AGENDA

DOWNTOWN
DEVELOPMENT
AUTHORITY

DDA

Board Members:

Mayor Rosalynn Bliss • Kayem Dunn • Jermale Eddie • Dr. Wendy Falb
Jane Gietzen • Brian Harris • Diana Sieger • Jim Talen • Rick Winn

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Wednesday, April 11, 2018
8:00 a.m. Meeting
29 Pearl Street, NW Suite #1

1.	Call to order		
2.	Approve Meeting Minutes from March 14, 2018 (8:01) (enclosure)	Motion	Harris
3.	Accept Financial Statements from March 30, 2018 (8:04) (enclosure)	Motion	Wallace
4.	River Design Guidelines Contract Amendment (8:10) (enclosure)	Motion	McCaul
5.	Lyon Square Final Design Documents (8:20) (enclosure)	Motion	Kelly
6.	Calder Plaza Temporary Activation (8:35) (enclosure)	Motion	Van Driel
7.	6th Street and Canal Street Parks Exercise Equipment (8:50) (enclosure)	Motion	Wong
8.	Accessibility Audit Presentation (9:05) (enclosure)	Info Item	Bulkowski
9.	President & CEO Report (9:25)	Info Item	Kelly
10.	Public Comment (9:30)		
11.	Board Member Discussion (9:35)		
12.	Adjournment		

DOWNTOWN
GRAND RAPIDS INC.

UNAPPROVED MINUTES

MEETING OF THE DOWNTOWN DEVELOPMENT AUTHORITY

March 14, 2018

1. Call to Order – The meeting was called to order at 8:03am

2. Attendance

   Present: Mayor Rosalynn Bliss, Kayem Dunn, Jermale Eddie, Dr. Wendy Falb, Jane Gietzen, Brian Harris, Diana Sieger, Jim Talen, Rick Winn

   Absent:

   Others Present: Tim Kelly (DDA Executive Director), Murphy Ackerman (DDA Executive Assistant), Jana Wallace (DDA Treasurer), Gabi Schumacher, Kim Van Driel, Annamarie Buller, Jennie Schumacher, Megan Catcho, Stephanie Wong, Andy Guy (DGRI Staff) Lynee Wells, Trevor Bosworth, Jeff McCaul, Jack Woller, Nick Manes, David Marquardt, Richard Bishop, David Bulkowski, Jerry Powell, and others

3. Approve Meeting Minutes from February 14, 2018
   Ms. Dunn suggested a change to the approval of officers. Ms. Dunn said Mr. Winn was elected Vice-Chair but not Treasurer. The change was accepted unanimously.

   Motion: Diana Sieger, supported by Mayor Rosalynn Bliss, moved approval of the minutes from the February 14, 2018 meeting minutes with accepted edits. Motion carried unanimously.

4. Accept Preliminary Financial Statements from February 28, 2018
   Ms. Wallace introduced the financial statements through February 28. Ms. Wallace noted that the Studio C closing transactions are now reflected on the statements.

   Motion: Jane Gietzen, supported by Rick Winn, moved to approve Statement D: Schedule of February 28, 2018 Expenditures as recommended. Motion carried unanimously.

5. 138 Fulton Street East Alley Repair
   Mr. Kelly introduced Mr. McCaul from the City's Engineering department to introduce a request to assist with an alley repair. Mr. McCaul gave an overview of the location of the alley and explained that the City has been working with the owner to discuss different options for repair. It has been determined that this alley is in the right-of-way and therefore will be paid for by the City. Mr. McCaul said City Commission has already approved its share of the project. Mr. Kelly said because this ask is not directly tied to a project, it could be paid for out of the Streetscape Improvement line item. Ms. Dunn asked if this is a onetime request or if the Board should expect more requests of this nature. Mr. Kelly said historically the Board has moved away from these types of requests, but given that there is a safety issue with this alley, it was determined that it would be brought to this Board for discussion. Ms. Gietzen asked why this was being brought before the Board by the City instead of by the property

owner. Mr. McCaul said because it is in the right-of-way. Ms. Dunn said she would like to ensure that approval for this request does not set a precedent but understands that this is a unique situation because of the safety concerns.

Motion: Kayem Dunn, supported by Dr. Wendy Falb, moved to approve its share of costs for 138 Fulton Street East Alley repairs in the amount of $25,000. Motion carried unanimously.

6. 56 Division Avenue Downtown Enhancement Grant
This item was removed from the agenda.

7. Parking Operations and Service Agreement Extension
Mr. Kelly said this is similar to the DASH agreement extension that was approved at the previous DDA Board meeting. Mr. Kelly said there is an existing agreement that needs to be extended until a new long term agreement is finalized. Mr. Kelly reminded the Board that 25% of the current parking revenues are being collected by the DDA. Mr. Winn asked what the objective of the new agreement is. Mr. Kelly said to have the DDA and City agreement more in line with the other parking agreements that the City operates with Mobile GR. Mr. Kelly noted there are various capital improvements that need to be made at the lots.

Motion: Jane Gietzen, supported by Kayem Dunn, moved to approve an extension of the existing Parking Operation and Maintenance Agreement between the DDA and the City of Grand Rapids Mobile GR and Parking Service Department until June 30, 2018. Motion carried unanimously.

8. River Restoration and Design Guidelines Presentation
Mr. Kelly said the intent of these presentations is to bring the DDA Board up to date on the work that will be done in the water, as well as an update on the river trail design process that the DDA previously approved.

Mr. Bishop gave an overview of the timeline for the in-water work for the restoration of the rapids. Mr. Bishop shared the plans for the adjustable hydraulic structure as well as a proposed governance structure for the management of lamprey control. Mr. Bishop said there is a current MOU being finalized to ensure that the adjustable hydraulic system is managed properly before construction begins. Mr. Bishop said final permits for the environmental conservation plan are also being finalized due to the sea lamprey and snuffbox mussel. Mr. Bishop gave an overview of the current pledged funds as well as the plans for a capital funding campaign. Mr. Bishop thanked the City for their partnership in seeing that this project is a priority and momentum is continuing. Mr. Eddie asked about the functionality of the hydraulic dam in the winter months. Mr. Bishop said the other systems that have been studied, operate in similar climates, so the weather should not be an issue. Mr. Kelly thanked Mr. Bishop for his presentation on the restoration of the rapids.

