108429
370-862-784.000	DOWNTOWN PROGRAMMING & PRC	LORI WARD	REIMBURSE PROP FOR SKELETON	E9G17HG00201MA	10/24/18	8.47	108446
370-862-784.000	DOWNTOWN PROGRAMMING & PRC	LORI WARD	MILEAGE	10082018	10/24/18	16.68	108446
370-862-801.000	CONTRACTUAL SERVICES	JOURNEYMAN PUBLISHING	OCTOBER AD IN THE VILLE MAGAZINE	1191	10/09/18	375.00	108352
370-862-801.000	CONTRACTUAL SERVICES	JOURNEYMAN PUBLISHING	SEPTEMBER AD IN THE VILLE MAGAZINE	1160	10/09/18	375.00	108352
370-862-801.000	CONTRACTUAL SERVICES	KIMPRINT INC	SKELETON MAPS	57329	10/24/18	837.00	108398
370-862-801.000	CONTRACTUAL SERVICES	MICHIGAN.COM	SKELETON ADS	0002027210	10/24/18	1,392.76	108415
370-862-801.000	CONTRACTUAL SERVICES	SARAH KENNEDY	GRAPHIC DESIGN FOR SEPT ADS	028	10/24/18	475.00	108457
370-862-801.000	CONTRACTUAL SERVICES	SARAH KENNEDY	GRAPHIC DESIGN FOR SKELETON MAP	27	10/24/18	325.00	108457
370-862-801.000	CONTRACTUAL SERVICES	RENAISSANCE MEDIA LLC	AD IN SEEN MAGAZINE	259342	10/24/18	700.00	108481
370-862-801.000	CONTRACTUAL SERVICES	JEANNE A. MICALLEF	NOVEMBER MARKETING RETAINER	NORTHVILLE 11-18	10/24/18	2,000.00	108397
370-862-801.000	CONTRACTUAL SERVICES	NORTHVILLE PARKS & REC	WINTER BROCHURE AD	100W	10/24/18	254.00	108482
370-862-801.340	WEB SITE MAINTENANCE	LORI WARD	REIMBURSE MONTHLY LISTERV FEE	MC09476493	10/24/18	30.00	108446
			Total For Dept 862 MARKETING			10,658.96	
Dept 864 ORGANIZATIONAL							
370-864-726.000	SUPPLIES	OFFICE DEPOT	28571763 TONER	211069105001	10/24/18	405.88	108391
370-864-801.190	TECHNOLOGY SUPPORT & SERVI	I.T. RIGHT ,INC	NOV-JUN IT SERVICES	20157381	10/09/18	1,112.00	108359
370-864-801.190	TECHNOLOGY SUPPORT & SERVI	COMCAST CORPORATION	OFFICE INTERNET	1018	10/24/18	80.01	108412
370-864-802.010	LEGAL SERVICES - GENERAL	ADKISON, NEED & ALLEN	LEGAL FEES - REAL ESTATE AUG 2018	114270	10/09/18	16.00	108340
370-864-802.010	LEGAL SERVICES - GENERAL	ADKISON, NEED & ALLEN	LEGAL FEES- REAL ESTATE SPET 18 (4.	114888	10/24/18	440.00	108470
370-864-802.010	LEGAL SERVICES - GENERAL	PLUNKETT COONEY	LEGAL FEES GENERAL - AUGUST 2018 (4	10702732	10/24/18	100.00	108420
370-864-805.000	AUDITING SERVICES	PLANTE MORAN	AUDIT SERVICES	1599028	11/07/18	384.00	108538
370-864-920.000	UTILITIES	CLEAR RATE COMMUNICATI	PHONE & INTERNET	10/4/18	10/09/18	43.22	500322
370-864-958.000	MEMBERSHIP & DUES	NORTHVILLE CHAMBER OF	CHAMBER MEMBERSHIP	100818	10/09/18	270.00	108301
			Total For Dept 864 ORGANIZATIONAL			2,851.11	
Dept 865 ECONOMIC DEVELOPMENT							
370-865-726.000	SUPPLIES	LORI WARD	REIMBURSE - FOOD FOR MEETING	91318	10/09/18	33.30	108317
			Total For Dept 865 ECONOMIC DEVELOPMENT			33.30	
			Total For Fund 370 DOWNTOWN DEVELOPMENT AUTHORITY			20,410.77	

DOWNTOWN DEVELOPMENT AUTHORITY
Regular Meeting of October 16, 2018
Meeting Room A

The regular meeting of the DDA Board was called to order at 8:02 a.m.

ROLL CALL

Present: *Mayor Ken Roth, Chairman Shawn Riley, Margene Buckhave, John Casey, Aaron Cozart, Jeri Johnson, Jim Long, Robert Miller, Greg Presley, Mary Starring*

Absent: *Carolann Ayers*

Also Present: *Patrick Sullivan/City Manager, Lori Ward/DDA Executive Director, Marilyn Price/City Council, Fred Sheill/resident*

AUDIENCE COMMENTS

None

APPROVAL OF AGENDA AND CONSENT AGENDA

Consent Agenda

a. September 2018 Financial Statement
b. September 2018 Invoice Report
c. September 18, 2018 Meeting Minutes

Motion by Roth, seconded by Long to approve the Agenda and Consent Agenda as presented. **Motion carried unanimously**.

FINANCIAL STATEMENT

Ward directed the Board to Attachment 5.a which is the DDA's annual report for 2017. The report is required by State statute and provides information on the DDA's sources and amounts of revenue, expenditures by Committee and bond indebtedness. The report indicates how much revenue the DDA collects from each of the taxing jurisdictions. The report is published in a paper of general circulation and is forwarded to the Michigan Department of Treasury. Johnson asked how much the DDA made in bond payments every year. Ward reported that the DDA pays roughly $175,000 in principal and interest in the outstanding bonds.

Presley asked why there were no expenditures for the Economic Development Committee (EDC). Ward responded that the EDC is a new Committee that was just started in this fiscal year.

Riley asked what the Local Community Stabilization (LCS) revenue was from. Ward responded that the LCS is the refunded personal property tax that the State reimburses.

Attachment 5.b addressed the DDA's 1st quarter budget amendments. Ward prepares a budget explanation sheet to accompany the quarterly budget amendment that shows the amount and the reason for the amendment. The largest amendment was a $22,000 revenue increase due to higher than expected carry over to fund balance.

Ward also noted that there were amendments made to the DPW line item in the DDA Budget. The DDA will see additional charges for labor and equipment rental in this year's budget and going forward. The City is charging the DDA for items that had not been charged previously to the DDA's budget. The City has indicated that these were overlooked items that occur within the DDA boundaries and should be charged to the DDA. New expenses include equipment rental/purchase of the DPW truck used for watering in the summer, installing and removing holiday greens, putting up flags and all work done in the DDA district. This will be the first year under this arrangement and the DDA will use the budget amendment process to address the increased costs until the DDA has a better understanding of what these charges will total for future planning.

Ward stated that Ayers, who Chairs the Organizational Committee has expressed concerns for addressing the new charges through the amendment process. It makes it difficult to commit to expenditures like the purchase of the flags, when the DDA does not know what the total costs of the DPW charges will be. Johnson added that the Committee had questions about why these charges are now being transferred to the DDA when for years they have been charged to DPW and General Fund accounts. She questioned what precipitated these changes. Johnson asked for an explanation. For the time being, Ward will address the issues through the budget amendment process.

Long commented that the DDA has been absorbing a little bit more of the charges associated with maintenance, utilities, and civic event costs every year, while revenue is not increasing.

Motion by Casey, seconded by Johnson to approve the 1st Quarter Budget Amendments as presented. **Motion carried unanimously**.

COMMITTEE INFORMATION AND UPDATES

a. *Design Committee*

- Piano was installed in Old Church Square prior to Heritage Festival. There are a few items that still need to be addressed including adding a back panel, waterproofing the piano, adding signage, and developing a cover. Also there is discussion on where it should be stored over the winter. The paint that was installed this fall is already starting to fail. Roth mentioned that in Traverse City they do not paint the piano but instead used contact paper. The Committee is starting to look at secondary locations for pianos.
- Ward updated the Committee on the plaque program. There was a recent story in the Ville about the City/DDA's interest in returning the plaques to the original donors. We have had several people that have come to pick them up from the DDA. The Committee is looking at bringing back a sponsorship program that would allow individuals to sponsor a bench or other piece of

street furnishing for the downtown. The Design Committee is doing research on what the program should look like by reviewing what neighboring communities programs include. The DDA Board was supportive of creating a new program. The Design Committee will follow through on the program.

Ward stated that next year the Skeleton program will be opened up to residents to sponsor an existing skeleton. They will be recognized with a sign and in a program or in an A frame sign in Town Square throughout October.

b. *Marketing Mix Committee*
   - Marketing Committee met and we have added a few more members. The Northville District Library will be joining as well as New Hope Grief Center.
   - 160 Main will be opening by the end of October and Los Tres Amigos will be opening in January. Ward stated that the owners of 160 Main indicated they were waiting for Wayne County to complete their inspections.
   - The program had over 120 skeletons. The DDA has sold over 25 skeleton sponsors, 8 new skeleton sponsors and one donation – Northville Square. The DDA retires 8 skeletons every year and replaces with new poses to keep the event fresh. The kickoff event had great turn out with food, music, street vendors, and street performers. Ward indicated that she would hold a follow up event in the next few months to see how the DDA can continue to improve and grow the event for 2019.
   - Discussion took place on ideas for music and art events for downtown.

c. *Parking Committee*
   - No meeting was been held in October.
   - Ward met with resident Brian McCallister to discuss residential overnight permit parking. Ward questioned whether a traffic order needs to take place to facilitate the expansion of the designate spots.

d. *Organizational Committee*
   - Johnson wanted additional clarification on why the DDA was receiving new charges.
   - Sullivan responded that the DDA is paying for work that they requested. In the past some of the items were not charged to the DDA.
   - Johnson asked where they had been charged previously. Sullivan responded that many of the charges went to a General Fund Civic Events line item.
   - Ward pointed out that the DDA and City Council had already approved the DDA's 2018-19 budget when this policy of charging the DDA occurred. Sullivan said that if the DDA does not want to use the DPW to do work for them, they can contract it out. It may be cheaper to do it that way.
   - Ward asked if it was the City's intent to have the DDA pay for everything within the DDA district. Roth responded that if the DDA wasn't here, the City would receive the revenue to pay for the charges. Ward responded that the City would have to do everything that the DDA does on only the City's portion of the capture and would not be able to leverage the County, Metro Parks and other taxing jurisdictions revenue.

e. *Economic Development Committee*
- The majority of the discussions at the EDC meeting are surrounding the Northville Downs project.
- The EDC has met twice to discuss the project further and put together a summary of the Committee's comments to share with the Planning Commission. Chair Cozart and Ward will be meeting to take all of the Committee's comments and combine them into one statement.
- The EDC is having discussions to figure out their role in the review process. The Committee wants to be a resource for both the City and Developer.
- Chair Cozart asked if the Executive Committee could discuss putting together a working committee to meet with the development team.
- The Planning Commission took no action and referred the project back to the applicant.
- No news about when Hunter Pasteur will return to the Planning Commission.
- Long asked if the project was in the Historic District. Sullivan responded that only the Cady Street frontage is in the district. There is discussion going on with the Historic District Study Committee on whether to keep the property in the Historic District. There will be another meeting in November where this will be discussed.
- Miller sits on the Historic District Study Committee and explained the project and the process that the Committee has gone through to determine whether parcels are contributing or noncontributing.
- Riley asked when the Historic District was established. Long responded that it was established in 1972. Riley asked if property owners can opt out. Roth responded that property owners cannot opt out.

FUTURE MEETINGS/ IMPORTANT DATES

Future Meetings / Important Dates

a. Witches Night Out – October 19
b Trick or Treat Trail – October 20
c. Streets of Treats – October 27
d. Dog Park Costume Contest – 28
e. Trick or Treating – October 31
f. Marketing Committee – November 1
g. Design Committee – November 13
h Executive Committee – November 14
i. Holiday Lighted Parade – November 16
j. Greens Market – November 17-18
k. Economic Development Committee – November 19
l. DDA Board Meeting – November 20

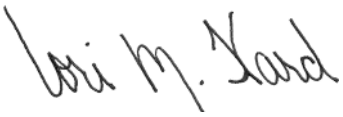
BOARD AND STAFF COMMUNICATIONS

Roth reported that there would be an Open House at the Community Center this Saturday between 1:00 – 3:00pm to discuss the Road Bond Issue. Riley reminded the Mayor that Saturday is the Michigan v. Michigan State football game.

Roth would be happy to stay after the meeting to answer any questions or discuss the Main Street School project.

The next DDA Board meeting is November 20, 2018
Meeting adjourned at 9:48 am

Respectfully submitted,



Lori M. Ward, Director
Northville Downtown Development Authority

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October 23, 2018

To the Board of Directors
Northville Downtown Development Authority

We have audited the financial statements of Northville Downtown Development Authority (the "DDA") as of and for the year ended June 30, 2018 and have issued our report thereon dated October 23, 2018. Professional standards require that we provide you with the following information related to our audit.

Our Responsibility Under U.S. Generally Accepted Auditing Standards

As stated in our engagement letter dated May 7, 2018, our responsibility, as described by professional standards, is to express an opinion about whether the financial statements prepared by management with your oversight are fairly presented, in all material respects, in conformity with U.S. generally accepted accounting principles. Our audit of the financial statements does not relieve you or management of your responsibilities. Our responsibility is to plan and perform the audit to obtain reasonable, but not absolute, assurance that the financial statements are free of material misstatement.

As part of our audit, we considered the internal control of the Northville Downtown Development Authority. Such considerations were solely for the purpose of determining our audit procedures and not to provide any assurance concerning such internal control.

We are responsible for communicating significant matters related to the audit that are, in our professional judgment, relevant to your responsibilities in overseeing the financial reporting process. However, we are not required to design procedures specifically to identify such matters.

Planned Scope and Timing of the Audit

We performed the audit according to the planned scope and timing previously communicated to you in our letter about planning matters dated August 27, 2018.

Significant Audit Findings

Qualitative Aspects of Accounting Practices

Management is responsible for the selection and use of appropriate accounting policies. In accordance with the terms of our engagement letter, we will advise management about the appropriateness of accounting policies and their application. The significant accounting policies used by Northville Downtown Development Authority are described in Note 2 to the financial statements.

No new accounting policies were adopted, and the application of existing policies was not changed during 2018.

We noted no transactions entered into by the DDA during the year for which there is a lack of authoritative guidance or consensus.

We noted no significant transactions that have been recognized in the financial statements in a different period than when the transaction occurred.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected.

There were no significant balances, amounts, or disclosures in the financial statements based on sensitive management estimates; however ,we did observe that the methodology for allocation of overhead and street light charges to the DDA by the City are based on estimates implemented many years ago. We encourage the City and the DDA to revisit the current methodology and the related inputs to ensure that these administrative charges are fully substantiated.

The disclosures in the financial statements are neutral, consistent, and clear.

Difficulties Encountered in Performing the Audit

We encountered no significant difficulties in dealing with management in performing and completing our audit.

Disagreements with Management

For the purpose of this letter, professional standards define a disagreement with management as a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report.

We are pleased to report that no such disagreements arose during the course of our audit.

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriate level of management.

We did not detect any misstatements as a result of audit procedures.

Significant Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, business conditions affecting the DDA, and business plans and strategies that may affect the risks of material misstatement, with management each year prior to our retention as the DDA's auditors. However, these discussions occurred in the normal course of our professional relationship, and our responses were not a condition of our retention.

Management Representations

We have requested certain representations from management that are included in the management representation letter dated October 23, 2018.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to the DDA's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

To the Board of Directors
Northville Downtown Development Authority

October 23, 2018

This information is intended solely for the use of Northville Downtown Development Authority and management of City of Northville, Michigan and is not intended to be and should not be used by anyone other than these specified parties.

Very truly yours,

Plante & Moran, PLLC

Kristin L. Hunt

Kristin Hunt, CPA

Alisha M Watkins

Alisha M. Watkins, CPA

Northville Downtown Development Authority

(a component unit of the City of Northville, Michigan)

Financial Report
with Supplemental Information
June 30, 2018

Northville Downtown Development Authority

Contents

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Independent Auditor's Report

To the Board of Directors
Northville Downtown Development Authority

Report on the Financial Statements

We have audited the accompanying financial statements of the General Fund and the governmental activities of Northville Downtown Development Authority (the "DDA"), a component unit of City of Northville, Michigan, as of and for the year ended June 30, 2018 and the related notes to the financial statements, which collectively comprise Northville Downtown Development Authority's basic financial statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the General Fund and the governmental activities of Northville Downtown Development Authority as of June 30, 2018 and the changes in its financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

To the Board of Directors
Northville Downtown Development Authority

Required Supplemental Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the major fund budgetary comparison schedule, as identified in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, which considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplemental information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Plante & Moran, PLLC

October 23, 2018

Management's Discussion and Analysis

June 30, 2018

The following discussion and analysis of the financial performance of Northville Downtown Development Authority (the "DDA") provides an overview of the DDA's financial activities for the fiscal year ended June 30, 2019. Please read it in conjunction with the DDA's financial statements.

Financial Highlights

The DDA staff allocates its time between marketing, business recruitment and retention, planning, parking, administrative duties, and special events. Time is also spent working with the City of Northville, the Northville Central Business Association, and the Chamber of Commerce to achieve and maintain a vibrant and economically viable downtown.

The DDA captured $646,845 in tax increment revenue. This was an increase of 0.6 percent from the prior year. The DDA levied 1.8158 mills for operations, which generated $56,823, up 0.8 percent from the prior year.

The State of Michigan reimbursed the DDA $36,178 for losses related to the small taxpayer exemption on personal property taxes.

The DDA sponsors popular downtown events such as the Friday Night Concerts, Tunes on Tuesday Concerts, the Buy Michigan Now Festival, Skeletons are Alive, and various other events in cooperation with Northville Parks and Recreation, the Northville Arts Commission, and the Chamber of Commerce.