Mr. Marquardt said he and the consultant team have been working to ensure that the work that is being done on the dry edges is complimenting the work that is being done in the water. Mr. Marquardt said they have been focusing on five (5) opportunity sites along the river and how the various sites can be completed when the river restoration is complete. Ms. Wells, from Williams and Works, said the focus of the engagement process has been to understand how people interact with and use the river. Ms. Wells said the consultant team is hoping to use these engagement opportunities to begin identifying what materials to use and what amenities may be a priority moving forward. Ms. Wells gave an overview of the information that was gathered from the feedback sessions. Mr. Bosworth gave an overview of the five (5) various opportunity sites and the designs for each. Dr. Falb asked about the

feedback from the Anishinaabe tribes and potentially replanting some of the historic cedar trees that have since been removed. Ms. Wells said the team was able to gather valuable feedback from the tribe and is looking at specific plant and tree types as a result of those conversations. Ms. Dunn said she is concerned that there is a not enough of a buffer between the North Monroe site and the highway and that it may result in an underutilized site. Ms. Dunn said she wants to ensure that this is being carefully considered as these plans move along so that there is not a terrific plan developed that cannot be implemented. Mr. Bosworth said the team will make note of that moving forward. Mr. Eddie asked if there have been any educational partnerships identified as the river restoration continues. Mr. Marquardt said they have been working closely with GRPS to look at how these spaces can be programmed so that they can be used as teachable spaces. Mr. Marquardt said the team is looking to expand that conversations to the local universities as well. Mr. Harris thanked everyone for their presentations and updates and said these will continue to be necessary moving forward as this Board is funding and advocacy partners. Mr. Harris said he is still curious how the governance of these structures and spaces will be managed but understands that it is an ongoing question. Mr. Harris said he believes it is the role of this Board to ensure that there are plans in place moving forward for maintenance and sustainability as opposed to critiquing the aesthetics of minor design choices. Mayor Bliss said this will continue to be a conversation for the entire corridor to ensure that these plans are not only implemented but maintained long term. Currently the urgency lies with permit submittal but then needs to quickly move to governance structures and long term planning. Dr. Falb said it may be appropriate to understand how various conservancy structures operate and what the DDA's role might be in that. Mr. Harris thanked Board members for their comments and said he would like to continue to be updated on these conversations and what the DDA's role will be moving forward.

9. President & CEO Report

DDA (2/14/18)

- Elected Brian Harris Chair and Rick Winn Co-Chair
- Appointed Executive Director
- Consented to development area liquor license for Ferris Coffee & Nut and House of Wine
- Amended Development Agreements for 150 Ottawa and the Waters Building
- Consented to PILOT for 424 S. Division Avenue

DID (12/19/17)

- Approved financial statements through 10/31/17
- Received update on summer/fall plantings and the Clean Team
- Received an update on potential legislative changes occurring in 2018
- Discussed forming committees to review fund balances and purchasing policies

MNTIFA (2/14/18)

- Executed contract extension for DASH North
- Received presentation from Downtown Ambassadors

DGRI (2/12/18)

- Elected Nick Monoyios Chair and Kayem Dunn Co-Chair
- Received presentation on River restoration and the River Trail Design Guidelines

Alliances

- Goal 1 (Restore the River): April 18, 2018 - 10:00 AM
    - River Design Guidelines, River Trail Crossing

- Goal 2 (Downtown Neighborhood): April 17, 2018 - 3:30 PM
    - Rose Center Recommendations, Housing Now! Recommendations, Affordable Housing
- Goal 3 (21st Century Mobility Strategy): April 23, 2018 - 3:30 PM
    - Bike Share Feasibility Study, Downtown Bike and Pedestrian Safety Projects
- Goal 4 (Economic Vitality): April 25, 2018 - 3:30 PM
    - Micro Local Business Recruitment RFP, Rose Center Recommendations
- Goal 5 (Public Spaces and Programming): April 19, 2018 - 3:30 PM
    - Winter Programming / Outdoor Fitness Equipment

DGRI Staff Highlights

Events / Marketing / Communications / Engagement

- Produced Light Up Downtown – Dec 1
- Completed install of sports-oriented ice rink at Heartside Park for Winter 2018
- World of Winter (WoW) Activities: Feb 9, 2018 – Feb 16, 2018
- Celebrated Black History Month
- Celebrating Women's History Month
- Planning MITP 2018
- Finalizing plans for Calder Plaza activation for spring/summer

Planning / Development / Infrastructure

- Releasing RFP for Retail Support Program
- Completed sale of Area 4 and 5 for Studio Park Development
- Celebrating The Rapid's announcement of Laker Line funding
- Collaborating with City of GR to install public restrooms in parking ramps. Exploring location(s) on Division Avenue.
- Collaborating with Frey Foundation on development of maintenance sustainability plan for RPC
- Lyon Square process ongoing – finalizing scope for final designs and coordinating in water work to be submitted with HCP – to DDA for consideration April 2018
- Calder Plaza –Drafted Pavilion design RFQ for review by City & County.
- Planning pedestrian safety improvements at several key intersections & crossings
    - Michigan / Bridge Street Trail Crossings
    - Pilot Protected bike lane – Division Ave (Leonard to Fountain)
- Streetspace Guidelines process ongoing. Upcoming engagement includes meeting with Innovation Central High Students in April
- Downtown resident steering committee work is ongoing.
- Participating in Heartside Work Groups

Advocacy

- Senator Horn's TIF Reform bill (SB 393) is through the Senate and House. Sent to Governor for signature.
- Afendoulis introduced Fee Fairness Act (HB5325), which has been sent on to the House Local Government Committee.
- Participated in a Grand River Briefing for the West Michigan Legislative Delegation on January 22, 2018.

10. Public Comment
None

11. Board Member Discussion
Mr. Eddie took a moment to say how excellent the Neighborhood Summit was and thanked the City for continuing to improve an already great event. Mr. Kelly thanked Brian Hedrick, DGRI's Graphic Designer, who produced the design work for the event.

12. Adjournment
The meeting adjourned at 9:23am

MEMORANDUM

CITY OF GRAND RAPIDS · DOWNTOWN DEVELOPMENT AUTHORITY

Agenda Item 3.
April 11, 2018
DDA Meeting

DATE: April 6, 2018

TO: Brian Harris
Chairman

FROM: Jana M. Wallace
Downtown Development Authority Treasurer

SUBJECT: FY2018 Interim Financial Statements as of March 31, 2018

Attached are the Authority's interim financial statements for the first nine months of the fiscal year ending June 30, 2018. The attached statements include:

Statement A: Balance Sheet
Statement B: Comparison of FY2018 Budget vs Actual Results
Statement C: Statement of Project Expenditures
Statement D: Schedule of March, 2018 Expenditures
Statement E: DDA Series 2017 Bond Proceeds Statements

In March, 10% gainsharing rebates were, paid for the first time, to the County of Kent in the amount $187,839.81 and to Grand Rapids Community College in the amount of $59,520.36. Rebates are recorded as reductions of Authority revenues rather than as expenditures. Note, since the Authority doesn't capture tax increment revenues resulting from the County's Zoo / Museum levy, there was no rebate associated with that levy.