The DDA continues to operate, maintain, and provide service to all of the physical facilities in downtown Northville. Seasonal maintenance workers are utilized to weed, water, and maintain the landscape material downtown. Contract services are utilized for landscape installation, irrigation, electrical work, and concrete and brick maintenance. In cooperation with the city's department of public works, the DDA ensures that downtown Northville operates at a high level, both functionally and aesthetically.

Using this Annual Report

This annual report consists of a series of financial statements. The statement of net position/governmental fund balance sheet and the statement of activities/governmental fund revenue, expenditures, and changes in fund balance provide information about the activities of the DDA as a whole and present a longer-term view of the DDA's finances. This longer-term view uses the accrual basis of accounting so that it can measure the cost of providing services during the current year and whether the taxpayers have funded the full cost of providing government services.

The fund financial statements present a short-term view; they tell us how the taxpayers' resources were spent during the year, as well as how much is available for future spending. Fund financial statements also report the DDA's operations in more detail than the government-wide financial statements.

The DDA as a Whole

The following table shows, in a condensed format, the current year's net position compared to the two prior years:

	2016	2017	2018	Changes from Prior Year In Dollars	Percent
Assets - Current assets	$ 429,962	$ 446,735	$ 419,793	$ (26,942)	(6)
Liabilities - Current liabilities	43,438	55,175	37,450	(17,725)	(32)
Net Position - Unrestricted	**$ 386,524**	**$ 391,560**	**$ 382,343**	**$ (9,217)**	(2)

The decrease in current liabilities is related to timing of invoices payable at year end and the adjustment to the tax appeal reserve.

The following table shows the changes in net position during the current year in comparison with the two prior years:

Summary Condensed Statement of Activities

	2016	2017	2018	Changes from Prior Year In Dollars	Percent
Revenue					
Captured taxes	$ 639,523	$ 642,838	$ 646,845	$ 4,007	1
Operating levy	56,618	56,375	56,823	448	1
Other income	27,677	18,195	8,570	(9,625)	(53)
Property taxes - Other	26,200	35,677	36,178	501	1
Total revenue	750,018	753,085	748,416	(4,669)	(1)
Expenditures					
Design committee	300,784	200,465	201,252	787	0
Marketing committee	175,704	139,296	140,888	1,592	1
Parking committee	159,080	179,396	167,236	(12,160)	(7)
Organizational committee	51,385	46,021	65,837	19,816	43
Public works	14,727	11,486	10,065	(1,421)	(12)
Debt service - Pass-through commitment	175,415	171,385	172,355	970	1
Total expenditures	877,095	748,049	757,633	9,584	1
Excess of Expenditures (Over) Under Revenue	**$ (127,077)**	**$ 5,036**	**$ (9,217)**	**$ (14,253)**	(283)

The decrease in other income is due to less sponsorship revenue and a contribution from the City in the prior year not received in the current year offset by the adjustment to the tax appeal reserve.

The decrease in the parking committee expenditures was due to shifting parking maintenance costs to the City's Parking Fund. The increase in the organizational committee expenditures was due the reallocation of a portion of the Director's wages and fringes from the marketing committee to the organizational committee. The level of public works expenditures varies from year to year due to the amount of service requested by the DDA.

The DDA's Fund

The DDA maintains one fund, the General Fund. The fund provides detailed information about the DDA as a whole. The use of this fund helps to manage money for specific purposes, as well as to show accountability for certain activities.

General Fund Budgetary Highlights

The General Fund accounts for all programming, maintenance, construction, and administrative functions of the DDA within the DDA boundaries. The budget is monitored closely and amended quarterly.

Capital Asset and Debt Administration

The DDA contributes financial support to the City of Northville for some of the construction and maintenance of assets within the DDA's boundaries. Most of those costs are recorded in the financial statements under the category of design committee expense. The DDA does not have any capital assets of its own.

Captured tax revenue is pledged to pay for the 2013 refunding bonds issued by the City of Northville for completed streetscape improvements.

Economic Factors and Next Year's Budgets and Rates

The DDA will continue to focus attention and resources on business recruitment and retention efforts in the downtown area. Expenditures continue to grow at a faster rate than revenue, which will continue to be a challenge for the DDA.

Contacting the DDA's Management

This financial report is intended to provide the citizens, taxpayers, customers, and investors with a general overview of the DDA's finances and to show the DDA's accountability for the money it receives. If you have questions about this report or need additional information, we welcome you to contact Northville Downtown Development Authority's office at 215 West Main Street, Northville, Michigan 48167, or via the DDA's website at www.downtownnorthville.com.

Northville Downtown Development Authority

Statement of Net Position/Governmental Fund Balance Sheet

June 30, 2018

	General Fund	Adjustments (Note 3)	Statement of Net Position - Full Accrual Basis
Assets			
Cash and cash equivalents	$ 87,550	$ -	$ 87,550
Investments (Note 4)	318,482	-	318,482
Other receivables	2,337	-	2,337
Prepaid expenses and other assets	11,424	-	11,424
Total assets	**$ 419,793**	-	419,793
Liabilities			
Accounts payable	$ 12,535	-	12,535
Accrued liabilities and other	3,282	21,633	24,915
Total liabilities	15,817	21,633	37,450
Fund Balance/Net Position			
Fund balance:			
Nonspendable - Prepaids	11,424	(11,424)	-
Assigned for compensated absences	21,633	(21,633)	-
Unassigned	370,919	(370,919)	-
Total fund balance	403,976	(403,976)	-
Total liabilities and fund balance	**$ 419,793**		
Net position - Unrestricted		**$ 382,343**	**$ 382,343**

See notes to financial statements.

Northville Downtown Development Authority

Statement of Activities/Governmental Fund Revenue, Expenditures, and Changes in Fund Balances

Year Ended June 30, 2018

	General Fund	Adjustments (Note 3)	Statement of Net Position
Revenue			
Captured taxes (Note 5)	$ 646,845	$ -	$ 646,845
Operating levy	56,823	-	56,823
Other income	8,570	-	8,570
Personal property tax loss reimbursement	36,178	-	36,178
Total revenue	748,416	-	748,416
Expenditures			
Design committee	199,768	1,484	201,252
Marketing committee	138,513	2,375	140,888
Parking committee	166,741	495	167,236
Organizational committee	65,244	593	65,837
Public works	10,065	-	10,065
Debt service - Pass-through commitment	172,355	-	172,355
Total expenditures	752,686	4,947	757,633
Net Change in Fund Balance/Net Position	(4,270)	(4,947)	(9,217)
Fund Balance/Net Position - Beginning of year	408,246	(16,686)	391,560
Fund Balance/Net Position - End of year	**$ 403,976**	**$ (21,633)**	**$ 382,343**

See notes to financial statements.

Note 1 - Significant Accounting Policies

The accounting policies of Northville Downtown Development Authority (the "DDA") conform to accounting principles generally accepted in the United States of America (GAAP), as applicable to governmental units. The following is a summary of the significant accounting policies used by Northville Downtown Development Authority.

Reporting Entity

Northville Downtown Development Authority was formed under Act 197 of the Public Acts of 1975 to develop downtown Northville. A revised development plan was adopted in 1993 that provided the financing framework for the construction of downtown parking facilities. The final payment was made during the year ended June 30, 2009.

During fiscal year 2015, the DDA amended and restated its development plan and tax increment financing plan. The development area boundary was expanded to have the same geographic limits as the DDA district.

The DDA is governed by an appointed eleven-member board of directors (the "board").

The accompanying financial statements pertain to the financial activities of the DDA. In accordance with governmental accounting principles, there are no separate legal entities appropriate to be reported within these financial statements. The DDA financial activities have also been presented within the financial statements of the City of Northville, Michigan (the "City") as a component unit.

Report Presentation

The government-wide financial statements report information on all of the activities of the DDA. For the most part, the effect of interfund activity has been removed from these statements. Governmental activities are normally supported by taxes.

The statement of activities demonstrates the degree to which the direct expenses of a given function or segment are offset by program revenue. Direct expenses are those that are clearly identifiable with a specific function or segment. Program revenue includes: (1) charges to customers or applicants for goods, services, or privileges provided and (2) operating grants and contributions that are restricted to meeting the operational or capital requirements of a particular function.

Basis of Accounting

The governmental funds use the current financial resources measurement focus and the modified accrual basis of accounting. This basis of accounting is intended to better demonstrate accountability for how the government has spent its resources.

Expenditures are reported when the goods are received or the services are rendered. In addition, debt service expenditures, claims, and judgments are recorded only when payment is due.

Revenue is not recognized until it is collected or collected soon enough after the end of the year that it is available to pay for obligations outstanding at the end of the year. For this purpose, the DDA considers amounts collected within 60 days of year end to be available for recognition.

Revenue is recognized in the accounting period in which it becomes both measurable and available to finance expenditures of the fiscal period. All other revenue items are considered to be available only when cash is received by the DDA.

When an expense is incurred for the purpose for which both restricted and unrestricted net position or fund balance are available, the DDA's policy is to first apply restricted resources. When an expense is incurred for the purpose for which amounts in any of the unrestricted fund balance classifications could be used, it is the DDA’s policy to spend funds in this order: committed, assigned, and unassigned.

Note 1 - Significant Accounting Policies (Continued)

The General Fund is the DDA's only operating fund. It accounts for all financial resources of the general government.

Specific Balances and Transactions

Cash and Cash Equivalents and Investments

Cash and cash equivalents include cash on hand, demand deposits, and short-term investments with a maturity of three months or less when acquired. Investments are stated at fair value. Pooled investment income is allocated using a weighted average of balance for the principal.

Capital Assets

Capital assets are defined by the DDA as assets with an initial individual cost of more than $5,000 and an estimated useful life in excess of one year. The DDA has no assets that meet this criterion.

Compensated Absences (Vacation and Sick Leave)

It is the DDA's policy to permit employees to accumulate earned but unused sick and vacation pay benefits. After 10 years of service, employees may receive payment of the accumulated sick leave balance at the rate of 50 percent upon retirement or 25 percent for other types of termination. A liability is accrued when incurred in the government-wide financial statements.

Fund Equity

Nonspendable - Amounts that are not in spendable form or are legally or contractually required to be maintained intact

Restricted - Amounts that are legally restricted by outside parties, constitutional provisions, or enabling legislation for use for a specific purpose

Committed - Amounts that have been formally set aside by the DDA's board of directors for use for specific purposes. Commitments are made and can be rescinded only via resolution of the DDA's board of directors.

Assigned - Intent to spend resources on specific purposes expressed by the DDA's board of directors

Unassigned - Amounts that do not fall into any other category above

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the period. Actual results could differ from those estimates.

Note 2 - Stewardship, Compliance, and Accountability

Budgetary Information

Annual budgets are adopted on a basis consistent with generally accepted accounting principles and state law for the General Fund. All annual appropriations lapse at fiscal year end. The annual budget is prepared by the director and then reviewed by the DDA board. After the budget is approved by the DDA board, it is then presented to the City of Northville, Michigan for approval prior to the start of the fiscal year. The budget is reviewed by the DDA board and the City on a quarterly basis and amended as necessary.

Note 2 - Stewardship, Compliance, and Accountability (Continued)

The budget document presents information by fund, function, department, and line items. The legal level of budgetary control adopted by the governing bodies is the department level. Unexpended appropriations lapse at year end; encumbrances are not included as expenditures. During the current year, the budget was amended in a legally permissible manner. The budget has been prepared in accordance with accounting principles generally accepted in the United States of America. The comparison of actual results of operations to the General Fund budget is presented for analytical purposes only.

Note 3 - Reconciliation of Government-wide and Fund Financial Statements

Total fund balances and the net change in fund balances of the DDA's governmental funds differ from net position and changes in net position of the governmental activities reported in the statement of net position/governmental fund balance sheet and statement of activities/governmental fund revenue, expenditures, and changes in fund balance. This difference results primarily from the long-term economic focus of the statement of net position and statement of activities versus the financial resources measurement focus of the governmental fund balance sheet.

The reconciliation of fund balance to net position relates to compensated absences that are included as a liability for the statement of net position/governmental fund balance sheet. The reconciliation of the net change in fund balance to net change in net position relates to the increase in the accrual for long-term compensated absences, which are reported as expenditures in the statement of activities/governmental fund revenue, expenditures, and changes in fund balance but are not reported as expenditures in the governmental fund.

Note 4 - Deposits and Investments

Michigan Compiled Laws Section 129.91 (Public Act 20 of 1943, as amended) authorizes local governmental units to make deposits and invest in the accounts of federally insured banks, credit unions, and savings and loan associations that have offices in Michigan. The law also allows investments outside the state of Michigan when fully insured. The local unit is allowed to invest in bonds, securities, and other direct obligations of the United States or any agency or instrumentality of the United States; repurchase agreements; bankers' acceptances of United States banks; commercial paper rated within the two highest classifications, which matures not more than 270 days after the date of purchase; obligations of the State of Michigan or its political subdivisions, which are rated as investment grade; and mutual funds composed of investment vehicles that are legal for direct investment by local units of government in Michigan; and investment pools organized under the Surplus Funds Investment Pool Acts of the State of Michigan; The investment policy adopted is in accordance with Public Act 196 of 1997 and has authorized investment in all vehicles covered by the state statute listed above.

Cash and investments are subject to several types of risk. At year end, the carrying amount of the DDA's cash and investments is included with the City's cash and investments pool. For the purpose of risk disclosure, it is not practical to allocate risk to each entity in the investment fund. The disclosures below are related to the overall risk for the cash and investments totals that are presented in the City's financial statements. The DDA's cash and investments, however, represent approximately 2.7 percent of the total portfolio managed by the City.

Custodial Credit Risk of Bank Deposits

Custodial credit risk is the risk that, in the event of a bank failure, the entity's deposits may not be returned to it. The policy for custodial credit risk limits bank options to those approved by the DDA. All banks must supply audited financial statements, proof of state registration, and certification of compliance with the investment policy. Overall, the DDA had $80,578 in bank deposits (checking and savings accounts) that were uninsured and uncollateralized. Each financial institution with which funds are deposited is evaluated to assess the level of risk of each institution; only those institutions with an acceptable estimated risk level are used as depositories. As of June 30, 2018, one bank is utilized for the deposit of DDA funds.

Note 4 - Deposits and Investments (Continued)

Interest Rate Risk

Interest rate risk is the risk that the value of investments will decrease as a result of a rise in interest rates. The DDA's investment policy does not restrict investment maturities other than commercial paper, which can only be purchased with a 270-day maturity.

At year end, the DDA had the following investments:

Investment	Fair Value	Weighted-average Maturity (Days)
Primary Government		
U.S. Treasury securities	$ 166,804	712
Federal agency bond	134,918	362
Supra National Agency bond	6,898	888
Federal Agency Collateralized Mortgage	1,297	124
Total	$ 309,917	

Credit Risk

State law limits investments in commercial paper to the top two ratings issued by nationally recognized statistical rating organizations. The DDA has no investment policy that would further limit its investment choices. As of year end, the credit quality ratings of debt securities (other than the U.S. government) are as follows:

Investment	Percentage of DDA Portfolio Allocation	Rating	Rating Organization
Money markets	3.00 %	AAAm	S&P
U.S. Treasury	52.00	AA+	S&P
Federal agency bond	43.00	AA+	S&P
Supra National Agency bond	2.00	AAA	S&P

Concentration of Credit Risk

It is the City's policy to diversify its investment portfolio with a goal of 5 percent maximum exposure to any one credit risk at the time of purchase. This requirement does not apply to investments issued by the U.S. government or its agencies, investments in mutual funds, external investment pools, and other pooled investments. At June June 30, 2018, more than 5 percent of the City's investments are in the following agency securities:

Federal Home Loan Banks	6 %
Fannie Mae	23
Freddie Mac	14

Fair Value Measurements

The DDA categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs. Investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy below.

Note 4 - Deposits and Investments (Continued)

In instances whereby inputs used to measure fair value fall into different levels in the above fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The DDA's assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset.

The DDA has the following recurring fair value measurements as of June 30, 2018:

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Balance at June 30, 2018
Debt securities:				
U.S. Treasury securities	$ -	$ 166,804	$ -	$ 166,804
Supra National Agency bonds	-	6,898	-	6,898
Federal Agency Bond	-	134,918	-	134,918
Federal Agency Collateralized Mortgage	-	1,297	-	1,297
Total	$ -	$ 309,917	$ -	309,917
Investments measured at NAV - Money market				8,565
Total assets				$ 318,482

The fair value of debt securities at June 30, 2018 was determined primarily based on Level 2 inputs. The DDA estimates the fair value of these investments using quoted market prices and other market data for the same or comparable instruments and transactions in establishing prices, discounted cash flow models, and other pricing models.

Investments in Entities that Calculate Net Asset Value per Share

The DDA holds money market investments in the Governments of Michigan Investing Cooperative Program. These investments are measured at the net asset value (NAV) per share (or its equivalent). There are no limitations or restrictions on participant withdrawals for the cooperative program that is recorded at amortized cost.

Note 5 - Captured Taxes

Captured taxes represent the property taxes on the increment in taxable value of the downtown development district property since the adoption of the development plan. These taxes are earmarked for debt retirement purposes and other purposes consistent with the development plan.

Based on the 2017 taxable value subject to capture, the taxes captured by the Northville Downtown Development Authority are as shown below.