Also in March, $158,243.79 of reimbursements were paid to fourteen project developers for their share of property tax increment revenues associated with the 'winter' property tax levies. Prior to issuing the reimbursements, City staff verify that any outstanding taxes and assessments have been paid by the property owners.

After approval of the DASH Shuttle Operating Agreement by both City Commission and the Authority, the Authority has paid the City's MobileGR department $60,003 for its share of shuttle services from July, 2017 through March, 2018.

The Authority has sufficient funds for budgeted expenditures.

Please contact me at 616-456-4514 or jwallace@grcity.us if you have any questions.

Attachments

STATEMENT A

DOWNTOWN DEVELOPMENT AUTHORITY
Balance Sheet
As of March 31, 2018

	Non-Tax Funds	Debt Increment	Local Tax Increment	TOTAL
ASSETS				
Pooled Cash and Investments	$ 5,438,590	$ 4,167,658	$ 5,920,044	$ 15,526,292
Petty Cash	-	-	500	500
Debt Service Reserve - Series 1994 Bonds	-	4,854,956	-	4,854,956
Due from Other Governmental Units	-	162,624	-	162,624
Loan Receivable - Project Developer	563,848	-	-	563,848
Loan Receivable - Special Assessments	3,684	-	-	3,684
General Fixed Assets	-	-	90,051,736	90,051,736
Accumulated Depreciation on Fixed Assets	-	-	(53,295,150)	(53,295,150)
Future Tax Increment Revenues Anticipated	-	29,589,155	44,500	29,633,655
TOTAL ASSETS	**$ 6,006,122**	**$ 38,774,393**	**$ 42,721,630**	**$ 87,502,145**
LIABILITIES AND FUND EQUITY				
Liabilities				
Current Liabilities	$ -	$ -	$ 27	$ 27
Project Increment Due to Developers	-	-	7,373	7,373
Current Year Excess Capture	-	623,005	-	623,005
Deposit - Area 5 Option to Buy	22,830	-	-	22,830
Net Retiree Health Care Obligation [1]	-	-	(5,720)	(5,720)
Deferred Revenue - Developer Loan	563,848	-	-	563,848
Contract Payable	-	-	44,500	44,500
Bonds Payable	-	29,589,155	-	29,589,155
TOTAL LIABILITIES	**586,678**	**30,212,160**	**46,180**	**30,845,018**
Fund Balance / Equity:				
Investments in General Fixed Assets, net of Accumulated Depreciation	-	-	36,756,586	36,756,586
Debt Service Reserve - Series 1994 Bonds	-	4,854,956	-	4,854,956
Non-Tax Increment Reserve	4,885,341	-	-	4,885,341
Reserve for Authorized Projects	-	-	5,754,874	5,754,874
Reserve for Brownfield Series 2012A Bonds	530,964	-	-	530,964
Reserve for Compensated Absences	-	-	7,791	7,791
Reserve for Eligible Obligations	-	3,707,277	-	3,707,277
Reserve for Encumbrances	3,139	-	156,199	159,338
TOTAL FUND EQUITY	**5,419,444**	**8,562,233**	**42,675,450**	**56,657,127**
TOTAL LIABILITIES & FUND EQUITY	**$ 6,006,122**	**$ 38,774,393**	**$ 42,721,630**	**$ 87,502,145**

Note 1: This line is the accumulated amounts of the actuarially determined Annual Required Contributions (ARC) for pre-65 year old retiree health insurance in excess of the "pay as you go" charges disbursed from the Retiree Health Insurance Fund plus interest on the unpaid portion of the prior year liability. The trust fund is currently over-funded which is why the account has a negative balance.

STATEMENT B

DOWNTOWN DEVELOPMENT AUTHORITY
Comparison of FY2018 Budget vs Actual Results
July 1, 2017 - March 31, 2018

	Non-Tax Funds		Debt Tax Increment		Local Tax Increment	
	Budget	Actual	Budget	Actual	Budget	Actual
REVENUES						
Property Tax Increment - General	$ -	$ -	$ 6,083,468	$ 6,175,319 [1]	$ 5,667,979	$ 5,647,516
Property Tax Increment - Transit Millage	-	-	-	-	508,483	508,483
Property Tax Increment - Prior Year Appeals	-	-	(75,000)	(55,328)	(75,000)	(29,465)
Property Tax Increment - County/GRCC/City/ITP Rebates	-	-	-	-	(617,646)	(598,332)
Special Assessments - Areaway	15,000	516	-	-	-	-
Brownfield Authority - Grandville Avenue	-	-	-	-	26,696	28,257
Brownfield Authority - Veterans Park	-	-	-	-	736,548	-
Earnings from Investments - General	28,821	38,042	20,000	36,645	73,650	62,488
Earnings from Investments - Multi-Year Accrual Reversal	-	21,713	-	31,400	-	30,876
Interest Paid by Developer - The Gallery on Fulton Note	25,373	-	-	-	-	-
Property Rental - DASH Parking Lots	442,200	272,967	-	-	-	-
Property Rentals - YMCA Customer Parking	52,025	33,800	-	-	-	-
Event Sponsorships and Fees	75,000	5,025	-	-	-	-
Valent-ICE Sculpture Reimbursements	20,000	24,365	-	-	-	-
Contributions - Lyon Square Project	-	-	-	-	-	150,000
Principal Repayments - The Gallery on Fulton Note	75,000	-	-	-	-	-
Property Sale	4,074,108	3,667,075	-	-	-	-
Series 1994 Debt Service Reserve Fund	-	-	3,995,000	-	-	-
Reimbursements and Fees - Miscellaneous	600	2,000	-	-	10,000	2,100
From / (To) Fund Balance	(1,468,979)	-	(20,000)	-	2,211,790	-
TOTAL REVENUES	**$ 3,339,148**	**$ 4,065,503**	**$ 10,003,468**	**$ 6,188,036**	**$ 8,542,500**	**$ 5,801,923**
EXPENDITURES						
GR Forward Projects:						
Goal #1: Restore the River as the Draw and Create a Connected and Equitable River Corridor	$ 30,000	$ 5,156	$ -	$ -	$ 1,625,000	$ 582,543
Goal #2: Create a True Downtown Neighborhood Which is Home to a Diverse Population	-	-	-	-	1,790,000	935,888
Goal #3: Implement a 21st Century Mobility Strategy	40,000	25,722	-	-	1,430,000	217,779
Goal #4: Expand Job Opportunities and Ensure Continued Vitality of the Local Economy	25,000	21,283	-	-	100,000	-
Goal #5: Reinvest in Public Space, Culture, and Inclusive Programming	974,500	720,708	-	-	1,955,000	871,997
Total GR Forward Projects	**$ 1,069,500**	**$ 772,869**	**$ -**	**$ -**	**$ 6,900,000**	**$ 2,608,207**
Administration	4,200	3,526	-	-	1,187,863	962,893
Debt Service for Bond Issues	-	-	9,380,463	687,731	454,637	345,878
Purchase for Studio Park Project	2,265,448	2,077,575	-	-	-	-
Estimated Capture to be Returned	-	-	623,005	-	-	-
TOTAL EXPENDITURES	**$ 3,339,148**	**$ 2,853,970**	**$ 10,003,468**	**$ 687,731**	**$ 8,542,500**	**$ 3,916,978**
EXCESS / (DEFICIT)	**$ -**	**$ 1,211,533**	**$ -**	**$ 5,500,305**	**$ -**	**$ 1,884,945**

Note 1: Budgeted and Actual captured tax increment revenues here are 60% of the Authority's legal capture authority per the FY2018-22 Priority Plan.

STATEMENT C

DOWNTOWN DEVELOPMENT AUTHORITY
Statement of FY2018 Project Expenditures
As of March 31, 2018

Project Name	FY2018 Project Budgets %	Amount	EXPENDITURES Month	Fiscal Year	Remaining FY2018 Budgets
Michigan Street Streetscape Improvements		$ 180,000	$ -	$ 46,018	$ 133,982
River Trail Improvements		228,000	-	28,071	199,929
Streetscape / Riverwalk Projects TBD		616,228	-	1,500	614,728
GRForward Goal # 1 - Bond Proceeds	**11.39%**	**$ 1,024,228**	**$ -**	**$ 75,589**	**$ 948,639**
Arena South Implementation		150,000	-	17,012	132,988
Bridge Street Streetscape Improvs		100,000	-	6,664	93,336
Downtown Plan		325,000	10,093	83,170	241,830
Grand River Activation		100,000	-	100,000	-
Parks Design		700,000	101,199	375,697	324,303
Pearl Street Gateway Enhancements		100,000	-	-	100,000
State Street & Bostwick Ave Reconstruction		150,000	-	-	150,000
GRForward Goal # 1 - Local Tax Increment	**18.07%**	**$ 1,625,000**	**$ 111,292**	**$ 582,543**	**$ 1,042,457**
Downtown Speakers Series		10,000	-	4,800	5,200
Riverwalk Maintenance		20,000	356	356	19,644
GRForward Goal # 1 - Non-Tax Increment	**0.33%**	**$ 30,000**	**$ 356**	**$ 5,156**	**$ 24,844**
Affordable Housing Support		250,000	-	-	250,000
Areaway Fill Program (ARIP)		35,000	-	-	35,000
Building Re-use Incentive Program (BRIP)		100,000	-	-	100,000
Development Project Guidance		90,000	-	(2,061)	92,061
Development Project Reimbursements		925,000	158,244	937,949	(12,949)
Downtown Census		15,000	-	-	15,000
Streetscape Improvement Incentive Program		375,000	-	-	375,000
GRForward Goal # 2 - Local Tax Increment	**19.90%**	**$ 1,790,000**	**$ 158,244**	**$ 935,888**	**$ 854,112**
Accessibility and Mobility Repairs		100,000	6,000	7,000	93,000
Bicycle Friendly Improvements		75,000	-	31,770	43,230
DASH North Shuttle Services		80,000	60,003	60,003	19,997
Grandville Ave Area Improvements		50,000	-	-	50,000
Michigan / Ottawa Gateway		50,000	-	-	50,000
New Downtown Circulator Infrastructure		500,000	-	-	500,000
Public Realm Improvements - Local Tax		150,000	315	25,588	124,412
Streetscape Imprvmts - CBD, Heartside, Arena S		350,000	-	77,179	272,821
Wayfinding System Improvements		75,000	446	16,239	58,761
GRForward Goal # 3 - Local Tax Increment	**15.90%**	**$ 1,430,000**	**$ 66,764**	**$ 217,779**	**$ 1,212,221**
Public Realm Improvements - Non-Tax		-	-	610	(610)
Transportation Demand Mnmt Prog		40,000	-	25,112	14,888
GRForward Goal # 3 - Non-Tax Increment	**0.44%**	**$ 40,000**	**$ -**	**$ 25,722**	**$ 14,278**
Econ Devel - Minority/Women Business Enterprises		100,000	-	-	100,000
GRForward Goal # 4 - Local Tax Increment	**1.11%**	**$ 100,000**	**$ -**	**$ -**	**$ 100,000**
Downtown Workforce Programs		25,000	2,510	21,283	3,717
GRForward Goal # 4 - Non-Tax Increment	**0.28%**	**$ 25,000**	**$ 2,510**	**$ 21,283**	**$ 3,717**
DGRI Event Production - Local Tax		-	-	77	(77)
Downtown Marketing & Inclusion		300,000	18,966	130,861	169,139
Heartside Public Restroom Facility		150,000	-	-	150,000
Sheldon Blvd - Weston to Cherry Street		300,000	-	-	300,000
Snowmelt System Repairs / Investigation		50,000	-	1,336	48,664
State of Dntn Event & Annual Reports		20,000	-	26,230	(6,230)
Ticketed Events - Police Services - Local Tax		-	-	10,558	(10,558)
Tree Well Fill		150,000	-	-	150,000
Urban Recreation Plan		125,000	420	10,475	114,525
Veterans Park Improvements		860,000	-	692,460	167,540
GRForward Goal # 5 - Local Tax Increment	**21.74%**	**$ 1,955,000**	**$ 19,386**	**$ 871,997**	**$ 1,083,003**
African-American Museum and Archives		6,500	2,166	4,703	1,797
Bridge Lighting Operations		10,000	-	-	10,000
DGRI Event Production - Non-Tax		245,000	39,668	205,038	39,962
Diversity / Inclusion Programming		30,000	1,750	39,548	(9,548)
Downtown Ambassadors		200,000	2,262	126,921	73,079
Educational Partnerships Initiatives		5,000	-	2,840	2,160
Experience - Miscellaneous		50,000	4,500	27,333	22,667
Holiday Décor Program		35,000	-	42,930	(7,930)
Major Event Sponsorship		60,000	15,000	70,000	(10,000)
Police Foot Patrols		35,000	-	27,390	7,610
Project and Fixed Asset Maintenance		15,000	593	15,206	(206)
Public Space Activation		36,000	550	27,262	8,738
Rosa Parks Circle Skating Operations		40,000	-	-	40,000
Special Events - Grants		30,000	500	21,450	8,550
Special Events - Office of		75,000	-	50,000	25,000
Special Events - Training Program		5,000	1,500	1,835	3,165
Stakeholder Engagement Programs		20,000	113	2,430	17,570
Street Trees Maintenance Program		5,000	-	-	5,000
Ticketed Events - Police Services - Non-Tax		70,000	-	55,822	14,178
Winter Avenue Building Lease		2,000	-	-	2,000
GRForward Goal # 5 - Non-Tax Increment	**10.84%**	**$ 974,500**	**$ 68,602**	**$ 720,708**	**$ 253,792**
TOTAL	**100.00%**	**$ 8,993,728**	**$ 427,154**	**$ 3,456,665**	**$ 5,537,063**