City of Northville	$ 377,034
Wayne County	163,619
Wayne County Parks	6,061
Schoolcraft Community College	43,791
Huron Clinton Metropolitan Authority	5,274
Northville District Library	27,944
Wayne County Public Safety	23,122
Total	$ 646,845

Note 6 - Commitments

The DDA has pledged future tax increment revenue for the payment of the 2013 refunding bonds issued by the City of Northville, Michigan for the completed streetscape improvement project. Future debt service payments on those refunded bonds are as follows:

Years Ending	Principal	Interest	Total
2019	$ 140,000	$ 33,170	$ 173,170
2020	145,000	28,830	173,830
2021	150,000	24,335	174,335
2022	155,000	19,685	174,685
2023	155,000	14,880	169,880
2024-2025	325,000	15,189	340,189
Total	$ 1,070,000	$ 136,089	$ 1,206,089

Note 7 - Retirement Plan

The City of Northville, Michigan sponsors the pension plan on behalf of the Northville Downtown Development Authority. The employer of record for the DDA is the City of Northville, Michigan. The DDA has only one employee who participates in the defined contribution pension plan; however, this individual is not eligible to participate in the City's postretirement healthcare plan. Accordingly, the employee of the DDA participates in the City's employee benefit programs and policies and is pooled with city employees for benefits administration subject to specific benefits outlined in an employment contract with the DDA director. The City charges the DDA for its pro rata share of employee fringe benefit costs in the same manner as city departments are charged for fringe benefits. Employees are eligible to participate in the defined contribution pension plan from the date of employment. As established by city council action, the DDA contributes 11 percent of employees' gross earnings for eligible full-time employees. The DDA's contribution plus investment earnings are fully vested by the affected employee after seven years of service. There are no retirees of the DDA. A description of the pension plan and related overall funding levels may be obtained from the City of Northville, Michigan's financial statements. Those statements may be obtained by contacting the City of Northville, Michigan, 215 West Main Street, Northville, Michigan 48167.

The DDA's total payroll during the current year was $110,675. The current year contribution was calculated based on covered payroll of $78,729, resulting in an employer contribution of $8,660. Total payroll is greater than covered payroll because part-time staff's and the Department of Public Works' wages are specifically not included in the DDA's covered payroll.

Required Supplemental Information

Northville Downtown Development Authority

Required Supplemental Information
Budgetary Comparison Schedule - General Fund

Year Ended June 30, 2018

	Original Budget	Amended Budget	Actual	Variance with Amended Budget
Revenue				
Captured taxes	$ 658,692	$ 646,845	$ 646,845	$ -
Operating levy	57,854	56,823	56,823	-
Other income	2,300	3,845	8,570	4,725
Personal property tax loss reimbursement	30,000	36,178	36,178	-
Total revenue	748,846	743,691	748,416	4,725
Expenditures/Expenses				
Design committee	165,390	227,207	199,768	27,439
Marketing committee	141,378	146,246	138,513	7,733
Parking committee	181,350	171,915	166,741	5,174
Organizational committee	73,355	66,168	65,244	924
Public works	14,725	13,945	10,065	3,880
Debt service - Pass-through commitment	172,355	172,355	172,355	-
Total expenditures/expenses	748,553	797,836	752,686	45,150
Net Change in Fund Balance	293	(54,145)	(4,270)	49,875
Fund Balance - Beginning of year	408,246	408,246	408,246	-
Fund Balance - End of year	**$ 408,539**	**$ 354,101**	**$ 403,976**	**$ 49,875**

CITY OF NORTHVILLE

CADY STREET PARKING STRUCTURE | FINAL REPORT

24183249.00 | August 6, 2018 | Engineering Condition Assessment

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I. INTRODUCTION

In accordance with our proposal dated March 29, 2018, ***WGI*** has completed an Engineering Condition Assessment of the Cady Street Parking Structure in Northville, Michigan. The primary objectives of this assessment were to assess the general condition of the structure, identify items requiring repair, maintenance, and/or protection, and provide an estimate of preliminary construction costs for the recommended repairs prioritized into a short-term and long-term plan.

II. STRUCTURE DESCRIPTION

The Cady Street Parking Structure is located on Cady Street, northeast of the Cady Street and Center Street intersection, in Northville, MI. The parking structure was built in 1994. The two-bay structure consists of 1 supported level and one slab-on-grade level with entrances and exits at each level. The entrance and exit to the Upper Level is on the north side of the parking structure from Mary Alexander Court and has no access controls. The entrance and exit to the Lower Level is on the south side of the parking structure from Cady Street and has no access controls.

The typical structural plan dimensions measure approximately 199 feet in the east-west direction and 125 feet in the north-south direction. Each level covers approximately 25,000 square feet for a total of 50,000 square feet. The parking structure provides approximately 152 parking spaces.

The structural system is composed of precast concrete double-tees, beams, and columns. Each precast concrete double-tee typically spans 60 feet in the east-west direction perpendicular to the bays. The double-tees are 9 feet wide, which forms the column spacing of 27 and 36 feet in the north-south direction. There is a 3-inch thick cast-in-place concrete topping on the tees. The double-tees are supported by precast inverted tee beams on the interior and precast spandrels on the exterior. Precast concrete columns support the beams and spandrels. Slab-on-grade consists of asphalt paving.

Stair towers are located at the northwest and northeast corners of the structure and are both fully enclosed. The northeast stair tower has one elevator. A pedestrian bridge at the upper level provides access to the CadyCentre Building to the west. An exterior stair to the east of the structure provides access between Cady Street and Mary Alexander Court.

III. DOCUMENT REVIEW

We reviewed the following documents:

- Original Design Drawings by Rich and Associates, Inc. dated March 12, 1994.
- Specifications and drawings for the "Cady and M.A.G.S. Deck Restoration" by Rich and Associates, Inc. dated July 2005.

From these documents, we noted the following pertinent information:

- Original Design Drawings dated 1994
    - The building was designed in accordance with the 1993 edition of the BOCA Basic National Building Code.
    - The Upper Level was designed for a 50 psf live load plus 30 psf snow load. The stairs were designed for a 100 psf live load.

- Pile foundation design was based on 14" diameter augered cast-in-place piles with capacity of 50 tons each. The average pile length was estimated to be 45 feet.
- The 28-day compressive strength for the cast-in-place concrete slab, topping, columns, wall, and footings was specified to be a minimum of 4,000 psi.
- The 28-day compressive strength for the precast was specified to be a minimum of 6,000 psi.
- The minimum yield strength of all reinforcing steel was specified at 60,000 psi.
- Minimum concrete cover specified for reinforcing was as follows: footings – 3", columns – 1.5", from top of slab and beams – 1.5" for #5 and smaller, and 2" for others.
- The reinforcement for the concrete topping was specified to be WWF 6X6-W2.9 X W2.9. Added reinforcement in the concrete topping was specified to be the following: #4 @ 16" by 10' across the inverted tee-beam at column line B; and 2 - #5 in the perimeter concrete wash parallel along column lines A, E, 1 and 6.
- Some of the precast connections were specified to be stainless steel, such as the flange connectors.
- Concrete masonry units were specified to be normal weight units with a minimum compressive strength of 1,500 psi.
- Mortar was specified to ASTM C-270 Type S with an average compressive strength of 1,800 psi for a 2" cube at 28 days.
- Deck coating was specified to be installed on the Upper Level floor surface above the Inverted tee-beams at column lines B, C, and D.

- Specification and Drawings for the "Cady and M.A.G.S. Deck Restoration" project dated July 2005
  - Small quantities of concrete delaminations were specified to be repaired.
  - Small quantities of joint sealants were specified to be repaired.
  - A concrete sealer (40% silane) was specified to be installed on the entire Upper Level.
  - All the deck coating was specified to be removed and replaced.
  - All the metal railings, stairs and overhead entrance signs were specified to be painted.

IV. GENERAL CONDITION REVIEW

On May 10, 2018, WGI completed a review of the Cady Street Parking Structure. The review included a visual examination of floor and ceiling surfaces, structural elements and their supports, and stair towers to assess the current condition and locate areas of deterioration and/or deficiencies. A chain drag survey was performed at the supported slab surfaces to determine the extent of slab delamination due to the corrosion of the embedded reinforcing steel. The following is a summary of our observations.

Floor Slabs

A representative chain drag survey of the floor slab was performed to locate and quantify concrete delaminations. A delamination is a horizontal fracture beneath the surface of the concrete. In general, slab delaminations are caused by corrosion of the embedded reinforcing steel. Rust, which is the byproduct of the corrosion process, has a volume several times that of the original steel. The volume change created by corrosion generates pressures on the surrounding concrete that eventually becomes sufficient to cause internal fracturing of the concrete and the loss of bond of the corroded reinforcing steel with the surrounding concrete.

The chain drag survey of the floor slab revealed approximately 1,100 square feet of slab delaminations at the Upper Level, which is approximately 4.5% of the supported slab. The floor slab delaminations range in size from approximately 1 to 40 square feet. Many of the delaminations are caused by the corrosion of the welded wire fabric which appears to have very little concrete cover. Floor slab delaminations should be repaired to help maintain the structural integrity of the facility and eliminate safety hazards such as trip hazards.

Tee Flanges/Stems

The double tees appear to be in good condition. We estimate a total of 80 square feet of tee flange delaminations, with most of them approximately 1 to 4 square feet in size. The delaminations are typically located along leaking joints that allow water and chlorides to corrode embedded reinforcement. These delaminations should be repaired to help maintain the structural integrity of the facility and eliminate safety issues such as falling concrete.

The tee stems appear to be in good condition. We estimate a total of 10 square feet of tee flange delaminations, with most of them approximately 1 to 2 square feet in size. These delaminations should be repaired to help maintain the structural integrity of the facility and eliminate safety issues such as falling concrete.

Beams

The beams appear to be in good condition. We estimated a total of 10 square feet of delaminations, with most of them approximately 1 to 5 square feet in size. The delaminations are typically located along leaking joints that allow water and chlorides to corrode embedded reinforcement. These delaminations should be repaired to help maintain the structural integrity of the facility and eliminate safety issues such as falling concrete.

Columns

The columns appear to be in good condition with an estimated total of 10 square feet of delaminations. Most of the delaminations are small, approximately 1 to 2 square feet in size, and primarily located at the Lower Level adjacent leaking floor drains and risers. These delaminations should be repaired to help maintain the structural integrity of the facility and eliminate safety issues such as falling concrete.

Spandrels

The precast concrete spandrels with brick veneer are located at the perimeter of the Upper Level. The spandrels appear to be in good condition with an estimated total of 10 square feet of delaminations. Most of the delaminations are small, approximately 1 to 2 square feet in size and primarily located near the columns. The delaminations at the interior face are typically caused by the corrosion of the reinforcement with shallow concrete cover. The deterioration at the exterior face appear to be caused by failed sealants, which allows moisture to penetrate behind the brick veneer. The moisture can then attack the concrete causing corrosion of the reinforcement, especially if there is shallow concrete cover on this face. Also, once moisture is behind the brick, freeze-thaw can cause damage to the concrete and the brick.

We observed areas of multiple hairline cracks at the interior face of the spandrels, which may be from alkali-silica reaction (ASR). To help protect these areas we would recommend installing a concrete sealer.

Walls

The cast-in-place concrete walls are located at the perimeter of the Lower Level. The walls appear to be in good condition with an estimated total of 10 square feet of delaminations. Most of the wall delaminations are small, approximately 1 to 4 square feet in size. The wall at the north end has a few leaking cracks that should be sealed to protect the wall from further delaminations. Also, there is leaking onto the north wall below the concrete-to-asphalt joint at the Upper Level entrance/exit and below the isolation joints at the northeast stair tower (elevator/electrical room). These joints above should be repaired to prevent the infiltration of water and chlorides.

Curbs

The concrete curbs are in fair condition with approximately 20 square feet of delaminations noted at the Upper Level. All of the curb delaminations were observed at the entrance/exit. The concrete curbs help direct water to the floor drains and provides a walking surface for pedestrians. These delaminations should be repaired to prevent potential trip hazards and to protect the embedded steel reinforcement.

Masonry

The exterior façade consists of precast concrete and brick masonry. The brick masonry appears to be in good condition, with some small areas deterioration observed. We observed spalls at the northeast stair tower and deteriorated mortar joints at the north exterior columns. All loose bricks and deteriorated mortar joints should be repaired to help prevent future deterioration.

Asphalt

The Lower Level is at grade and the floor surface consists of asphalt. The asphalt throughout this level appears to be in fair condition with approximately 6,600 square feet of deterioration, which is approximately 24% of the floor surface. The paving seams are opening up which may lead to future deterioration of the asphalt. The asphalt should be repaired to reduce future deterioration and trip hazards.

Joint Sealants

It is our understanding that a small quantity of the tee-to-tee joint sealants were repaired in 2005 and 2013. Failed tee-to-tee joint sealants and active leaking were observed throughout the Upper Level.

Cove joint sealants are typically installed at the slab-to-wall joints and slab-to-curb joints at the perimeter of the structure. The cove joint sealants appear to be in good condition throughout the Upper Level; they appear to have been recently replaced. Cracked and weathered sealants were observed at the exterior stairs and the pedestrian bridge.

Vertical and horizontal wall sealants at the interior and exterior of the structure are in poor condition. Cracked and weathered sealants were observed throughout the structure. Most of the wall sealants are located at the columns.

The typical service life for joint sealants is 7 to 10 years, especially at the roof level. Sealants should be repaired to prevent the infiltration of moisture and chlorides into the structural elements below and to prevent leaking onto vehicles and pedestrians at the Lower Level.

Surface Treatments

Deck coating has been installed at the Upper Level slab directly above the inverted tee beams along column lines B, C, and D, and at the entrance/exit. It is our understanding that the deck coating was replaced in the 2005 repair project. The deck coating appears to be in poor condition with many worn areas, especially in the drive lanes. All of the deck coating should be recoated to help protect the underlying structural concrete elements.

It is our understanding that a 40% silane sealer was applied to the Upper Level slab surfaces during the 2005 repair project. The effective service life of a 40% silane sealer is typically 4 to 5 years.

Mechanical

Cast iron storm drainage piping (vertical risers) are at four locations in the structure, along column lines B and D. Corroded and damaged cast iron piping were noted at three of the four locations, caused by leaking joints above. The damaged piping should be replaced to maintain proper water removal from the structure. Piping could be replaced with PVC to eliminate corrosion damage, if allowed by the local codes.

The steel pipe guards protecting the risers were all observed to be corroded. As a minimum, these should be cleaned and repainted or better yet, replaced with new galvanized pipe guards.

The standpipe system has been painted, which helps protect the steel from corrosion. Most of this paint is deteriorating, causing corrosion. The standpipe system should be cleaned and repainted. A section of severely corroded standpipe near the northwest stair tower should be replaced to maintain the proper function of the system. The system should also be tested, if it has not been recently, to make sure it is working properly.

Electrical

HPS light fixtures at the Lower Level are located near the edges of the drive lane at a spacing of approximately 30 feet. The fixtures are surface mounted to the underside of the slab and are serviced by exposed electrical conduit. The lighting system appears to be in good working order. WGI can conduct a lighting survey to review existing lighting levels and provide recommendations to improve (increase) lighting levels while using more energy efficient fixtures. LED lighting technology is available that could provide energy savings as well as a longer bulb life.

Electrical junction boxes and conduits were noted to be corroded due to leaking joints above. The conduits and junction boxes should be repaired to prevent future deterioration and possible electrocution.

Stair Towers

The stair towers consist of metal pans with concrete infill. The northeast stair/elevator tower appears to be in good condition, while the northwest stair tower appears to see more foot traffic and is in relatively fair condition.

The following items were noted at the northeast stair tower:

- Stairs and handrails were observed to be corroded; steel surfaces should be cleaned and repainted (touch-up only at underside).
- Existing sealant appear to be in good condition.
- Upper Level landing has a mat adhered to the floor. We recommend removing the mat flooring and replacing with cove joint sealants and deck coating.
- A full system deck coating should be added to the stair treads and landings to help protect the underlying structure.
- Exterior door fails to close at the Upper Level and should be repaired.
- Interior paint at walls and ceiling appears to be in good condition.

The following items were noted at the northwest stair tower:

- Stairs and handrails were observed to be corroded; steel surfaces should be cleaned and repainted.
- Isolated areas of severe corrosion were observed, including five tread pans and one landing panel that were damaged and should be replaced.
- Existing sealant appear to be in good condition.
- Deck coating has been applied to the floor at the top two landings. The deck coating appears to be in good condition.
- A full system deck coating should be added to the stair treads and untreated landing to help protect the underlying structure.
- Interior paint at walls and ceiling appears to be in good condition.

Pedestrian Bridge

The pedestrian bridge appears to be in relatively good condition. The bridge is not original to the structure and was constructed of steel framing members, standing seam metal roof, concrete supported slab, and cement board ceiling at the underside of bridge.

The following items were noted at the pedestrian bridge:

- Cracked and weathered sealants should be replaced.
- Existing deck coating at the bridge floor is worn and should be recoated.
- A full system deck coating should be added to the untreated floor area to help protect the underlying structure.
- Tube Steel (columns, beams and handrails) was observed to be corroded; steel surfaces should be cleaned and repainted.

Perimeter Railing

The steel railings around the perimeter of both levels were observed to be corroded in areas with peeling paint throughout. As a minimum, these corroded areas should be cleaned and repainted.

V. DISCUSSION

This structure is in good condition, but all structures require maintenance and preventative measures to obtain a long-term service life, especially in the harsh environment of Michigan. The Cady Street Parking Structure is subject to extreme weather conditions, temperature fluctuations, and the widespread use of de-icing road salts during the winter months which create an ideal environment for deterioration of the embedded reinforcing steel, exposed metal components, and concrete components of the parking structure.

As with most parking structures, the largest portion of anticipated future maintenance and repair costs are associated with the slab system. This is due to the direct exposure of these elements to water, deicing chemicals (chlorides), and vehicular traffic. The results of the visual observations and the chain drag survey indicate that the intrusion of water and chlorides have caused continued deterioration of the floor system. Even though chloride ion testing has not been performed, it is our assumption based on the visible evidence, that the chloride ion concentrations are above the threshold to cause corrosion of reinforcement. Therefore, the potential for continued corrosion and accelerated deterioration of the floor slab is high.

In a precast structure, the topping not only functions as a wearing surface for the double tees, but it also provides a layer of protection. Moisture and chloride ions will have to diffuse through the topping before reaching the underside of the double tees and the beams, walls, and columns, below. However, if there is leaking through any joints or cracks, the joint will serve as a direct path to the underlying structural system for moisture and chloride ions. Thus, it is of vital importance to maintain the integrity of the joint sealants and deck coating.