STATEMENT D

DOWNTOWN DEVELOPMENT AUTHORITY
Schedule of FY2018 Expenditures
March, 2018

Source	Date Posted	Vendor	Purpose / Project	Description	Amount
Local	3/14/2018	55 Ionia Partners LLC	Development Project Reimbursements	Developer Reimbursement FY2018	$ 98,795.20
Local	3/8/2018	Bishop Land Design, LLC	Parks Design	Lyon Square design svcs & exps thru 02/19/2018	64,995.88
Local	3/31/2018	Paychex	Administration	DDA Payroll Wages, 401(k), Taxes - March 2018	61,078.21
Local	3/14/2018	City Treasurer - MobileGR / Parking Svcs	DASH North Shuttle Services	DDA DASH Lease July 2017-February 2018	53,336.00
Local	3/8/2018	Bishop Land Design, LLC	Parks Design	Lyon Square design svcs & exps thru 01/17/2018	28,486.42
Non-Tax	3/8/2018	Ice sculptures,Ltd.	DGRI Event Production	Valentice: Ice Festival Sculptures	26,185.00
Local	3/14/2018	HP3 LLC	Development Project Reimbursements	Developer Reimbursement FY2018-Winter	22,611.77
Non-Tax	3/8/2018	Gilda's Club of Grand Rapids	Major Event Sponsorship	Major Event Sponsorship: LaughFest 3/2018	15,000.00
Local	3/15/2018	City Treasurer - Budget Office	Administration	Support services allocation - March, 2018	11,635.00
Local	3/14/2018	Mercantile Bank of Michigan	Development Project Reimbursements	Developer Reimbursement FY2018-Winter	11,441.70
Local	3/21/2018	Priority Health	Administration	Health Insurance Premium 4-6/2018	10,391.47
Local	3/28/2018	Cassidy Bisher	Downtown Marketing & Inclusion	Video Production services 2018	8,283.33
Local	3/21/2018	Fishbeck, Thompson, Carr & Huber Inc	Parks Design	Lyon Squ - Grd River hydro-mapping thru 02/23/18	7,408.80
Local	3/8/2018	Wenk Associates, Inc.	Downtown Plan	Grand River Corridor & River Trail design - 12/2017	7,086.45
Local	3/14/2018	City Treasurer - MobileGR / Parking Svcs	DASH North Shuttle Services	DDA DASH Lease March 2018	6,667.00
Local	3/1/2018	Disability Adv of Kent Co	Accessibility and Mobility Repairs	Downtown ADA Accessibility Study	6,000.00
Local	3/14/2018	Waters Building LLC	Development Project Reimbursements	Developer Reimbursement FY2018-Winter	5,849.66
Local	3/28/2018	Federal Square Building Co. #1, LLC	Administration	Office Lease: 29 Pearl Street 3/2018	5,616.23
Local	3/14/2018	38 Commerce LLC	Development Project Reimbursements	Developer Reimbursement FY2018-Winter	5,284.10
Local	3/14/2018	Grand Rapids - Hopson Flats, LLC	Development Project Reimbursements	Developer Reimbursement FY2018-Winter	3,703.98
Local	3/1/2018	Bryan Esler Photo, Inc.	Downtown Marketing & Inclusion	Photographer: World of Winter 2/2018	3,360.00
Local	3/28/2018	Nederveld, Inc	Downtown Plan	Design Services: Downtown Streetscape Design	3,007.00
Local	3/28/2018	McAlvey Merchant & Associates	Administration	Governmental Consulting 2/2018	3,000.00
Local	3/14/2018	20 Monroe Bldg Company Ltd Partnership	Development Project Reimbursements	Developer Reimbursement FY2018-Winter	2,771.66
Non-Tax	3/8/2018	Baker Tent Rental	DGRI Event Production	Event Supplies: World of Winter 02/2018	2,714.75
Local	3/14/2018	Two West Fulton LLC	Development Project Reimbursements	Developer Reimbursement FY2018-Winter	2,709.70
Local	3/21/2018	Holland Litho Service Inc.	Downtown Marketing & Inclusion	Supplies: Neighborhood Summit Programs 2018	2,539.66
Non-Tax	3/21/2018	West Bend Mutual Insurance Company	Downtown Workforce Programs	Special Events Insurance: Relax at Rosa 2018	2,510.00
Non-Tax	3/8/2018	Grand Rapids Urban League	Experience - Miscellaneous	Support: African Am Male Achieve Conf 2018	2,500.00
Non-Tax	3/14/2018	City Treasurer - MobileGR / Parking Svcs	African-American Museum and Archives	GR African-American Musm & Archives March Rent	2,166.47
Non-Tax	3/30/2018	Downtown Improvement District	Downtown Ambassadors	FY2018 DID SA - Expense to Various City Accounts	2,154.48
Non-Tax	3/8/2018	Literacy Center of West Michigan	Experience - Miscellaneous	Support Sponsorship: Spellebration 2018	2,000.00
Local	3/10/2018	City of Grand Rapids	Administration	Staff services - payroll period ended 03/10/2018	1,983.58
Non-Tax	3/13/2018	Chinese Association of West Michigan	Special Events - Grants	Event Grant: Lunar Festival Sponsorship 2018	1,680.00
Non-Tax	3/8/2018	Holland Litho Service Inc.	DGRI Event Production	Event Supplies: World of Winter posters 2018	1,667.84
Local	3/14/2018	DBD Properties, LLC	Development Project Reimbursements	Developer Reimbursement FY2018-Winter	1,651.62
Local	3/14/2018	35 Oakes Associates, L.L.C.	Development Project Reimbursements	Developer Reimbursement FY2018-Winter	1,623.43
Non-Tax	3/8/2018	Holland Litho Service Inc.	DGRI Event Production	Event Supplies: World of Winter maps 2018	1,537.33
Local	3/15/2018	City Treasurer - Risk Management	Administration	General insurance - March 2018	1,528.00
Non-Tax	3/28/2018	Grand Rapids Event Mnmt LLC	Special Events - Training Program	Training Program.: Special Event Mgmt. 2/2018	1,500.00
Non-Tax	3/8/2018	Grand Rapids Running Tours	DGRI Event Production	Valent-ice walking/running tours 02/2018	1,500.00
Non-Tax	3/8/2018	Great Lakes Sport & Social Club	DGRI Event Production	Event Services: Hungry Hippo Tournament staff	1,500.00
Local	3/21/2018	Grand Rapids Public Schools	Downtown Marketing & Inclusion	Advertisement: We are GR 2/26/2018	1,450.00
Non-Tax	3/1/2018	Grand Rapids Urban League	Diversity / Inclusion Programming	Special Event Grant: MLK Breakfast 1/15/2018	1,250.00
Non-Tax	3/28/2018	Grand Rapids Event Mnmt LLC	DGRI Event Production	World of Winter Festival Planning 2/2018	985.00
Local	3/14/2018	CWD Urban Fund LLC	Development Project Reimbursements	Developer Reimbursement FY2018-Winter	886.34
Local	3/15/2018	Fifth Third Bank P-Card 02/18 TK	Administration	Professional development	860.28
Non-Tax	3/8/2018	Holland Litho Service Inc.	DGRI Event Production	Event Supplies: World of Winter handbills 2018	829.41
Non-Tax	3/15/2018	Fifth Third Bank P-Card 02/18 TK	DGRI Event Production	Special event catering	804.00
Non-Tax	3/8/2018	T Shirt Wonders	DGRI Event Production	Event Supplies: Human Hungry Hippos Tshirts	777.25
Local	3/28/2018	Kforce Inc	Downtown Marketing & Inclusion	CRM Proj Employee: R Revolt week ending 02/25/18	710.59
Local	3/13/2018	Kforce Inc	Downtown Marketing & Inclusion	CRM Proj Employee: R Revolt week ending 02/18/18	710.58
Local	3/1/2018	Valley City Sign Co	Wayfinding System Improvements	Sign maintenance - 09/30 - 12/29/2017	682.00
Non-Tax	3/30/2018	Downtown Improvement District	Project and Fixed Asset Maintenance	FY2018 DID SA - Expense to Various City Accounts	592.43
Local	3/24/2018	City of Grand Rapids	Administration	Staff services - payroll period ended 03/24/2018	582.22
Local	3/15/2018	Fifth Third Bank P-Card 02/18 TK	Downtown Marketing & Inclusion	CRM subscription, Facebook ads, Survey Monkey	533.24
Non-Tax	3/8/2018	Zion's Dream	Diversity / Inclusion Programming	Event Sponsorship: Mommy & Me Winter Ball 2018	500.00
Local	3/28/2018	Federal Square Building Co. #1, LLC	Administration	Lease: 29 Pearl Street Mezzanine Office 3/2018	475.14
Local	3/14/2018	100 Commerce Development LLC	Development Project Reimbursements	Developer Reimbursement FY2018-Winter	471.21
Local	3/4/2018	Professional Maint of Michigan Inc.	Administration	29 Pearl NW cleaning services 01/18	471.18
Local	3/28/2018	Professional Maint of Michigan Inc.	Administration	29 Pearl NW cleaning services 02/18	471.18
Local	3/1/2018	M-Buck Studio, LLC.	Downtown Marketing & Inclusion	Photographer: World of Winter 02/2018	400.00
Local	3/1/2018	Valley City Sign Co	Wayfinding System Improvements	Sign maintenance - 12/29 - 01/31/2018	392.00
Local	3/31/2018	Paychex	Administration	DDA Paychex fee - March 2018	377.19
Local	3/20/2018	Owen-Ames-Kimball Co	Development Project Reimbursements	Developer Reimbursement FY2018-Winter	376.80
Non-Tax	3/30/2018	Downtown Improvement District	Riverwalk Maintenance	FY2018 DID SA - Expense to Various City Accounts	356.17
Non-Tax	3/15/2018	Fifth Third Bank P-Card 02/18 TK	DGRI Event Production	Event supplies	353.83
Local	3/13/2018	MVP Sportsplex - GR, LLC	Administration	Paid via Payroll Deductions 12/2017	323.89
Local	3/15/2018	Fifth Third Bank P-Card 02/18 TK	Public Realm Improvements	Parklet Storage	315.00
Local	3/8/2018	Dickinson Wright PLLC	Parks Design	Legal services - Lyon Square agreemt 12/2017	308.00
Non-Tax	3/8/2018	Nicholas Nortier	Public Space Activation	World of Winter Ski Chair Painting 02/13/2018	300.00

continued on the next page

STATEMENT D - continued
DOWNTOWN DEVELOPMENT AUTHORITY
Schedule of Expenditures - FY2018
March, 2018

Source	Date Posted	Vendor	Activity # Purpose / Project	Description	Amount
continued from previous page					
Local	3/28/2018	MVP Sportsplex - GR, LLC	Administration	Paid via Payroll Deductions 3/2018	$ 266.87
Non-Tax	3/8/2018	Holland Litho Service Inc.	DGRI Event Production	Event Supplies: World of Winter handbills 2018	251.33
Non-Tax	3/15/2018	Fifth Third Bank P-Card 02/18 TK	Public Space Activation	Artist Painting Services	250.00
Local	3/28/2018	Mighty Co.	Downtown Marketing & Inclusion	Website care and maintenance 3/2018	250.00
Local	3/8/2018	Z2 Systems Inc	Downtown Marketing & Inclusion	CRM Subscription 2/2018	250.00
Local	3/13/2018	Kforce Inc	Downtown Marketing & Inclusion	CRM Proj Employee: R Revolt week ending 02/04/18	245.97
Local	3/13/2018	Kforce Inc	Downtown Marketing & Inclusion	CRM Proj Employee: R Revolt week ending 02/11/18	232.31
Non-Tax	3/8/2018	Kerkstra Portable Restroom Svc Inc	DGRI Event Production	Event Supplies: World of Winter 2/2018	230.00
Local	3/8/2018	Kerkstra Portable Restroom Svc Inc	Urban Recreation Plan	Event Supplies: Heartside Ice Rink 02/2018	230.00
Local	3/1/2018	The KR Group, Inc.	Administration	IT services 3/18	205.52
Non-Tax	3/15/2018	Fifth Third Bank P-Card 02/18 TK	DGRI Event Production	Special event supply storage unit	192.00
Local	3/15/2018	Fifth Third Bank P-Card 02/18 TK	Urban Recreation Plan	Heartside Ice Rink Storage	190.19
Local	3/31/2018	Paychex	Administration	DDA Payroll HRS fees - March 2018	179.87
Local	3/11/2018	PCS Gophers Ltd	Administration	Interoffice mail services - January, 2018	161.05
Local	3/15/2018	Fifth Third Bank P-Card 02/18 TK	Administration	Office Supplies (DDA Portion)	119.13
Local	3/21/2018	Comcast	Administration	Internet at 29 Pearl St NW 3/07/2018-4/06/2018	118.67
Non-Tax	3/15/2018	Fifth Third Bank P-Card 02/18 TK	Stakeholder Engagement Programs	Downtown resident network meeting lunch	112.61
Local	3/30/2018	Downtown Improvement District	Administration	FY2018 DID SA - Expense to Various City Accounts	111.97
Local	3/15/2018	Fifth Third Bank P-Card 02/18 TK	Administration	Amazon Prime Subscription	104.94
Non-Tax	3/8/2018	Gabrial James Lundy	DGRI Event Production	Event Performer: Relax @ Rosa on Ice 02/25/2018	100.00
Local	3/28/2018	Madcap Coffee Company	Administration	Meeting Supplies 3/2018	87.03
Non-Tax	3/15/2018	Fifth Third Bank P-Card 02/18 TK	Administration	Local Business Expenses	86.34
Local	3/14/2018	68 Commerce, LLC	Development Project Reimbursements	Developer Reimbursement FY2018-Winter	66.62
Non-Tax	3/2/2018	Consumers Energy 1	Downtown Ambassadors	Share of electricity - 331 Winter Ave NW	59.53
Non-Tax	3/14/2018	City Treasurer - MobileGR / Parking Svcs	Downtown Ambassadors	MARCH 2018 MONTHLY PARKING	48.00
Local	3/1/2018	Gordon Water Systems	Administration	Water Cooler Lease 1/9/18-12/10/2018	45.14
Non-Tax	3/15/2018	Kimberly Van Driel	DGRI Event Production	Event Reimbursements: World of Winter 02/2018	40.65
Local	3/1/2018	Gordon Water Systems	Administration	Water Cooler Lease 9/19/17-10/10/2017	22.97
Local	3/1/2018	Fusion IT LLC	Administration	Network Management 3/2018	9.50
Local	3/31/2018	JPMorganChase	Administration	DDA Payroll Bank Fee - March 2018	4.36
Local	3/16/2018	Valley City Sign Co	Wayfinding System Improvements	Refund of cancelled order - Quote 29308	(628.00)
Non-Tax	3/2/2018	DeVos Place	Special Events - Grants	Lunar New Year Sponsorship refund	(1,180.00)
				TOTAL MARCH, 2018 EXPENDITURES	**$527,471.22**