Since the existing chloride exposure cannot be easily removed from the floor slab concrete, our recommended approach would be to maintain existing waterproofing systems and introduce protection methods at areas of the slab that are currently unprotected to minimize future corrosion induced deterioration and reduce infiltration of moisture and chlorides. This protection method would involve recoating the existing deck coating and an application of one of the following at the remaining slab areas: a clear penetrating silane sealer; a clear penetrating silane sealer with a corrosion inhibitor; a deck coating; or a deck coating with corrosion inhibitor. The following provides a comparison of each.

Option 1: Concrete Sealer

The application of a concrete sealer has a lower initial implementation cost but has less long-term durability. A concrete sealer is a water repellant, but does not provide 100% waterproofing. Actual in-place performance is difficult to verify, however, it is anticipated that the sealer will provide an 85% water and chloride barrier. The sealer does not span cracks. Reapplication every 8 to 10 years is recommended to maintain effectiveness if a 100% silane sealer is applied.

Advantages of Concrete Sealer:

- Lower initial construction cost.
- Reduces moisture and chlorides into the slab by 85%.
- Reduces rate of corrosion.
- Shorter construction schedule when compared to deck coating.

Disadvantages of Concrete Sealer:

- Continued corrosion of the embedded reinforcing steel at patch perimeter.
- Reapplication of sealer required every 8 to 10 years.
- Does not stop the corrosion process.
- Does not waterproof the slab, especially at cracks.

Option 2: Concrete Sealer with Corrosion Inhibitor

This option is similar to above, but includes a corrosion inhibitor. The application of a concrete sealer with a corrosion inhibitor reduces corrosion significantly. The manufacturers will provide a warranty against corrosion delaminations at the top side for 10 years. The reapplication of the corrosion inhibitor will depend on the results from periodic testing, will be most likely every 10 to 15 years. The reapplication of the 100% silane sealer is recommended every 8 to 10 years to maintain effectiveness.

Advantages of Concrete Sealer with Corrosion Inhibitor:

- Lower initial construction cost then deck coating.
- Reduces moisture and chlorides into the slab by 85%.
- Reduces rate of corrosion by 90%.
- Reduces maintenance and future repair costs due to corrosion damage at the top side.
- Shorter construction schedule when compared to deck coating.
- Ten-year warranty against floor delaminations.

Disadvantages of Concrete Sealer with Corrosion Inhibitor:

- Reapplication of sealer required every 8 to 10 years.
- Will require periodic testing and reapplication of corrosion inhibitor.
- Does not waterproof the slab, especially at cracks.

Option 3: Deck Coating

The application of a deck coating effectively waterproofs the floor slab and reduces moisture and chloride penetration by 98%, significantly reducing the rate of corrosion of the embedded reinforcing steel. Deck coatings can bridge small cracks with limited movement. The application of a deck coating to the floor slab will likely increase the longevity of the structure (compared to sealer) by minimizing moisture and chloride penetration into the slab and help protect the joint sealants.

We have estimated a 5 to 7 year life expectancy for the deck coating on this structure if it is properly maintained. At the end of 5 to 7 years the deck coating will need to be reapplied over the entire floor area. We anticipate a reduction in structural repair costs during this time. Maintenance includes corrosion-damaged slab repairs in isolated areas and reapplication of deck coating.

Advantages of Deck Coating:

- Provides flexible waterproofing bridge over slab cracks and control joints.
- Provides improved waterproofing characteristics when compared to sealers.
- Helps protect joint sealants.
- Reduces maintenance and future repair costs.
- Reduces rate of corrosion more effectively than concrete sealer.

Disadvantages of Deck Coating:

- Direct wear on the waterproofing system would limit the anticipated life of the waterproofing system.
- Deck coating prone to snow plow damage at the roof levels.
- Continued corrosion of the embedded reinforcing steel at patch perimeter.
- Reapplication of the coating required every 5 to 7 years.
- Longer construction schedule when compared to sealers.

Option 4: Deck Coating plus Corrosion Inhibitor

The application of a deck coating plus a corrosion inhibitor gives you the best of both options. The deck coating effectively waterproofs the floor slab and reduces moisture and chloride penetration by 98%, and the corrosion inhibitor significantly reduces the corrosion rate.

It is important to note that the structure will continue to deteriorate despite any repair and maintenance program. All structures require maintenance and preventative measures to obtain a long-term service life, especially in the harsh environment in Michigan. Therefore, WGI recommends periodic reviews of the structure to update its condition, and verify that it remains on course to achieve the desired service life.

VI. RECOMMENDATIONS

No one-restoration method has proven entirely effective in all applications or even throughout a single facility. Instead, costs have to be weighed against potential benefits in selecting repair methods for a particular facility. Several basic methods, as discussed above, have been developed for restoration of corrosion damaged reinforced concrete structures. These methods vary both in initial cost and in life expectancy. The goal is to conduct repairs, which provide cost-effective means of extending the serviceable life of the facility.

To extend the service life of the structure we recommend the following repairs be performed:

Division 3 - Concrete

3.1 *Top of Slab Repair* – This item includes repairing the delaminated/spalled concrete in the concrete topping at the Upper Level.

3.2 *Tee Flange Repair* – This item includes repairing delaminated concrete at the underside of the precast tee flanges (Lower Level ceiling).

3.3 *Tee Stem Repair* – This item includes repairing delaminated concrete at the precast tee stems.

3.4 *Beam Repair* – This includes the repair of beam delaminations at the underside of the Upper Level.

3.5 *Column Repair* – This item includes the repair of column delaminations throughout the structure.

3.6 *Spandrel Repair* - This item includes repairing delaminated concrete at the precast spandrels.

3.7 *Wall Repair* - This item includes repairing delaminated concrete at the walls.

3.8 *Curb Repair* - This item includes the repair of curb delaminations at the entrance/exit at the Upper Level.

Division 4 - Masonry

4.1 *Brick Repair* – This item includes repairing the deteriorated bricks at the façade of the structure.

4.2 *Repoint Mortar Joints* – This item includes repointing the failed/deteriorated mortar joints of the masonry walls at the façade of the structure.

Division 5 - Metals

5.1 *Steel Tread Pan Repair* – This item includes replacing the corroded tread pans at the northwest stair tower.

5.2 *Steel Landing Panel Repair* – This item includes replacing the corroded landing panel at the northwest stair tower.

5.3 *Door Repair* – This item includes repairing the door at the northeast stair tower.

Division 7 - Waterproofing

7.1 *Rout & Seal Cracks at Topping* – This item includes routing and sealing all cracks in the concrete floor topping at the Upper Level.

7.2 *Remove & Replace Control Joint Sealants* – This item includes removing and replacing all tee-to-tee control joint sealants and all other construction/control joint sealants throughout the structure.

7.3 *Remove & Replace Isolation Joint Sealants* – This item includes removing and replacing isolation joint sealants at the concrete curbs adjacent the northeast stair tower.

7.4 *Remove & Replace Cove Joint Sealants* – This item includes removing and replacing all cove joint sealants at the exterior stairs and pedestrian bridge.

7.5 *Install Cove Joint Sealants* – This item includes installing cove joint sealants at the upper landing of the northeast stair tower.

7.6 *Remove & Replace Interior Wall Sealant* – This item includes removing and replacing all wall joint sealants at the interior of the structure.

7.7 *Remove & Replace Exterior Wall Sealant* – This item includes removing and replacing all joint sealants at the exterior façade of the structure.

7.8 *Inject Wall Cracks* – This includes injecting the leaking wall cracks at the north end of the Lower Level with chemical grout.

7.9 *Recoat Deck Coating* – This item includes recoating all the existing deck coating.

7.10 *Install Deck Coating (full system)* – This item includes installing a full system deck coating at the pedestrian bridge, stair tower treads/landings, and Upper Level entrance/exit.

7.11 *Apply Concrete Sealer at Spandrels* – This includes applying a concrete sealer at the interior face of the spandrels at the Upper Level.

Division 9 - Finishes

9.1 *Clean & Paint Perimeter Railings* – This item includes cleaning and painting the metal railings at the perimeter of the structure at both levels.

9.2 *Clean & Paint Handrails & Stairs* – This item includes cleaning and painting the metal handrails and stairs, including stringers, risers and the underside, at the northeast and northwest stair towers.

9.3 *Clean & Paint Tube Steel at Pedestrian Bridge* – This item includes cleaning and painting the steel columns, beams and handrails at the pedestrian bridge.

9.4 *Clean & Paint Standpipe System* – This item includes cleaning and painting the standpipe system at both levels.

9.5 *Clean & Paint Pipe Guards* – This item includes cleaning and painting the pipe guards at the vertical risers at the Lower Level.

9.6 *Remove Flooring at NE Stair Tower* – This item includes removing the mat flooring from the northeast stair tower at the Upper Level.

Division 22 - Mechanical

22.1 *Remove & Replace Storm Drainage Piping* – This item includes replacing the damaged vertical risers at the Lower Level.

22.2 *Remove & Replace Standpipe* – This item includes replacing the damaged standpipe at the Lower Level.

Division 26 - Electrical

26.1 *Misc. Electrical Repairs* – This item includes replacing corroded electrical conduits and junction boxes at the Lower Level, as required.

Division 32 – Exterior Improvements

32.1 *Asphalt Repair* – This includes repairing the deteriorated asphalt at the Lower Level.

32.2 *Seal Asphalt Cracks/Joints* – This includes routing and sealing all cracks/joints in the asphalt at the Lower Level.

32.3 *Concrete-to-Asphalt Joint Repair at Upper Level* – This includes removing asphalt and excavating the width of the entrance/exit at the Upper Level, waterproofing the underlying wall, and replacing with a reinforced concrete slab and silicone joint sealants.

32.4 *Paint Pavement Markings* – This includes repainting the pavement markings after the application of a concrete sealer and/or deck coating.

32.5 *Install Railing Post Covers* - This includes installing post covers on the railing at the Upper Level where they are missing.

Optional Items:

O1. *Concrete Sealer* – This includes installing a silane sealer to the Upper Level slab at areas that are not covered by deck coating.

O2. *Concrete Sealer with Corrosion Inhibitor*– This includes installing a silane sealer with corrosion inhibitor to the Upper Level slab at areas that are not covered by deck coating.

O3. *Deck Coating* – This includes installing a full system deck coating to the Upper Level slab at areas that are not covered by deck coating.

O4. *Deck Coating plus Corrosion Inhibitor* – This includes installing a full system deck coating plus corrosion inhibitor to the Upper Level slab at areas that are not covered by deck coating.

O5. *Replace Light Fixtures at Lower Level* - LED lighting technology is available that could provide energy savings as well as a longer bulb life. WGI can run lighting software to determine if the fixture spacing is adequate for the IES recommendations. The rate of return would most likely be in 3 to 5 years.

WGI recommends selecting one of the four optional protection methods discussed above (O1 to O4) to help minimize future corrosion induced deterioration and reduce infiltration of moisture and chlorides at the supported slab. Based on our experience, we recommend selecting Option 2: Concrete Sealer with Corrosion Inhibitor. This option has a lower cost than Options 3 and 4 and will provide better corrosion protection than Options 1 and 3. Options 3 and 4 with deck coating are very good options, but since there is only one supported level, all of the deck coating would be exposed to weather and snow plow damage. In addition, repairs to the deck coating would increase maintenance costs. Therefore, we believe Option 2 with good future maintenance will provide the most cost-effective option to extend the life of the structure for upwards of 30 additional years.

VII. COST ESTIMATE

We have prepared an opinion of cost for the recommended and optional repairs for the Cady Street Parking Structure to assist you with developing a budget for implementing the repairs.

Base Cost Estimate

Work Item No.	Work Item Description	Units	Estimated Quantity	Unit Cost	Cost
Division 0 & 1 - General Conditions					
1.1	Contractor Mobilization (5%)	L.S.	n/a	n/a	$ 13,300
1.2	Contractor General Requirements (10%)	L.S.	n/a	n/a	$ 26,600
Division 3 - Concrete					
3.1	Top of Slab Repair	S.F.	1,100	$ 40.00	$ 44,000
3.2	Tee Flange Repair (Ceiling)	S.F.	80	$ 100.00	$ 8,000
3.3	Tee Stem Repair	S.F.	10	$ 100.00	$ 1,000
3.4	Beam Repair	S.F.	10	$ 100.00	$ 1,000
3.5	Column Repair	S.F.	10	$ 100.00	$ 1,000
3.6	Spandrel Repair	S.F.	10	$ 100.00	$ 1,000
3.7	Wall Repair	S.F.	10	$ 100.00	$ 1,000
3.8	Curb Repair	S.F.	20	$ 100.00	$ 2,000
Division 4 - Masonry					
4.1	Brick Repair	EA.	60	$ 20.00	$ 1,200
4.2	Repoint Mortar Joints	L.F.	150	$ 20.00	$ 3,000
Division 5 - Metals					
5.1	Steel Tread Pan Repair	EA.	5	$ 500.00	$ 2,500
5.2	Steel Landing Panel Repair	EA.	1	$ 1,000.00	$ 1,000
5.3	Door Repair	EA.	1	$ 1,000.00	$ 1,000
Division 7 - Waterproofing					
7.1	Rout & Seal Cracks at Topping	L.F.	100	$ 5.00	$ 500
7.2	Remove & Replace Control Joint Sealants	L.F.	3,500	$ 5.00	$ 17,500
7.3	Remove & Replace Isolation Joint Sealants	L.F.	40	$ 10.00	$ 400
7.4	Remove & Replace Cove Joint Sealants at Ext. Stairs & Bridge	L.F.	250	$ 5.00	$ 1,250
7.5	Install Cove Joint Sealants at NE Stairs	L.F.	50	$ 6.00	$ 300
7.6	Remove & Replace Interior Wall Sealants	L.F.	120	$ 10.00	$ 1,200
7.7	Remove & Replace Exterior Wall Sealants	L.F.	160	$ 10.00	$ 1,600
7.8	Inject Wall Cracks	L.F.	10	$ 50.00	$ 500
7.9	Recoat Deck Coating	S.F.	4,000	$ 3.25	$ 13,000
7.10a	Install Deck Coating at Entry/Exit - Full System	S.F.	600	$ 5.60	$ 3,360
7.10b	Install Deck Coating at Ped. Bridge - Full System	S.F.	350	$ 5.60	$ 1,960
7.10c	Install Deck Coating at Stair Towers - Full System	S.F.	380	$ 7.00	$ 2,660
7.11	Apply Concrete Sealer at Spandrels	S.F.	1,400	$ 0.50	$ 700
Division 9 - Finishes					
9.1a	Clean & Paint Perimeter Railing at Lower Level	L.F.	450	$ 40.00	$ 18,000
9.1b	Clean & Paint Perimeter Railing at Upper Level	L.F.	600	$ 30.00	$ 18,000
9.2a	Clean & Paint Handrails & Stairs at NE Stair Tower	L.S.	1	$ 8,000.00	$ 8,000
9.2b	Clean & Paint Handrails & Stairs at NW Stair Tower	L.S.	1	$ 6,000.00	$ 6,000
9.3	Clean & Paint Tube Steel at Pedestrian Bridge	L.S.	1	$ 3,000.00	$ 3,000
9.4	Clean & Paint Standpipe System	L.F.	380	$ 15.00	$ 5,700
9.5	Clean & Paint Pipe Guard	EA.	4	$ 300.00	$ 1,200
9.6	Remove Flooring at NE Stair Tower	S.F.	130	$ 10.00	$ 1,300
Division 22 - Mechanical					
22.1	Remove & Replace Storm Drainage Piping	L.F.	30	$ 80.00	$ 2,400
22.2	Remove & Replace Standpipe	L.F.	10	$ 100.00	$ 1,000
Division 26 - Electrical					
26.1	Misc. Electrical Repairs	L.S.	1	$ 1,000.00	$ 1,000
Division 32 - Exterior Improvements					
32.1	Asphalt Repair	S.F.	6,600	$ 8.00	$ 52,800
32.2	Seal Asphalt Cracks/Joints	L.F.	750	$ 2.50	$ 1,875
32.3	Concrete-to-Asphalt Joint Repair at Upper Level	S.F.	120	$ 40.00	$ 4,800
32.4	Paint Pavement Markings	L.S.	1	$ 3,500.00	$ 3,500
32.5	Install Railing Post Covers at Upper Level	EA.	10	$ 50.00	$ 500
RECOMMENDED PROTECTION OPTION					
O2	Concrete Sealer with Corrosion Inhibitor	S.F.	21,300	$ 1.10	$ 23,430
	Total Estimated Construction Cost				**$ 305,035**
	Construction Contingency (10%)				$ 30,600
	Probable Construction Cost Budget				$ 335,635
	Soft Costs (Engineering, Testing) (20%)				$ 67,200
	Total Probable Construction Cost Budget				**$ 402,835**

**Unit Key Code: L.S. - Lump Sum, S.F. - Square Foot, L.F. - Lineal Foot, EA. - Each*

Optional Items – Cost Estimate

Work Item No.	Work Item Description	Units	Estimated Quantity	Unit Cost	Cost
PROTECTION OPTIONS					
O1	Concrete Sealer	S.F.	21,300	$ 0.45	$ 9,590
O2	Concrete Sealer with Corrosion Inhibitor	S.F.	21,300	$ 1.10	$ 23,430
O3	Deck Coating	S.F.	21,300	$ 3.25	$ 69,230
O4	Deck Coating with Corrosion Inhibitor	S.F.	21,300	$ 4.35	$ 92,660
LIGHTING UPGRADE					
O5	Replace Light Fixtures at Lower Level	L.S.	1	$ 20,000.00	$ 20,000

**Unit Key Code: L.S. - Lump Sum, S.F. - Square Foot, L.F. - Lineal Foot, EA. - Each*

VIII. FUTURE REPAIRS AND MAINTENANCE

The repairs and protection presented in Section 8 are based on the current condition of the structure. As you are aware, even after repairs are completed, continued maintenance and repairs should be anticipated to keep the facility safe and operational. The following is a summary of anticipated future maintenance and repair items.

Concrete Repairs – Miscellaneous concrete repairs should be anticipated, including slab, beam, and columns. Increasing repair quantities should be anticipated in the future.

Crack & Joint Sealant Replacement – Sealant repairs should be anticipated periodically as part of the annual maintenance program. Total replacement is anticipated every 8 years.

Expansion Joint Replacement – Expansion joint replacement should be anticipated every 8 years.

Deck Coating – Recoating should be anticipated every 8 years.

Sealer Reapplication – Reapplication of the sealer should be anticipated every 8 years.

Pavement Markings – Repainting of the pavement markings should be anticipated every 2 to 3 years.

Annual Maintenance – Annual maintenance should include a slab wash-down in the Spring and the Fall, annual inspection for deterioration, miscellaneous sealant repair, isolated concrete repairs, painting touch up, floor drain clean-out, lighting lamp replacement, etc.

IX. LIMITATIONS

The recommended restoration and protection of the parking structure can be performed and the rate of further deterioration reduced. However, we cannot guarantee that further deterioration will not take place with continued service-related exposure. Effective ongoing maintenance can significantly reduce long-term maintenance costs. Monitoring of the parking structure can assist in scheduling future maintenance.

Specific repair procedures are not part of this evaluation. This report defines items in need of repair and presents conceptual procedures. Construction Documents are required to address all aspects of materials selection and methods for repair of the parking structure. Repair cost projections are based on deterioration quantities identified during our review. Quantities and costs are not intended to define a guaranteed maximum cost, and variations in final quantities should be anticipated.

The evaluation and restoration of existing structures require that certain assumptions be made regarding existing conditions. Since some of these assumptions may not be confirmed without expending additional sums of money and/or destroying otherwise adequate or serviceable portions of the building, WGI cannot be held responsible for latent deficiencies which may exist in the structure, but which have not been discovered within the scope of this evaluation.

WGI did not review the structure for conformance with the Americans with Disabilities Act (ADA).

NORTHVILLE - CADY STREET PARKING STRUCTURE

20-Year Maintenance / Repair Forecast

August 2018

Work Item	Work Item Description	TOTAL COST	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
DIVISION 0 & 1 - GENERAL CONDITIONS																						
1.1	Contractor Mobilization (5%)	$ 40,100	$ 7,400	$ 5,900	$ 1,600		$ 9,600		$ 300		$ 4,800		$ 300		$ 4,300		$ 300		$ 4,800		$ 300	$ 500
1.2	Contractor General Requirements (10%)	$ 79,900	$ 14,800	$ 11,800	$ 3,100		$ 19,100		$ 600		$ 9,600		$ 600		$ 8,500		$ 600		$ 9,600		$ 600	$ 1,000
DIVISION 3 - CONCRETE																						
3.1	Top of Slab Repair	$ 64,000	$ 44,000		$ 800		$ 4,000		$ 800		$ 4,000		$ 800		$ 4,000		$ 800		$ 4,000		$ 800	
3.2	Tee Flange Repair (Ceiling)	$ 16,000	$ 8,000				$ 2,000				$ 2,000				$ 2,000				$ 2,000			
3.3	Tee Stem Repair	$ 3,000	$ 1,000				$ 500				$ 500				$ 500				$ 500			
3.4	Beam Repair	$ 3,000	$ 1,000				$ 500				$ 500				$ 500				$ 500			
3.5	Column Repair	$ 3,000	$ 1,000				$ 500				$ 500				$ 500				$ 500			
3.6	Spandrel Repair	$ 3,000	$ 1,000				$ 500				$ 500				$ 500				$ 500			
3.7	Wall Repair	$ 3,000	$ 1,000				$ 500				$ 500				$ 500				$ 500			
3.8	Curb Repair	$ 4,000	$ 2,000				$ 500				$ 500				$ 500				$ 500			
DIVISION 4 - MASONRY																						
4.1	Brick Repair	$ 2,400	$ 1,200				$ 300				$ 300				$ 300				$ 300			
4.2	Re-Point Mortar Joints	$ 7,000	$ 3,000				$ 1,000				$ 1,000				$ 1,000				$ 1,000			
DIVISION 5 - METALS																						
5.1	Steel Tread Pan Repair	$ 6,500	$ 2,500				$ 1,000				$ 1,000				$ 1,000				$ 1,000			
5.2	Steel Landing Panel Repair	$ 3,000	$ 1,000								$ 1,000								$ 1,000			
5.3	Door Repair	$ 5,400	$ 1,000				$ 1,000				$ 1,000				$ 1,100				$ 1,300			
5.4	Miscellaneous Metal Repairs (Railings, Doors, Stairs, etc.)	$ 8,000					$ 2,000				$ 2,000				$ 2,000				$ 2,000			
DIVISION 7 - WATERPROOFING																						
7.1	Rout & Seal Cracks at Topping	$ 2,500	$ 500				$ 500				$ 500				$ 500				$ 500			
7.2	Remove & Replace Control Joint Sealants	$ 56,000	$ 17,500		$ 500		$ 500		$ 500		$ 17,500		$ 500		$ 500		$ 500		$ 17,500		$ 500	
7.3	Remove & Replace Isolation Joint Sealants	$ 1,900	$ 400		$ 100		$ 100		$ 100		$ 400		$ 100		$ 100		$ 100		$ 400		$ 100	
7.4	Remove & Replace Cove Joint Sealants	$ 12,550	$ 1,250		$ 300		$ 300		$ 300		$ 4,600		$ 300		$ 300		$ 300		$ 4,600		$ 300	
7.5	Install Cove Joint Sealants at NE Stairs	$ 900	$ 300								$ 300								$ 300			
7.6	Remove & Replace Interior Wall Sealants	$ 3,600	$ 1,200								$ 1,200								$ 1,200			
7.7	Remove & Replace Exterior Wall Sealants	$ 4,800	$ 1,600								$ 1,600								$ 1,600			
7.8	Inject Wall Cracks	$ 1,500	$ 500								$ 500								$ 500			
7.9	Install Deck Coating - Recoat	$ 47,800	$ 13,000								$ 17,400								$ 17,400			
7.10a	Install Deck Coating at Entry/Exit - Full System	$ 3,360	$ 3,360																			
7.10b	Install Deck Coating at Ped. Bridge - Full System	$ 1,960	$ 1,960																			
7.10c	Install Deck Coating at Stair Towers - Full System	$ 2,660	$ 2,660																			
7.11	Apply Concrete Sealer at Spandrels	$ 2,100	$ 700								$ 700								$ 700			
7.12	Roof Replacement at Stair Towers	$ 16,000					$ 16,000															
7.13	Remove & Replace Exterior Sealants at Stair Towers	$ 8,000									$ 4,000								$ 4,000			
7.14	Concrete Sealer with Corrosion Inhibitor	$ 23,430	$ 23,430																			
7.15	Concrete Sealer	$ 19,200									$ 9,600								$ 9,600			
DIVISION 9 - FINISHES																						
9.1a	Clean & Paint Railing at Lower Level	$ 36,000		$ 18,000											$ 18,000							
9.1b	Clean & Paint Railing at Upper Level	$ 36,000		$ 18,000											$ 18,000							
9.2a	Clean & Paint Handrails & Stairs at NE Stairs	$ 16,000		$ 8,000											$ 8,000							
9.2b	Clean & Paint Handrails & Stairs at NW Stairs	$ 12,000		$ 6,000											$ 6,000							
9.3	Clean & Paint Tube Steel at Ped. Bridge	$ 6,000		$ 3,000											$ 3,000							
9.4	Clean & Paint Standpipe System	$ 11,400		$ 5,700											$ 5,700							
9.5	Clean & Paint Pipe Guards	$ 2,400		$ 1,200											$ 1,200							
9.6	Remove Flooring at NE Stairs	$ 1,300		$ 1,300																		
9.7	Miscellaneous Painting (Stair tower walls, other walls, steel, etc.)	$ 10,000									$ 5,000								$ 5,000			
DIVISION 14 - ELEVATORS																						
14.1	Elevator Upgrades (every 15 years)	$ 10,000																				$ 10,000
14.2	Elevator Replacement (25 to 30 years)	$ 150,000					$ 150,000															
DIVISION 21 - FIRE SUPPRESSION																						
21.1	Fire Protection / Standpipe System	$ 4,000									$ 2,000								$ 2,000			
DIVISION 22 - MECHANICAL																						
22.1	Remove & Replace Storm Drainage Piping	$ 7,200	$ 2,400								$ 2,400								$ 2,400			
22.2	Remove & Replace Standpipe	$ 7,000	$ 1,000								$ 3,000								$ 3,000			
DIVISION 26 - ELECTRICAL																						
26.1	Miscellaneous Electrical Repairs (Lights, Conduits, Boxes, etc.)	$ 5,000		$ 1,000			$ 1,000				$ 1,000				$ 1,000				$ 1,000			
26.2	Upgrade Light Fixtures at Lower Level	$ 20,000			$ 20,000																	
26.3	Upgrade Light Fixtures at Upper Level	$ 5,000			$ 5,000																	
DIVISION 32 - EXTERIOR IMPROVEMENTS																						
32.1	Asphalt Repair	$ 68,800		$ 52,800			$ 4,000				$ 4,000				$ 4,000				$ 4,000			
32.2	Seal Asphalt Cracks/Joints	$ 3,875		$ 1,875			$ 500				$ 500				$ 500				$ 500			
32.3	Concrete-to-Asphalt Joint Repair at Upper Level	$ 4,800	$ 4,800																			
32.4	Paint Pavement Markings	$ 35,000	$ 3,500		$ 3,500		$ 3,500		$ 3,500		$ 3,500		$ 3,500		$ 3,500		$ 3,500		$ 3,500		$ 3,500	
32.5	Install Railing Post Covers	$ 900		$ 500			$ 100				$ 100				$ 100				$ 100			
	PROBABLE CONSTRUCTION COST	$ 912,235	$ 169,960	$ 135,075	$ 34,900	$ -	$ 219,500	$ -	$ 6,100	$ -	$ 109,500	$ -	$ 6,100	$ -	$ 97,600	$ -	$ 6,100	$ -	$ 109,800	$ -	$ 6,100	$ 11,500
	CONSTRUCTION CONTINGENCY (10%)	$ 91,900	$ 17,000	$ 13,600	$ 3,500	$ -	$ 22,000	$ -	$ 700	$ -	$ 11,000	$ -	$ 700	$ -	$ 9,800	$ -	$ 700	$ -	$ 11,000	$ -	$ 700	$ 1,200
	PROBABLE CONSTRUCTION COST BUDGET	**$1,004,135**	**$ 186,960**	**$ 148,675**	**$ 38,400**	**$ -**	**$ 241,500**	**$ -**	**$ 6,800**	**$ -**	**$ 120,500**	**$ -**	**$ 6,800**	**$ -**	**$ 107,400**	**$ -**	**$ 6,800**	**$ -**	**$ 120,800**	**$ -**	**$ 6,800**	**$ 12,700**
	SOFT COSTS (Engineering, Testing) (20%)	$ 201,200	$ 37,400	$ 29,800	$ 7,700	$ -	$ 48,300	$ -	$ 1,400	$ -	$ 24,100	$ -	$ 1,400	$ -	$ 21,500	$ -	$ 1,400	$ -	$ 24,200	$ -	$ 1,400	$ 2,600
	TOTAL PROBABLE CONSTRUCTION COST BUDGET (2018 $)	**$1,205,335**	**$ 224,360**	**$ 178,475**	**$ 46,100**	**$ -**	**$ 289,800**	**$ -**	**$ 8,200**	**$ -**	**$ 144,600**	**$ -**	**$ 8,200**	**$ -**	**$ 128,900**	**$ -**	**$ 8,200**	**$ -**	**$ 145,000**	**$ -**	**$ 8,200**	**$ 15,300**
	TOTAL PROBABLE CONSTRUCTION COST BUDGET (3% INFLATION)	**$1,501,000**	**$ 231,100**	**$ 189,400**	**$ 50,400**	**$ -**	**$ 336,000**	**$ -**	**$ 10,100**	**$ -**	**$ 188,700**	**$ -**	**$ 11,400**	**$ -**	**$ 189,300**	**$ -**	**$ 12,800**	**$ -**	**$ 239,700**	**$ -**	**$ 14,400**	**$ 27,700**

CITY OF NORTHVILLE

MAINCENTRE PARKING STRUCTURE | FINAL REPORT

24183249.00 | August 6, 2018 | Engineering Condition Assessment

WGI MICHIGAN, INC.

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TABLE OF CONTENTS

I. INTRODUCTION

In accordance with our proposal dated March 29, 2018, ***WGI*** has completed an Engineering Condition Assessment of the MainCentre Parking Structure in Northville, Michigan. The primary objectives of this assessment were to assess the general condition of the structure, identify items requiring repair, maintenance, and/or protection, and provide an estimate of preliminary construction costs for the recommended repairs prioritized into a short-term and long-term plan.

II. STRUCTURE DESCRIPTION

The MainCentre Parking Structure is located at the southeast corner of the Cady Street and Center Street intersection in Northville, MI. The parking structure was built in 1994. The two-bay structure consists of 1 supported level and one slab-on-grade level with entrances and exits at each level. The entrance and exit to the Upper Level is on the north side of the parking structure from Cady Street and has no access controls. The entrance and exit to the Lower Level is on the south side of the parking structure from a service drive and has controlled access with card readers.

The typical structural plan dimensions measure approximately 117 feet in the east-west direction and 254 feet in the north-south direction. Each level covers approximately 29,500 square feet for a total of 59,000 square feet. The parking structure provides approximately 182 parking spaces.

The structural system is composed of precast concrete double-tees, beams, and columns. Each precast concrete double-tee spans 58 feet in the east-west direction across the bays. The double-tees are 9 feet wide, which forms the column spacing of 36 feet in the north-south direction. There is a 3-inch thick cast-in-place concrete topping on the tees. The double-tees are supported by precast inverted tee beams on the interior and precast spandrels on the exterior. Precast concrete columns support the beams and spandrels. Slab-on-grade consists of asphalt paving.

Stair towers are located at the northeast and southwest corners of the structure. The northeast stair tower is fully enclosed and has one elevator. The stair tower has four flights of stairs above the Upper Level, leading to a pedestrian bridge which provides access to the MainCentre Building to the north. The southwest stair tower is not covered and consist of aluminum members.

III. DOCUMENT REVIEW

We reviewed the following documents:

- Original Design Drawings by Rich and Associates, Inc. dated March 12, 1994.
- Specifications and drawings for the "Cady and M.A.G.S. Deck Restoration" by Rich and Associates, Inc. dated July 2005.
- Proposal for the MainCentre Parking Structure repairs by Pullman dated April 18, 2013.
- Drawing for the "Northville Parking Deck Spandrel Repair" by Desai Nasr Consulting Engineers dated May 27, 2015.

From these documents, we noted the following pertinent information:

- Original Design Drawings dated 1994

- The building was designed in accordance with the 1993 edition of the BOCA Basic National Building Code.
- The Upper Level was designed for a 50 psf live load plus 30 psf snow load. The stairs were designed for a 100 psf live load.
- Spread footing design was based on a soil bearing capacity of 3,000 psf.
- The 28-day compressive strength for the cast-in-place concrete slab, topping, columns, wall, and footings was specified to be a minimum of 4,000 psi.
- The 28-day compressive strength for the precast was specified to be a minimum of 6,000 psi.
- The minimum yield strength of all reinforcing steel was specified at 60,000 psi.
- Minimum concrete cover specified for reinforcing was as follows: footings – 3", columns – 1.5", from top of slab and beams – 1.5" for #5 and smaller, and 2" for others.
- The reinforcement for the concrete topping was specified to be WWF 6X6-W2.9 X W2.9. Added reinforcement in the concrete topping was specified to be the following: #4 @ 16" by 10' across the inverted tee-beam at column line B; and 2 - #5 in the perimeter concrete wash parallel along column lines A, C, and 9.
- Some of the precast connections were specified to be stainless steel, such as the flange connectors.
- Concrete masonry units were specified to be normal weight units with a minimum compressive strength of 1,500 psi.
- Mortar was specified to Type S with an average compressive strength of 1,800 psi for a 2" cube at 28 days.
- Deck coating was specified to be installed on the Upper Level floor surface above the Inverted tee-beams at column line B.
- An oil interceptor is located at the Lower Level near column line B.7 - 4.
- The southwest stair was specified to be metal frame with concrete in-fill treads.

- Specification and Drawings for Cady and M.A.G.S. Deck Restoration dated July 2005
  - Small quantities of concrete delaminations were specified to be repaired.
  - Small quantities of joint sealants were specified to be repaired.
  - A concrete sealer (40% silane) was specified to be installed on the entire Upper Level.
  - All the deck coating was specified to be removed and replaced.
  - Expansion joint gland at the Upper Level entry was specified to be replaced.
  - All the metal railings were specified to be painted.
  - The southwest stair was specified to be replaced with an anodized aluminum stair.
  - The brick stair retaining wall at the northwest corner was specified to be rebuilt.
  - The fire protection standpipe system was specified to be repainted.

- The walls and ceilings of the northeast stair tower were specified to be repainted.

- Pullman's Proposal for the MainCentre Parking Structure repairs dated April 18, 2013
  - Provided a quote of $4,985 to repair 234 ft of joint sealants and 24 ft of Jeene expansion joint at the Upper Level entrance. This work was performed per conversation with Pullman.
  - Provided a quote of $12,390 to remove and replace 3,300 ft of joint sealants. This work was not performed per conversation with Pullman.
- Drawing for the Northville Parking Deck Spandrel Repair dated May 27, 2015.
  - A precast concrete spandrel with brick veneer was specified to be repaired. The damage appeared to be caused by corrosion of the reinforcement and was located on the east elevation.

IV. GENERAL CONDITION REVIEW

On May 10, 2018, WGI completed a review of the MainCentre Parking Structure. The review included a visual examination of floor and ceiling surfaces, structural elements and their supports, and stair towers to assess the current condition and locate areas of deterioration and/or deficiencies. A chain drag survey was performed at the supported slab surfaces to determine the extent of slab delamination due to the corrosion of the embedded reinforcing steel. The following is a summary of our observations.

Floor Slabs

A representative chain drag survey of the floor slab was performed to locate and quantify concrete delaminations. A delamination is a horizontal fracture beneath the surface of the concrete. In general, slab delaminations are caused by corrosion of the embedded reinforcing steel. Rust, which is the byproduct of the corrosion process, has a volume several times that of the original steel. The volume change created by corrosion generates pressures on the surrounding concrete that eventually becomes sufficient to cause internal fracturing of the concrete and the loss of bond of the corroded reinforcing steel with the surrounding concrete.