STATEMENT E

DOWNTOWN DEVELOPMENT AUTHORITY
Series 2017 Improvement & Refunding Bonds

Balance Sheet
As of March 31, 2018

Assets - Pooled Cash and Investments	**$**	**745,622**
Liabilities and Fund Balance		
Current Liabilities	$	-
Reserved for Projects		745,622
Liabilities and Fund Balance	**$**	**745,622**

Statement of FY2018 Revenues and Expenditures
July 1, 2017 through March 31, 2018

		Budget		Actual
REVENUES				
Bond Proceeds	$	- [1]	$	-
Interest Earned		5,161		2,624
From / (To) Fund Balance		1,019,067		-
Total Revenues	**$**	**1,024,228**	**$**	**2,624**
EXPENDITURES				
GR Forward Projects:				
Goal #1: Restore the River as the Draw and Create a Connected and Equitable River Corridor				
River Trail Improvements	$	228,000	$	28,071
Michigan Street Streetscape Improvements		180,000		46,018
Streetscape / Riverwalk Projects TBD		616,228		-
Costs of Issuance		-		1,500
Total GR Forward Project Expenditures	**$**	**1,024,228**	**$**	**75,589**
Excess / (Deficit)	**$**	**-**	**$**	**(72,965)**

Note 1: $1,250,808 from bond proceeds was deposited on March 8, 2017.

MEMORANDUM
CITY OF GRAND RAPIDS

DATE: April 11, 2018

TO: Tim Kelly
Downtown Development Authority
Executive Director

FROM: Jeff McCaul, P.E., Acting City Engineer

SUBJECT: Grand River Corridor Implementation Plan and River Trail Design Guidelines

On July 11, 2017 (Proceeding No. 86898), the City approved a Professional Services Agreement with Wenk Associates, Inc. (Wenk), and authorized expenditures in the amount of $640,000 to develop design guideline documents for approximately seven and a half (7.5) miles along the east and west banks of the Grand River and to provide schematic designs and construction cost estimates for five opportunity sites along both sides of the river. These sites were carefully selected to efficiently align with construction use for river access, staging of equipment, and material stockpiling during the river restoration work. As the river contractor demobilizes from these river access sites, the City can subsequently restore these sites by constructing park space improvements for Grand River public recreational access and circulation.

On March 14, 2018, Wenk submitted a proposal for an increase of $91,400 for services outside of their original scope of work. The additional services include: up to four additional trips to Grand Rapids due to extended schedule of the project to perform added project coordination and focus group meetings with the youth groups and a meeting/dinner with the Anishinaabe tribe; preliminary concept studies of to gain a more holistic vision for the park spaces as they connect from Coldbrook to North Monroe sites. The City also requested Fish Ladder Park be included as an opportunity site with deliverables including preliminary and final schematic design concepts, cost estimates, imagery, and supporting graphics.

It is recommended that the DDA approve its share of costs in the amount of $17,200 in connection with additional public engagement and additional consultant visits related to extended schedule to complete River Trail Design Guidelines. It is recommended that the NMTIFA approve its share of costs in the amount of $15,000 in connection with added concept studies associated with 6th Street Park and Canal Park. It is anticipated the City Commission will approve its increased share of expenditures for this project on April 10, 208.

#17013

SUMMARY OF ESTIMATED COSTS

for

Grand River Corridor Implementation Plan and River Trail Design Guidelines

Project Funding Source(s)

	Currently Approved	Budget Request(s)	Revised Project Estimate
Transformation Fund	$100,000	$0	$100,000
Capital Improvement Fund	230,000	32,200	262,200
Parks Millage Fund	0	27,000	27,000
Downtown Development Authority	130,000	17,200	147,200
North Monroe Tax Increment Finance Authority	50,000	15,000	65,000
Capital Improvement Fund (Museum Share)	50,000	0	50,000
Other Grants Fund	50,000	0	50,000
Kent County Drain Commission Chapter 20 Drain Floodwalls and Embankment Bonds	30,000	0	30,000
Total Project Sources	$640,000	$91,400	$731,400

Breakdown of Project Uses

Additional Services by Wenk	$91,400
Previously authorized Services by Wenk	640,000
Total Project Uses	$731,400

w e n k

ASSOCIATES
PLANNERS &
LANDSCAPE
ARCHITECTS

March 14, 2018 *(Revised April 2)*

David Marquardt, Director
City of Grand Rapids
Department of Parks and Recreation
201 Market Avenue SW
Grand Rapids, MI 49503

Re: Grand River Corridor Implementation Plan and River Trail Design Guidelines - Additional Service Request

Dear David,

Thank you for allowing us the opportunity to request additional services for the Grand River Corridor Implementation Plan and River Trail Design Guidelines. As we've discussed, we are requesting additional services for tasks outside of our original design contract scope. Below we have identified a description of the additional services and tasks.