The chain drag survey of the floor slab revealed approximately 400 square feet of slab delaminations at the Upper Level, which is approximately 1.4% of the supported slab. Most of the top-of-slab delaminations are small, approximately 1 to 4 square feet in size. Many of the delaminations are caused by the corrosion of the welded wire fabric which appears to have very little concrete cover. Floor slab delaminations should be repaired to help maintain the structural integrity of the facility and eliminate safety hazards such as trip hazards.

Water ponding was observed at the Upper Level Adjacent to the southwest stairs. This ponding could be relieved by minor re-profiling or installing a supplementary floor drain.

Tee Flanges/Stems

The double tees appear to be in good condition. We estimate a total of 20 square feet of tee flange delaminations, with most of them approximately 1 to 3 square feet in size. The delaminations are typically located along leaking joints that allow water and chlorides to corrode embedded reinforcement. These delaminations should be repaired to help maintain the structural integrity of the facility and eliminate safety issues such as falling concrete.

The tee stems appear to be in good condition. No delaminations were noted at the stems.

Beams

The inverted tee beams running column line B appear to be in good condition with an estimated total of 30 square feet of delaminations. Most of the delaminations are small, approximately 1 to 2 square feet in size and primarily located near the columns. The delaminations are typically located at leaking joints that allow water and chlorides to corrode embedded reinforcement. These delaminations should be repaired to help maintain the structural integrity of the facility and eliminate safety issues such as falling concrete.

Columns

The columns appear to be in good condition with an estimated total of 40 square feet of delaminations. Most of the column delaminations are small, approximately 4 to 5 square feet in size and primarily located along column line B at both the Upper and Lower Levels.

The delaminations at the Lower Level are typically located at leaking joints that allow water and chlorides to corrode embedded reinforcement. These delaminations should be repaired to help maintain the structural integrity of the facility and eliminate safety issues such as falling concrete.

The interior columns at the Upper Level, a total of three, are used to support the light posts. These columns have multiple hairline cracks, which may be from alkali-silica reaction (ASR). To help protect these columns we would recommend installing an elastomeric coating.

Spandrels

The precast concrete spandrels with brick veneer are located at the perimeter of the Upper Level. The spandrels appear to be in good condition with an estimated total of 30 square feet of delaminations. Most of the delaminations are small, approximately 1 to 2 square feet in size and primarily located near the columns. The delaminations at the interior face are typically caused by the corrosion of the reinforcement with shallow concrete cover. The deterioration at the exterior face appear to be caused by failed sealants, which allows moisture to penetrate behind the brick veneer. The moisture can then attack the concrete causing corrosion of the reinforcement, especially if there is shallow concrete cover on this face. Also, once moisture is behind the brick, freeze-thaw can cause damage to the concrete and the brick.

Walls

The cast-in-place concrete walls are located at the perimeter of the Lower Level. The walls appear to be in good condition with an estimated total of 20 square feet of delaminations. Most of the wall delaminations are small, approximately 4 to 6 square feet in size. The wall at the north end has multiple leaking cracks, which has helped cause the delaminations. Also, the expansion joint above at the entrance has failed causing leaking on to the wall. The cracks and expansion joint needs be sealed to protect this wall.

Curbs

The concrete curbs are in good condition with approximately 20 square feet of delaminations noted at the Upper Level. At some locations the deterioration is undermining the curb. All of the curb delaminations were observed at the entrance/exit. The concrete curbs help direct water to the floor drains and provides a walking surface for pedestrians. These delaminations should be repaired to prevent potential trip hazards and to protect the embedded steel reinforcement.

Masonry

The exterior façade consists of precast concrete and brick masonry. The brick masonry appears to be in good condition, with some small areas deterioration observed. Spalls were observed at the brick at the steps in the northeast corner and on the east face of the pedestrian bridge. All loose bricks should be repaired to help prevent future deterioration.

The brick stair retaining wall at the northwest corner was rebuilt in 2005. A crack in the north face of the wall has developed. The cove joint sealant between the brick and steps has failed, causing moisture to enter the backside of the wall. Thermal movement of the concrete steps and freeze-thaw has most likely caused this crack.

Asphalt

The Lower Level is at grade and the floor surface consists of asphalt. The asphalt throughout this level is in good condition with approximately 240 square feet of deterioration, which is approximately 0.9% of the floor surface. The paving seams are opening up which may lead to future deterioration of the asphalt. The asphalt should be repaired to reduce future deterioration and trip hazards.

Joint Sealants

It is our understanding that a small quantity of the tee-to-tee joint sealants were repaired in 2005 and 2013. Failed tee-to-tee joint sealants and active leaking were observed throughout the Upper Level.

Cove joint sealants are typically installed at the slab-to-wall joints and at the slab-to-curb joints at the perimeter of the structure. The cove joint sealants are in poor condition and appear to have been damaged by snow plows.

Vertical wall sealants at the interior and exterior of the structure are in poor condition. Cracked and weathered sealants were observed throughout the structure. Most of the wall sealants are located at the columns.

Most of these sealants appear to be very old and are at the end of their useful life. The typical service life for joint sealants is 7 to 10 years, especially at the roof level. Sealants should be repaired to prevent the infiltration of moisture and chlorides into the structural elements below and to prevent leaking onto vehicles and pedestrians at the Lower Level.

Expansion Joints

There is an expansion joint running east-west at the entrance/exit to the Upper Level. The purpose this joint is to provide isolation from the structural slab and the foundation which allows movement to occur without causing damage to the structure. The joint consists of steel angles with a compression seal (Jeene Joint). The gland was replaced in 2013. The gland has failed causing leaking below and corrosion damage to the foundation wall. This gland should be replaced to prevent water from damaging the structural elements.

Surface Treatments

Deck coating has been installed at the Upper Level slab directly above the inverted tee beams at column line B and along the north edge of the structure. It is our understanding that the deck coating was replaced in the 2005 project. The deck coating appears to be in fair condition with many worn areas, especially in the drive lanes. All of the deck coating should be recoated to help protect the underlying structural concrete elements.

It is our understanding that a 40% silane sealer was applied to the Upper Level slab surfaces during the 2005 repair project. The effective service life of a 40% silane sealer is typically 4 to 5 years.

Mechanical

Cast iron storm drainage piping (vertical risers) are at three locations in the structure, all along column line B. Corroded and damaged cast iron piping were noted at all locations, caused by leaking joints above. The piping should be replaced to maintain proper water removal from the structure. The piping could be replaced with PVC to eliminate the corrosion damage, if allowed by the local codes.

The steel pipe guards protecting these risers were observed to be corroded. As a minimum, these should be cleaned and repainted or better yet, replaced with new galvanized pipe guards.

The standpipe system has been painted, which helps protect the steel from corrosion. Most of this paint is deteriorating, causing corrosion. The standpipe system should be cleaned and repainted. The system should also be tested, if it has not been recently, to make sure it is working properly.

Electrical

HPS light fixtures at the Lower Level are located near the edge of each drive lane at a spacing of 30 feet. The fixtures are surface mounted to the underside of the slab and are serviced by exposed electrical conduit. The lighting system appears to be in good working order. WGI can conduct a lighting survey to review existing lighting levels and provide recommendations to improve (increase) lighting levels while using more energy efficient fixtures. LED lighting technology is available that could provide energy savings as well as a longer bulb life.

Electrical junction boxes and conduits were noted to be corroded due to leaking joints above. Some of the boxes were missing covers exposing the wires. The conduits and junction boxes should be repaired to prevent future deterioration and possible electrocution.

Stair Towers

The stair towers are in relatively good condition. The northeast stairs consist of metal pans with concrete infill and the southwest stairs consist of anodized aluminum. The southwest stairs originally consisted of metal pans with concrete infill, but was replaced in 2005.

The following items were noted at the northeast stair tower:

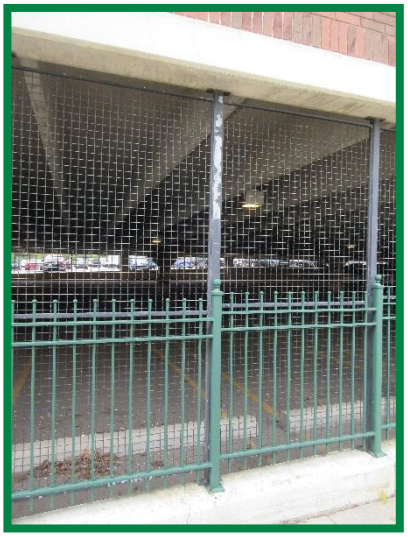
- Cracks in many of the concrete treads and landings, which need to be sealed.
- Paint stained and peeling at some of the concrete walls.
- Handrails and metal pans have some corrosion.
- Door hinge badly corroded at the Upper Level.
- Roof appears to have a leak.
- Failed sealant at the east window at the Upper Level.
- Paint peeling from the interior ceiling of the pedestrian bridge.

The following items were noted at the southwest stair tower:

- Paint peeling from the rail around the stairs at the Upper Level.
- One riser missing from the stairs.
- Bottom of door frame corroded at the Lower Level.

Perimeter Railing & Fencing

The steel railings around the perimeter of both levels and the security fencing around the perimeter of the lower level were observed to be corroded in areas with peeling paint throughout. As a minimum, these corroded areas should be cleaned and repainted.



V. DISCUSSION

This structure is in good condition, but all structures require maintenance and preventative measures to obtain a long-term service life, especially in the harsh environment of Michigan. The MainCentre Parking Structure is subject to extreme weather conditions, temperature fluctuations, and the widespread use of de-icing road salts during the winter months which create an ideal environment for deterioration of the embedded reinforcing steel, exposed metal components, and concrete components of the parking structure.

As with most parking structures, the largest portion of anticipated future maintenance and repair costs are associated with the slab system. This is due to the direct exposure of these elements to water, deicing chemicals (chlorides), and vehicular traffic. The results of the visual observations and the chain drag survey indicate that the intrusion of water and chlorides have caused continued deterioration of the floor system. Even though chloride ion testing has not been performed, it is our assumption based on the visible evidence, that the chloride ion concentrations are above the threshold to cause corrosion of reinforcement. Therefore, the potential for continued corrosion and accelerated deterioration of the floor slab is high.

In a precast structure, the topping not only functions as a wearing surface for the double tees, but it also provides a layer of protection. Moisture and chloride ions will have to diffuse through the topping before reaching the underside of the double tees and the beams, walls, and columns, below. However, if there is leaking through any joints or cracks, the joint will serve as a direct path to the underlying structural system for moisture and chloride ions. Thus, it is of vital importance to maintain the integrity of the joint sealants, expansion joints, and deck coating.

Since the existing chloride exposure cannot be easily removed from the floor slab concrete, our recommended approach would be to maintain existing waterproofing systems and introduce protection methods at areas of the slab that are currently unprotected to minimize future corrosion induced deterioration and reduce infiltration of moisture and chlorides. This protection method would involve recoating the existing deck coating and an application of one of the following at the remaining slab areas: a clear penetrating silane sealer; a clear penetrating silane sealer with a corrosion inhibitor; a deck coating; or a deck coating with corrosion inhibitor. The following provides a comparison of each.

Option 1: Concrete Sealer

The application of a concrete sealer has a lower initial implementation cost but has less long-term durability. A concrete sealer is a water repellant, but does not provide 100% waterproofing. Actual in-place performance is difficult to verify, however, it is anticipated that the sealer will provide an 85% water and chloride barrier. The sealer does not span cracks. Reapplication every 8 to 10 years is recommended to maintain effectiveness if a 100% silane sealer is applied.

Advantages of Concrete Sealer:

- Lower initial construction cost.
- Reduces moisture and chlorides into the slab by 85%.
- Reduces rate of corrosion.
- Shorter construction schedule when compared to deck coating.

Disadvantages of Concrete Sealer:

- Continued corrosion of the embedded reinforcing steel at patch perimeter.
- Reapplication of sealer required every 8 to 10 years.
- Does not stop the corrosion process.
- Does not waterproof the slab, especially at cracks.

Option 2: Concrete Sealer with Corrosion Inhibitor

This option is similar to above, but includes a corrosion inhibitor. The application of a concrete sealer with a corrosion inhibitor reduces corrosion significantly. The manufacturers will provide a warranty against corrosion delaminations at the top side for 10 years. The reapplication of the corrosion inhibitor will depend on the results from periodic testing, will be most likely every 10 to 15 years. The reapplication of the 100% silane sealer is recommended every 8 to 10 years to maintain effectiveness.

Advantages of Concrete Sealer with Corrosion Inhibitor:

- Lower initial construction cost then deck coating.
- Reduces moisture and chlorides into the slab by 85%.
- Reduces rate of corrosion by 90%.
- Reduces maintenance and future repair costs due to corrosion damage at the top side.
- Shorter construction schedule when compared to deck coating.
- Ten-year warranty against floor delaminations.

Disadvantages of Concrete Sealer with Corrosion Inhibitor:

- Reapplication of sealer required every 8 to 10 years.
- Will require periodic testing and reapplication of corrosion inhibitor.
- Does not waterproof the slab, especially at cracks.

Option 3: Deck Coating

The application of a deck coating effectively waterproofs the floor slab and reduces moisture and chloride penetration by 98%, significantly reducing the rate of corrosion of the embedded reinforcing steel. Deck coatings can bridge small cracks with limited movement. The application of a deck coating to the floor slab will likely increase the longevity of the structure (compared to sealer) by minimizing moisture and chloride penetration into the slab and help protect the joint sealants.

We have estimated a 5 to 7 year life expectancy for the deck coating on this structure if it is properly maintained. At the end of 5 to 7 years the deck coating will need to be reapplied over the entire floor area. We anticipate a reduction in structural repair costs during this time. Maintenance includes corrosion-damaged slab repairs in isolated areas and reapplication of deck coating.

Advantages of Deck Coating:

- Provides flexible waterproofing bridge over slab cracks and control joints.
- Provides improved waterproofing characteristics when compared to sealers.
- Helps protect joint sealants.
- Reduces maintenance and future repair costs.
- Reduces rate of corrosion more effectively than concrete sealer.

Disadvantages of Deck Coating:

- Direct wear on the waterproofing system would limit the anticipated life of the waterproofing system.
- Deck coating prone to snow plow damage at the roof levels.
- Continued corrosion of the embedded reinforcing steel at patch perimeter.
- Reapplication of the coating required every 5 to 7 years.
- Longer construction schedule when compared to sealers.

Option 4: Deck Coating plus Corrosion Inhibitor

The application of a deck coating plus a corrosion inhibitor gives you the best of both options. The deck coating effectively waterproofs the floor slab and reduces moisture and chloride penetration by 98%, and the corrosion inhibitor significantly reduces the corrosion rate.

It is important to note that the structure will continue to deteriorate despite any repair and maintenance program. All structures require maintenance and preventative measures to obtain a long-term service life, especially in the harsh environment in Michigan. Therefore, WGI recommends periodic reviews of the structure to update its condition, and verify that it remains on course to achieve the desired service life.

VI. RECOMMENDATIONS

No one-restoration method has proven entirely effective in all applications or even throughout a single facility. Instead, costs have to be weighed against potential benefits in selecting repair methods for a particular facility. Several basic methods, as discussed above, have been developed for restoration of corrosion damaged reinforced concrete structures. These methods vary both in initial cost and in life expectancy. The goal is to conduct repairs, which provide cost-effective means of extending the serviceable life of the facility.

To prolong the service life of the structure we recommend the following repairs be performed:

Division 3 - Concrete

3.1 *Top of Slab Repair* – This item includes repairing the delaminated/spalled concrete in the concrete topping at the Upper Level.

3.2 *Tee Flange Repair* – This item includes repairing delaminated concrete at the underside of the precast tee flanges (Lower Level ceiling).

3.3 *Beam Repair* – This includes the repair of beam delaminations at the underside of the Upper Level.

3.4 *Column Repair* – This item includes the repair of column delaminations throughout the structure.

3.5 *Spandrel Repair* - This item includes repairing delaminated concrete at the precast spandrels.

3.6 *Wall Repair* - This item includes repairing delaminated concrete at the walls.

3.7 *Curb Repair* - This item includes the repair of curb delaminations at the entrance/exit at the Upper Level.

Division 4 - Masonry

4.1 *Brick Repair* – This item includes repairing the deteriorated bricks at the pedestrian bridge and the northwest stairs.

4.2 *Repoint Mortar Joints* – This item includes repointing the failed/deteriorated mortar joints at the masonry wall at the perimeter of the parking structure and pedestrian bridge.

Division 5 - Metals

5.1 *Install Stair Riser* – This item includes installing a stair riser that is missing at the southwest stairs.

5.2 *Repair Doors* – This item includes replacing the corroded door hinge at the northeast stair tower and repairing corroded door frame at the southwest stairs

Division 7 - Waterproofing

7.1 *Rout & Seal Cracks* – This item includes routing and sealing all cracks in the concrete floor topping.

7.2 *Remove & Replace Control Joint Sealants* – This item includes removing and replacing all tee-to-tee control joint sealants and all other construction/control joint sealants.

7.3 *Remove & Replace Cove Joint Sealants* – This item includes removing and replacing all cove joint sealants.

7.4 *Remove & Replace Interior Wall Sealant* – This item includes removing and replacing all wall joint sealants at the interior of the structure.

7.5 *Remove & Replace Exterior Wall Sealant* – This item includes removing and replacing all joint sealants at the façade of the structure.

7.6 *Remove & Replace Expansion Joint Sealant* – This item includes removing and replacing the expansion joint gland at the entrance and exit to the Upper Level.

7.7 *Recoat Deck Coating* – This item includes recoating all the existing deck coating.

7.8 *Inject Wall Cracks* – This includes injecting the leaking wall cracks at the north end of the Lower Level with chemical grout.

7.9 *Crack Repair at Treads/Landings* – This item includes sealing the cracks in the concrete treads and landings at the northeast stair tower.

7.10 *Roof Repair at NE Stair Tower* – This item includes repairing the leak in the northeast stair tower roof.

7.11 *Remove & Replace Wall Sealant* – This item includes removing and replacing the failed joint sealant at the east window of the northeast stair tower.

Division 9 - Finishes

9.1 *Clean & Paint Perimeter Railings* – This item includes cleaning and painting the metal railings at the perimeter of the structure.

9.2 *Clean & Paint Security Fence* – This item includes cleaning and painting the cyclone fence at the perimeter of the Lower Level.

9.3 *Clean & Paint Columns* – This includes cleaning and painting the interior columns at the Upper Level with an elastomeric coating to help protect it from ASR.

9.4 *Clean & Paint Standpipe System* – This item includes cleaning and painting the standpipe system at both levels.

9.5 *Clean & Paint Pipe Guards* – This item includes cleaning and painting the pipe guards at the Lower Level.

9.6 *Touch-up Paint at Northeast Stair Tower* – This item includes touching up the paint on the damaged portions of the walls, stair pans, and handrails as needed at the northeast stair tower.

9.7 *Touch-up Paint at Pedestrian Bridge Ceiling* – This item includes touching up the paint on the damaged portions of the ceiling at the pedestrian bridge as needed.

9.8 *Clean & Paint Entry Signage Frame* – This item includes cleaning and painting the metal posts and signage frame at the entrance/exit of the Upper Level.

Division 22 - Mechanical

22.1 *Install Supplemental Floor Drain* – This item includes installing an additional drain and associated piping where water is ponding along the southwest stairs.

22.2 *Remove & Replace Storm Drainage Piping* – This item includes replacing the damaged vertical risers at the Lower Level.

Division 26 - Electrical

26.1 *Remove & Replace Junction Boxes* – This item includes replacing the corroded electrical conduits and junction boxes at the Lower Level.

Division 32 – Exterior Improvements

32.1 *Asphalt Repair* – This includes repairing the deteriorated asphalt at the Lower Level.

32.2 *Seal Asphalt Cracks/Joints* – This includes routing and sealing all cracks/joints in the asphalt at the Lower Level.

32.3 *Pavement Markings* – This includes repainting the pavement markings after the application of a concrete sealer or a deck coating.

32.4 *Install Railing Post Covers* - This includes installing post covers on the railing at the Upper Level where they are missing.

32.5 *Fence Repair* - This includes repairing the fence.

Optional Items:

O1. *Concrete Sealer* – This includes installing a silane sealer to the Upper Level slab at areas that are not covered by deck coating.

O2. *Concrete Sealer with Corrosion Inhibitor* – This includes installing a silane sealer with corrosion inhibitor to the Upper Level slab at areas that are not covered by deck coating.

O3. *Deck Coating* – This includes installing a full system deck coating to the Upper Level slab at areas that are not covered by deck coating.

O4. *Deck Coating plus Corrosion Inhibitor* – This includes installing a full system deck coating plus corrosion inhibitor to the Upper Level slab at areas that are not covered by deck coating.

O5. *Replace Light Fixtures at Lower Level* - LED lighting technology is available that could provide energy savings as well as a longer bulb life. WGI can run lighting software to determine if the fixture spacing is adequate for the IES recommendations. The rate of return would most likely be in 3 to 5 years.

WGI recommends selecting one of the four optional protection methods discussed above (O1 to O4) to help minimize future corrosion induced deterioration and reduce infiltration of moisture and chlorides at the supported slab. Based on our experience, we recommend selecting Option 2: Concrete Sealer with Corrosion Inhibitor. This option has a lower cost than Options 3 and 4 and will provide better corrosion protection than Options 1 and 3. Options 3 and 4 with deck coating are very good options, but since there is only one supported level, all of the deck coating would be exposed to weather and snow plow damage. In addition, repairs to the deck coating would increase maintenance costs. Therefore, we believe Option 2 with good future maintenance will provide the most cost-effective option to extend the life of the structure for upwards of 30 additional years.

VII. COST ESTIMATE

We have prepared an opinion of cost for the recommended and optional repairs for the MainCentre Parking Structure to assist you with developing a budget for implementing the repairs.

Base Cost Estimate

Work Item No.	Work Item Description	Units	Estimated Quantity	Unit Cost	Cost
Division 0 & 1 - General Conditions					
1.1	Contractor Mobilization (5%)	L.S.	n/a	n/a	$ 10,700
1.2	Contractor General Requirements (10%)	L.S.	n/a	n/a	$ 21,300
Division 3 - Concrete					
3.1	Top of Slab Repair	S.F.	400	$ 40.00	$ 16,000
3.2	Tee Flange Repair (Ceiling)	S.F.	20	$ 100.00	$ 2,000
3.3	Beam Repair	S.F.	30	$ 100.00	$ 3,000
3.4	Column Repair	S.F.	40	$ 100.00	$ 4,000
3.5	Spandrel Repair	S.F.	30	$ 100.00	$ 3,000
3.6	Wall Repair	S.F.	20	$ 100.00	$ 2,000
3.7	Curb Repair	S.F.	20	$ 100.00	$ 2,000
Division 4 - Masonry					
4.1	Brick Repair	EA.	40	$ 20.00	$ 800
4.2	Repoint Mortar Joints	L.F.	180	$ 20.00	$ 3,600
Division 5 - Metals					
5.1	Install Stair Riser at SW Stairs	EA.	1	$ 1,000.00	$ 1,000
5.2	Door Repair	EA.	2	$ 1,000.00	$ 2,000
Division 7 - Waterproofing					
7.1	Rout & Seal Cracks	L.F.	100	$ 5.00	$ 500
7.2	Remove & Replace Control Joint Sealants	L.F.	3,800	$ 5.00	$ 19,000
7.3	Remove & Replace Cove Joint Sealants	L.F.	910	$ 5.00	$ 4,550
7.4	Remove & Replace Interior Wall Sealants	L.F.	120	$ 10.00	$ 1,200
7.5	Remove & Replace Exterior Wall Sealants	L.F.	220	$ 10.00	$ 2,200
7.6	Remove & Replace Expansion Joint Sealant	L.F.	30	$ 120.00	$ 3,600
7.7	Recoat Deck Coating	S.F.	3,400	$ 3.00	$ 10,200
7.8	Inject Wall Cracks	L.F.	80	$ 50.00	$ 4,000
7.9	Crack Repair at Treads/Landings	L.F.	70	$ 30.00	$ 2,100
7.10	Roof Repair at NE Stair Tower	L.S.	1	$ 2,000.00	$ 2,000
7.11	Remove & Replace Wall Sealant at NE Stair Tower	L.F.	20	$ 15.00	$ 300
Division 9 - Finishes					
9.1a	Clean & Paint Railing (Green) at Lower Level	L.F.	40	$ 40.00	$ 1,600
9.1b	Clean & Paint Railing (Green) at Upper Level	L.F.	690	$ 30.00	$ 20,700
9.1c	Clean & Paint Railing (Green) at SW Stairs	L.F.	40	$ 30.00	$ 1,200
9.1d	Clean & Paint Railing (Green) at Exterior Stair/Ramp	L.F.	120	$ 20.00	$ 2,400
9.2	Clean & Paint Security Fencing (Black)	S.F.	3,200	$ 10.00	$ 32,000
9.3	Clean & Paint Columns at Upper Level Interior (ASR)	S.F.	120	$ 10.00	$ 1,200
9.4	Clean & Paint Standpipe System	L.F.	270	$ 15.00	$ 4,050
9.5	Clean & Paint Pipe Guards	EA.	3	$ 300.00	$ 900
9.6	Touch-up Paint at NE Stair Tower	L.S.	1	$ 4,000.00	$ 4,000
9.7	Touch-up Paint at Ped. Bridge Ceiling	L.S.	1	$ 2,000.00	$ 2,000
9.8	Clean & Paint Entry Signage Frame (Green)	L.S.	1	$ 2,000.00	$ 2,000
Division 22 - Mechanical					
22.1	Install Supplemental Floor Drain	EA.	1	$ 3,500.00	$ 3,500
22.2	Remove & Replace Storm Drainage Piping	L.F.	30	$ 80.00	$ 2,400
Division 26 - Electrical					
26.1	Remove & Replace Junction Box	EA.	3	$ 300.00	$ 900
Division 32 - Exterior Improvements					
32.1	Asphalt Repair	S.F.	240	$ 20.00	$ 4,800
32.2	Seal Asphalt Cracks/Joints	L.F.	1,900	$ 2.50	$ 4,750
32.3	Paint Pavement Markings	L.S.	1	$ 4,000.00	$ 4,000
32.4	Install Railing Post Covers	EA.	20	$ 50.00	$ 1,000
32.5	Fence Repair	L.S.	1	$ 1,000.00	$ 1,000
RECOMMENDED PROTECTION OPTION					
O2	Concrete Sealer with Corrosion Inhibitor	S.F.	26,000	$ 1.10	$ 28,600
	Construction Cost Subtotal				**$ 244,050**
	Construction Contingency (10%)				$ 24,500
	Probable Construction Cost Budget				$ 268,550
	Soft Costs (Engineering, Testing) (20%)				$ 53,800
	Total Probable Construction Cost Budget				**$ 322,350**

**Unit Key Code: L.S. - Lump Sum, S.F. - Square Foot, L.F. - Lineal Foot, EA. - Each*

Optional Items – Cost Estimate

Work Item No.	Work Item Description	Units	Estimated Quantity	Unit Cost	Cost
PROTECTION OPTIONS					
O1	Concrete Sealer	S.F.	26,000	$ 0.45	$ 11,700
O2	Concrete Sealer with Corrosion Inhibitor	S.F.	26,000	$ 1.10	$ 28,600
O3	Deck Coating	S.F.	26,000	$ 3.25	$ 84,500
O4	Deck Coating with Corrosion Inhibitor	S.F.	26,000	$ 4.35	$ 113,100
LIGHTING UPGRADE					
O5	Replace Light Fixtures at Lower Level	L.S.	1	$ 24,000.00	$ 24,000

**Unit Key Code: L.S. - Lump Sum, S.F. - Square Foot, L.F. - Lineal Foot, EA. - Each*

VIII. FUTURE REPAIRS AND MAINTENANCE

The repairs and protection presented in Section 8 are based on the current condition of the structure. As you are aware, even after repairs are completed, continued maintenance and repairs should be anticipated to keep the facility safe and operational. The following is a summary of anticipated future maintenance and repair items.

Concrete Repairs – Miscellaneous concrete repairs should be anticipated, including slab, beam, and columns. Increasing repair quantities should be anticipated in the future.

Crack & Joint Sealant Replacement – Sealant repairs should be anticipated periodically as part of the annual maintenance program. Total replacement is anticipated every 8 years.

Expansion Joint Replacement – Expansion joint replacement should be anticipated every 8 years.

Deck Coating – Recoating should be anticipated every 8 years.

Sealer Reapplication – Reapplication of the sealer should be anticipated every 8 years.

Pavement Markings – Repainting of the pavement markings should be anticipated every 2 to 3 years.

Annual Maintenance – Annual maintenance should include a slab wash-down in the Spring and the Fall, annual inspection for deterioration, miscellaneous sealant repair, isolated concrete repairs, painting touch up, floor drain clean-out, lighting lamp replacement, etc.

IX. LIMITATIONS

The recommended restoration and protection of the parking structure can be performed and the rate of further deterioration reduced. However, we cannot guarantee that further deterioration will not take place with continued service-related exposure. Effective ongoing maintenance can significantly reduce long-term maintenance costs. Monitoring of the parking structure can assist in scheduling future maintenance.

Specific repair procedures are not part of this evaluation. This report defines items in need of repair and presents conceptual procedures. Construction Documents are required to address all aspects of materials selection and methods for repair of the parking structure. Repair cost projections are based on deterioration quantities identified during our review. Quantities and costs are not intended to define a guaranteed maximum cost, and variations in final quantities should be anticipated.

The evaluation and restoration of existing structures require that certain assumptions be made regarding existing conditions. Since some of these assumptions may not be confirmed without expending additional sums of money and/or destroying otherwise adequate or serviceable portions of the building, WGI cannot be held responsible for latent deficiencies which may exist in the structure, but which have not been discovered within the scope of this evaluation.

WGI did not review the structure for conformance with the Americans with Disabilities Act (ADA).

WGI MICHIGAN, INC.

NORTHVILLE - MAINCENTRE PARKING STRUCTURE

20-Year Maintenance / Repair Forecast

August 2018

Work Item	Work Item Description	TOTAL COST	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
DIVISION 0 & 1 - GENERAL CONDITIONS																						
1.1	Contractor Mobilization (5%)	$ 41,100	$ 6,500	$ 4,200	$ 2,800		$ 9,700		$ 300		$ 5,300		$ 300		$ 5,600		$ 300		$ 4,600		$ 1,000	$ 500
1.2	Contractor General Requirements (10%)	$ 81,800	$ 13,000	$ 8,300	$ 5,500		$ 19,300		$ 600		$ 10,500		$ 600		$ 11,200		$ 600		$ 9,200		$ 2,000	$ 1,000
DIVISION 3 - CONCRETE																						
3.1	Top of Slab Repair	$ 26,000	$ 16,000		$ 400		$ 2,000		$ 400		$ 2,000		$ 400		$ 2,000		$ 400		$ 2,000		$ 400	
3.2	Tee Flange Repair (Ceiling)	$ 6,000	$ 2,000				$ 1,000				$ 1,000				$ 1,000				$ 1,000			
3.3	Beam Repair	$ 9,000	$ 3,000				$ 1,500				$ 1,500				$ 1,500				$ 1,500			
3.4	Column Repair	$ 12,000	$ 4,000				$ 2,000				$ 2,000				$ 2,000				$ 2,000			
3.5	Spandrel Repair	$ 9,000	$ 3,000				$ 1,500				$ 1,500				$ 1,500				$ 1,500			
3.6	Wall Repair	$ 6,000	$ 2,000				$ 1,000				$ 1,000				$ 1,000				$ 1,000			
3.7	Curb Repair	$ 4,000	$ 2,000				$ 500				$ 500				$ 500				$ 500			
DIVISION 4 - MASONRY																						
4.1	Brick Repair	$ 1,600	$ 800				$ 200				$ 200				$ 200				$ 200			
4.2	Re-Point Mortar Joints	$ 22,100	$ 3,600				$ 4,000				$ 4,400				$ 4,800				$ 5,300			
DIVISION 5 - METALS																						
5.1	Install Stair Riser at SW Stairs	$ 1,000	$ 1,000																			
5.2	Door Repair	$ 6,400	$ 2,000				$ 1,000				$ 1,000				$ 1,100				$ 1,300			
5.3	Miscellaneous Metal Repairs (Railings, Fences, Stairs,etc.)	$ 4,000					$ 1,000				$ 1,000				$ 1,000				$ 1,000			
DIVISION 7 - WATERPROOFING																						
7.1	Rout & Seal Cracks	$ 2,500	$ 500				$ 500				$ 500				$ 500				$ 500			
7.2	Remove & Replace Control Joint Sealants	$ 60,500	$ 19,000		$ 500		$ 500		$ 500		$ 19,000		$ 500		$ 500		$ 500		$ 19,000		$ 500	
7.3	Remove & Replace Cove Joint Sealants	$ 15,850	$ 4,550		$ 300		$ 300		$ 300		$ 4,600		$ 300		$ 300		$ 300		$ 4,600		$ 300	
7.4	Remove & Replace Interior Wall Sealants	$ 3,600	$ 1,200								$ 1,200								$ 1,200			
7.5	Remove & Replace Exterior Wall Sealants	$ 6,600	$ 2,200								$ 2,200								$ 2,200			
7.6	Remove & Replace Expansion Joint Sealant	$ 10,800	$ 3,600								$ 3,600								$ 3,600			
7.7	Install Deck Coating - Recoat	$ 30,600	$ 10,200								$ 10,200								$ 10,200			
7.8	Inject Wall Cracks	$ 8,000	$ 4,000								$ 2,000								$ 2,000			
7.9	Crack Repair at Treads/Landings	$ 2,400	$ 2,100								$ 300											
7.10	Roof Repair at NE Stair Tower	$ 18,000	$ 2,000				$ 16,000															
7.11	Remove & Replace Wall Sealants at NE Stair Tower	$ 6,300	$ 300				$ 1,500				$ 1,500				$ 1,500				$ 1,500			
7.12	Concrete Sealer with Corrosion Inhibitor	$ 28,600	$ 28,600																			
7.13	Concrete Sealer	$ 23,400									$ 11,700								$ 11,700			
DIVISION 9 - FINISHES																						
9.1a	Clean & Paint Railing (Green) at Lower Level	$ 3,200		$ 1,600											$ 1,600							
9.1b	Clean & Paint Railing (Green) at Upper Level	$ 41,400		$ 20,700											$ 20,700							
9.1c	Clean & Paint Railing (Green) at SW Stairs	$ 2,400		$ 1,200											$ 1,200							
9.1d	Clean & Paint Railing (Green) at Exterior Stair/Ramp	$ 4,800		$ 2,400											$ 2,400							
9.2	Clean & Paint Security Fencing (Black)	$ 64,000		$ 32,000											$ 32,000							
9.3	Clean & Paint Columns at Upper Level Interior (ASR)	$ 2,400	$ 1,200												$ 1,200							
9.4	Clean & Paint Standpipe System	$ 8,150		$ 4,050											$ 4,100							
9.5	Clean & Paint Pipe Guards	$ 1,800		$ 900											$ 900							
9.6	Touch-up Paint at NE Stair Tower	$ 28,000		$ 4,000							$ 12,000										$ 12,000	
9.7	Touch-up Paint at Ped. Bridge Ceiling	$ 6,000		$ 2,000							$ 2,000										$ 2,000	
9.8	Clean & Paint Entry Signage Frame (Green)	$ 6,000		$ 2,000							$ 2,000								$ 2,000			
DIVISION 11 - EQUIPMENT																						
11.1	Replace Traffic Control Equipment at Lower Level (every 10 years)	$ 40,000			$ 20,000										$ 20,000							
DIVISION 14 - ELEVATORS																						
14.1	Elevator Upgrades (every 15 years)	$ 10,000																				$ 10,000
14.2	Elevator Replacement (25 to 30 years)	$ 150,000					$ 150,000															
DIVISION 21 - FIRE SUPPRESSION																						
21.1	Fire Protection / Standpipe System Repairs	$ 4,000									$ 2,000								$ 2,000			
DIVISION 22 - MECHANICAL																						
22.1	Supplemental Floor Drain	$ 10,500	$ 3,500								$ 3,500								$ 3,500			
22.2	Remove & Replace Risers	$ 7,200	$ 2,400								$ 2,400								$ 2,400			
DIVISION 26 - ELECTRICAL																						
26.1	Remove & Replace Junction Box	$ 900	$ 900																			
26.2	Miscellaneous Electrical Repairs (Lights, Conduits, Boxes, etc.)	$ 4,000					$ 1,000				$ 1,000				$ 1,000				$ 1,000			
26.3	Upgrade Light Fixtures at Lower Level	$ 24,000			$ 24,000																	
26.4	Upgrade Light Fixtures at Upper Level	$ 5,000			$ 5,000																	
DIVISION 32 - EXTERIOR IMPROVEMENTS																						
32.1	Asphalt Repair	$ 8,800		$ 4,800			$ 1,000				$ 1,000				$ 1,000				$ 1,000			
32.2	Seal Asphalt Cracks/Joints	$ 6,750		$ 4,750			$ 500				$ 500				$ 500				$ 500			
32.3	Paint Pavement Markings	$ 40,000	$ 4,000		$ 4,000		$ 4,000		$ 4,000		$ 4,000		$ 4,000		$ 4,000		$ 4,000		$ 4,000		$ 4,000	
32.4	Install Railing Post Covers	$ 1,400		$ 1,000			$ 100				$ 100				$ 100				$ 100			
32.5	Fence Repair	$ 5,000		$ 1,000			$ 1,000				$ 1,000				$ 1,000				$ 1,000			
	PROBABLE CONSTRUCTION COST	$ 932,850	$ 149,150	$ 94,900	$ 62,500	$ -	$ 221,100	$ -	$ 6,100	$ -	$ 120,200	$ -	$ 6,100	$ -	$ 127,900	$ -	$ 6,100	$ -	$ 105,100	$ -	$ 22,200	$ 11,500
	CONSTRUCTION CONTINGENCY (10%)	$ 94,100	$ 15,000	$ 9,500	$ 6,300	$ -	$ 22,200	$ -	$ 700	$ -	$ 12,100	$ -	$ 700	$ -	$ 12,800	$ -	$ 700	$ -	$ 10,600	$ -	$ 2,300	$ 1,200
	PROBABLE CONSTRUCTION COST BUDGET	**$1,026,950**	**$ 164,150**	**$ 104,400**	**$ 68,800**	**$ -**	**$ 243,300**	**$ -**	**$ 6,800**	**$ -**	**$ 132,300**	**$ -**	**$ 6,800**	**$ -**	**$ 140,700**	**$ -**	**$ 6,800**	**$ -**	**$ 115,700**	**$ -**	**$ 24,500**	**$ 12,700**
	SOFT COSTS (Engineering, Testing) (20%)	$ 205,900	$ 32,900	$ 20,900	$ 13,800	$ -	$ 48,700	$ -	$ 1,400	$ -	$ 26,500	$ -	$ 1,400	$ -	$ 28,200	$ -	$ 1,400	$ -	$ 23,200	$ -	$ 4,900	$ 2,600
	TOTAL PROBABLE CONSTRUCTION COST BUDGET (2018 $)	**$1,232,850**	**$ 197,050**	**$ 125,300**	**$ 82,600**	**$ -**	**$ 292,000**	**$ -**	**$ 8,200**	**$ -**	**$ 158,800**	**$ -**	**$ 8,200**	**$ -**	**$ 168,900**	**$ -**	**$ 8,200**	**$ -**	**$ 138,900**	**$ -**	**$ 29,400**	**$ 15,300**
	TOTAL PROBABLE CONSTRUCTION COST BUDGET (3% INFLATION)	**$1,563,400**	**$ 203,000**	**$ 133,000**	**$ 90,300**	**$ -**	**$ 338,600**	**$ -**	**$ 10,100**	**$ -**	**$ 207,200**	**$ -**	**$ 11,400**	**$ -**	**$ 248,100**	**$ -**	**$ 12,800**	**$ -**	**$ 229,600**	**$ -**	**$ 51,600**	**$ 27,700**

Carlisle | Wortman
ASSOCIATES, INC.

117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

November 13, 2018

Lori Ward, Director
Northville Downtown Development Authority
215 W. Main St.
Northville, MI 48167

RE: MainCentre and Cady Parking Structures

Dear Lori,

I have had an opportunity to review the materials you provided to our office. As I understand it, the requested assignment is to assist the City and DDA in developing the following:

1. A short term financing strategy to make approximately $750,000 in repairs to the structures
2. A long term strategy to perform and fund annual maintenance.
3. Abate or eliminate the City's obligation to maintain the stairway/elevator tower and bridge.

Project Assignments

In order to assist you, I would pursue the following tasks:

1. Meet with City to gain a full understanding of the scope of the problem and assignment. We will conduct a site visit and identify other documents that may be needed.
2. Identify the full range of financing and cost reimbursement options available to the City.
3. Prepare a preliminary strategy for discussion with City and arrive at intended course of action. After meeting with City, refine and complete strategy.
4. Meet with Singh to discuss the problem and proposal for course of action. [Note at this point, follow up steps will depend on outcome of meeting]
5. Finalize recommended strategy and present to City.

Cost

Developing a cost estimate for a project of this nature is difficult. This is because the ultimate solution will be dependent on reaching agreement with a third-party and at this point we don't know how they will respond.

Therefore, I would suggest a budget of $7,500. I bill at an hourly rate of $125/hour and will only bill for work performed. This will provide for approximately 50 hours of my time plus office support. Hopefully, it won't take more time than this.

Yours Truly,

CARLISLE/WORTMAN ASSOC., INC.
Richard K. Carlisle, AICP
President

Northville DDA – Design Committee

MEETING MINUTES

October 8, 2018

Meeting Called to Order: At 3:02 pm
Attendance: Lori Ward, Robert Miller, Alan Somershoe, Chuck Murdock, Frederick Sheill, Suzie Cozart
Minutes of Prior Meeting: Approved.

American Flags and Poles (Lori):

- Lori surveyed every lamp post in the city to determine if: 1) it needs to be painted, 2) the type of bulb, and 3) the condition of a flag bracket. Flag brackets are still being made. Lori ordered 150 new flags plus 24 additional poles from Signs by Tomorrow. Should be shipped in two weeks. Still hope to have flags up by Veterans Day.
- Still working to changeover all lamps to LED (see agenda item below)

Piano in Old Church Square (Suzie):

- The piano has been installed at Church Square next to the big spruce tree. It received a lot of attention during the Heritage Festival. Great job Tessa.
- Tessa put a tarp over the piano to protect it. Now, it seems the tarp is discouraging people from using it. We need to figure out how to get the tarp on/off. The backside still needs to be sealed.
- We still need to look into an awning. Suzie will ask Tessa to investigate getting a "second hand" awning from Marygrove Awning Co.
- Some discussion about having various signs for different events or seasons. Like "play your favorite Christmas carol" in December. Possibly use Velcro to attach various signs to the piano.
- Still need to determine what to do with the piano during the winter. What does Traverse City do?
- It seems the paint may already be pealing. We agreed to not do anything now, and wait until spring to determine what should be done about the paint.
- Some discussion about a possible second piano in the alley next to Orin Jewelers.

Downtown Murals (Chuck):

- No new info since the last meeting.
- Still need to contact the building owner to get permission for a mural.
- The Mural Committee will meet again in the next week.

Tree Guard and Bench Memorial Plaques :

- Lori took possession of a box full of old memorial plaques from a resident who had them in her basement. Now, the question is, what to do with them? We want to get them back to the original donor family or organization.
- The 'Ville ran an article about the plaques in a recent edition of their magazine. Lori got about 10 calls from people wanting to get a plaque back.
- We need to put together a list of all the plaques we have, and get the list out into the community – on the City website, weekly newsletter, Northville Record, etc. Get the word out, and the plaques back to owners.

- At this point, we are not going to recognize all past donors with a new consolidated plaque somewhere in City Hall.
- We need to replace about a dozen benches. We'd like to do another donor program to pay for them. But, we need to have a better method/understanding of how to retire benches in the future. Carol will benchmark other communities to see how they deal with sponsorship. Lori will contact the bench vendor to see if they have ideas.

Newspaper Racks:

- We want to remove the existing racks, as they look bad. We believe that City ordinance mandates that racks be available, they must be on City property, and they must be of an "approved" rack design. Lori has a nice rack design in mind that may only have 4-6 boxes. But, there are questions as to how many boxes need to be available, and if they are free or coin-operated. Lori will contact Jean for a media list, and we'll see who's interested in a box.

Christmas Lights:

- The existing lights we have in town are failing, and are difficult to fix. The lights on trees typically need to be replaced every few years. And, they keep blowing circuit breakers.
- Carol mentioned that Romulus is leasing holiday lights instead of buying/installing themselves. It's a big cost savings for them. Carol will get Lori some contact info.
- Lori has already ordered the holiday garland. It will be installed by DPW (and probably charge us).

Light Conversion:

- Based on Lori's survey mentioned above, about 70 post lights still need to be converted to LED. Lori will get cost estimates, and present a plan at a future DDA Board meeting. This will be an easy installation for the DPW, as they can proceed at their own pace.

Bike Racks:

- Lori has two styles of bike racks in mind. We need to find a single vendor that can supply both types. Lori will keep investigating. Some of the old racks will be given to Maybury State Park.

Fire Pits:

- DPW needs to install concrete rings in the water fountains to turn them into fire pits.
- We haven't turned the fire pits on very much in recent years, as it's labor intensive to turn them on/off. Need a better method – need a remote control or a timer unit.
- Also, the winds through Town Square keep the flames low and not very visible. Need some method to shield the flames from the wind, but keep them visible – like a glass cylinder about two feet tall.
- Fredrick will contact a fire pit manufacturer and Grissom-Metz for ideas on both the timer and the flame shielding.

Meeting Adjourned: 4:24pm

Next Meeting: **Tuesday,** November 13 @ 3:00pm **(this is a new date)**

Submitted: C. Murdock 09/17/2018

Northville DDA – Marketing Committee
MEETING MINUTES
October 4, 2018

Meeting Called to Order: 8:47 am
Meeting Attendance: Shawn Riley, Amanda Barnett, Aleksandra Margene Buckhave, Shannon Cocker, Stacy Lorence, Dan Ferrara, Jennifer Luikart, Jean Micallef, Mary Starring, Sue Taylor, Lori Ward

PR & Marketing Efforts for August and September

- Jeanne Micallef, IMJ Communications updated the Committee on recent activity and ad placement. Several Press Releases were distributed for Skeletons are Alive! and Scary Movies at the Marquis. DDA still waiting for an opening date from 160 Main, the new Italian Restaurant, before sending out the Press Release announcing their opening.
- Paid advertising in the 'Ville and Seen magazine. In addition ads were placed in the Detroit News and Free Press to advertise Skeletons are Alive! Boosted posts for Skeletons performed incredibly well.
- Copies of the recent ads were included in the Committee packets.

Review of Recent Events

- Riley updated the group on the Scars on 45 concert that was held on Sunday, August 26th at Geniit's Hole-in-the-wall. Sponsorship covered the concert and donations at the door went to Living and Learning Enrichment Center. Over $1,200 was raised for the Northville Charity.
- Ward updated the Committee on Spectrum Fest. It appeared to have a slow start, but the evening really picked up. The event organizer, Living and Learning, were very pleased with the first year effort and outcome. Riley stated that this was the second event that allowed people to carry around beer and wine within the event boundaries and not be confined to a roped in area. Ward noted that the Living and Learning were very successful with their corporate sponsorship.
- Ferrara updated the Committee on the Heritage Festival. The event worked well for the Chamber in that it was a successful fundraiser for them. Ferrara has recently gone off of the Chamber Board and is going to be heading up a Committee to review the Heritage Festival and help to figure out what needs to happen in order for the festival to continue successfully. Ferrara will chairing several meetings to seek input about the community event. The first meeting will be held on October 15th. Ferrara will send an email out to those that are interested.

Use of Town Square:

- The DDA is now taking on the rental of Town Square. A new Town Square Use policy was developed for Town Square. The new Use Policy treats Town Square like a park pavilion. You can show up with no reservation and take your chance of using the Town square or you can reserve Town Square for a small fee and guaranteed that you will have access to the facilities. The cost of a full day use is $100 and for 4 hours it is $50. The DDA believes that making the rental process cheaper and easier will encourage more use of the facility. Throughout the summer there were regular yoga classes in Town Square. Ward hopes to see even more use with the new policy.
- Ferrara asked if there is signage planned to promote the use of Town Square rental. Ward said she would investigate having some signage made. Perhaps put an A frame in Town Square or on the Pavilion. Also Ward stated that putting our reservation information will alert people to the possibility of renting Town Square.
- All summer long there were fitness rentals in Town Square. Ward is hoping to work with the Northville District Library and Parks and Recreation to program the Square for additional events.

Upcoming Downtown Events:

- Skeletons are Alive will kick off on Friday, October 5th in Town Square from 6-9pm. Performance Edge Dance will start the evening with Zombie Thriller. Dale Hicks Band will play through 9:00 pm. The event will have 6 food trucks and other food/snack vendors. This year we will have face painters, stilt walkers, photo booths. The DDA is encouraging people to dress up this year. The event will have about 115 vignettes and about 150 skeletons overall. Every year the number grows. The skeletons are now expanding into the neighborhood. There was a suggestion that next year the DDA give residents a chance to sponsor a downtown skeleton.
- Witches Night Out will be held on October 19th this year. NCBA is trying something new this year by moving girl's night out to October. The weather will be better and there are a lot of activities happening.
- Streets of Treats – event held on the last Saturday morning of the month in the commercial downtown. The event starts with a parade through the downtown and then kids can trick-or-treat door to door to the downtown businesses. Merchants give out about 3,000 pieces of candy. A Northville Girl Scout troop will be handing out candy at the Skeletons are Alive event.
- Piano is installed in Town Square. The DDA is still working out some of the kinks of the project. Issues like whether the piano should be covered, signed. Taylor asked if the piano was going to be waterproofed. Buckhave suggested that the

DDA look at the Patio Plus store on 7 Mile for a tarp or cover. Ward mentioned that the Design Committee would like to see an awning built to protect the piano. Luikart commented that Mill Race Village gets frequent offers from residents looking to donate a piano.

News from Other Organizations:

- Lorence mentioned the new event in the area behind City Hall called Book Walk. The library is talking to Parks and Recreation about doing a second Book Walk in Ford Field this spring.
- The Art House has a new exhibit up through the month of October called "Patterns and Symbols: The Art of Hiroko Lancour". There will be a First Friday open house on October 5th at the Art House.
- The Northville Township Fire Department has an Open House scheduled for October 14th from 10:00 am – 2:00 pm. There will be booths from all different organizations. Ward requested information to share on the DDA website.
- Mill Race Village has a new event coming up called Halloween Hysteria. The Art House will be partnering in the event, helping to paint pumpkins. They are also partnering with the Northville District Library to read the Tale of the Legend of Sleepy Hollow at Mill Race Village on October 28th there will be two readings.
- Mill Race is exploring other new programs like yoga, cardiac drumming, farm to table dinners, and theater in Mill Race Village.
- There was discussion on whether the Storyville project would return this year. Ferrara stated that it was under discussion and no decisions have been made. The NCBA will discuss.
- Holiday Lighted Parade will be held November 16 and the Greens Market will be held November 17-18 in Town Square.
- Tipping Point October 19-20 the Sandbox Flay Festival will be held. All 10 minute plays.
- Miss Firecracker Contest is currently on stage at Tipping Point through October 14th.
- Chamber of Commerce annual meeting will be held on October 17th. The Citizen of the Year will be announced.
- Jazz at the Pointe is scheduled on November 3rd, new jazz artist that has not performed in Northville before.
- Holiday Home Tour is scheduled for November 16-17. Tipping Point is one of the stops.
- Parks and Recreation has two events coming up: Tiny Pumpkins on October 23 and Trick or Treat Trail on October 20th.

Meeting Adjourned: 10:03 am

Next Meeting: November 1, 2018 @ 8:45 am

Submitted: L. Ward 11/1/18

Northville DDA – Economic Development Committee

MEETING MINUTES

October 15, 2018

Meeting Called to Order: At 8:02am

Meeting Attendance: Lori Ward, Jeff Hamilton, Robert Miller, Aaron Cozart, Chuck Murdock, Michelle Aniol, John Casey, Greg Presley, Shawn Riley

Meeting Minutes: Motion to Approve by Michelle
Motion Seconded by Shawn
Approved

Northville Downs Property Status

- Greg presented a proposed plan for consideration
  - Discussion followed about possibilities and if the EDC can discuss with the developer
- How does the developer intend to phase the project with a PUD
- Need to have Chamber discuss farmers market needs with the development team for direct input
- Proposed public / private partnerships
  - Who takes care of what
  - A discussion is needed
    - Retention areas
    - Park
    - River
    - Parking
    - Streets and streetscaping
- Need Hutton Street to connect to 7 Mile
- EDC needs to discuss with the DDA Board the role of the committee in the project
  - If the DDA is providing funding then they should have involvement in the project decision making

Downtown Project Updates

- Cady Street Project
  - Developer asking for an extension on the municipal approvals
- Corner House
  - New project proposal may to come in front of PC
  - Office with retail / restaurant
- Foundry Flask
  - No response from Singh
- 7 Mile Project
  - No updates
- Old Village School
  - Opens today
- Main Street School
  - Determining the process of how the School Board will handle the existing building
- North 320

- Project is moving forward

Downtown Business Activity

- Los Tres Amigos
  - Possibly opening in January
- 160 Main Street
  - Soft opening this month

Meeting Adjourned: 9:46am

Next Meeting: November 19, 2018

Submitted: Robert E Miller