Additional Services (Reviewed during Trip #8)

1. **Three Additional Trips** **$51,000**

   Our original contract included 6 trips to Grand Rapids. We have completed 8 trips to date and have one additional trips to planned for the first week in May (trip #9). The additional trips were required due to the extended schedule and coordination required for the project. The original project schedule was anticipated to be complete in December 2107. The project timeframe has been extended to May 2018 to provide additional outreach.

   - Ongoing requests for information
   - Coordination with City and team
   - Development of revised schedules
   - 3 Additional Trips during an approximately 5-month extended schedule

2. **Additional Focus Group Coordination** **$13,500**

   Additional focus groups were added to our outreach strategy, including the youth groups and the Anishinaabe special meeting. To cover some of the additional coordination meetings for Williams and Works, we have removed the video task from their scope of work.

   - Budget for Anishinaabe outreach, meeting room, and dinner
   - Coordination

3. **Schematic Design Package** **$3,000**

   It was requested to not include the schematic designs in the Design Guidelines, but to instead include those as a separate document.

   - Formatting of Schematic Design Package

4. **Base Mapping** **$7,200**

   The base information provided at the beginning of the project was difficult to obtain and was provided in various formats. Additional time was required to create a usable, easy to read base map.

   - Base mat formatting

5. **Preliminary Concept Studies of 6th Street Park & Canal Street** **$15,000**

   Wenk Associates developed preliminary concepts for 6th Street Park and Canal Street Park to gain a more holistic vision for the park spaces as the connect from Coldbrook and the North Monroe sites.

   - Development of 2 concepts
   - Preliminary grading studies
   - Concept alignment of future river access points

The total fee for Tasks 1-5 above is $92,400.

Additional Opportunity Site

6. **Fish Ladder Opportunity Site** **$27,000**

   Fish Ladder Park is an additional opportunity site. The team will develop a schematic design concept and cost estimate for this site. The website materials will be updated to include the additional site.

   - Preliminary Design Concept
   - Final Schematic Design Concept
   - Cost Estimate
   - Precedent imagery and supporting graphics

   The fee per consultant for this this task is as follows:

Wenk Associates	$15,000
Viridis	$ 5,000
ETM	$ 3,000
Williams & Works	$ 2,000
FTCH	$ 2,000

Other anticipated tasks:

A. **Additional Trip #10** **$17,000**

   It is possible that an additional trip, beyond the 3 proposed in Task 1, will be needed to facilitate the final public outreach, outreach for Fish Ladder Park, and coordination with the Core Team. We would like to include this task in case it is needed.

B. **Coordination with Architect for Coldbrook Building** **TBD**

   The scope of work for this task has not been identified yet. We would request a contingency to be planned for in case coordination is required or an architect is added to our team.

The total fee for Task A is $17,000.

Total Additional Service Request

Tasks 1-5 (Additional Services)	$92,400
Task 6 (Fish Ladder)	$27,000
Task A (Trip #10, if needed)	$17,000
Total	$136,400

Potential Reallocations

There are a few reallocations within our current fee that could help cover the additional services.

Based on our current project standing, we believe there will be approximately $5,000-10,000 of unused budget in FTCH's fee. Based on our conversation in early March, it is also possible that the $15,000 allowance for River Restoration could be reallocated. We also believe there is a project contingency of $30,000 that could be allocated to these tasks.

Anticipated Unused FTCH Fee	$10,000
River Restoration's Allowance	$15,000
Contingency	$30,000
Total	$55,000

If the reallocations are feasible and acceptable, we anticipate a total add service request of **$81,400**.

Please let me know if you have any questions or changes. We have enjoyed working with Grand Rapids and hope to continue our relationship with you into the future. Thank you for your consideration of these.

Sincerely,

Nicole Horst
Principal

MEMORANDUM

DOWNTOWN
DEVELOPMENT
AUTHORITY

DDA

Agenda Item #5
April 11, 2018
DDA Meeting

DATE: April 6, 2018

TO: Downtown Development Authority

FROM: Tim Kelly, AICP
President & CEO

SUBJECT: **Authorize Amendment to Lyon Square Design Agreement for Final Design**

On November 11, 2015, the Downtown Development Authority (DDA) Board approved GR Forward, solidifying a vision for the future of Downtown Grand Rapids and the Grand River. Among the goals in GR Forward is to restore the Grand River as the draw and create a connected and equitable River Corridor. Enhancements to and along the River will further catalyze economic development and help to create a world-class waterfront City.

To accomplish this, 28 opportunity sites were identified along the River Corridor that have unique opportunities to provide access to and enjoyment of the Grand River. One of those sites is Lyon Square, which is located at the terminus of Lyon Avenue, and adjacent to the Amway Grand Plaza and Convention Center. The site has frequently been explored for enhancements as it is uniquely positioned to enhance existing amenities, including the boardwalk, River trail and The Kitchen by Wolfgang Puck. Further, it is a primary access point to the Grand River in Downtown and is an opportunity for several partners, both public and private, to complete a project of mutual benefit.

In recognition of these opportunities, and to further the goals of GR Forward, in April 2016 the City of Grand Rapids, in partnership with the DDA and adjacent landowners, executed an agreement with Bishop Land Design (BLD) to advance schematic design (SD) services for Lyon Square. Following that work, in June 2017 the project partners initiated the design development (DD) phase to refine the project size and scope including recommendations of site features, materials and products, as well as to further coordinate with the Grand River revitalization project and the forthcoming River's Edge design guidelines.

With the completion of the DD phase, the project is ready for final design and the completion of construction documents for bidding. This final design phase is anticipated to last approximately 6 months, and will include completion of construction documents, specifications and an opinion of probable costs to aid in the development of a construction funding strategy. The proposed scope of work also includes services associated with the bidding of the project for construction.

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If approved by the DDA, a contract amendment will be brought to the City Commission on April 24, 2018. Funding from the DDA would come from the Local Tax-Increment Parks Design line item in the FY18 and FY19 DDA budgets.

RECOMMENDATION

Authorize funding in an amount not to exceed $483,010 with Bishop Land Design, LLC to provide final design, construction documents and bidding services for Lyon Square.

MEMORANDUM

DOWNTOWN
DEVELOPMENT
AUTHORITY

DDA

Agenda Item #7
April 11, 2018
DDA Meeting

DATE: April 11, 2018

TO: Downtown Development Authority

FROM: Kimberly Van Driel
Special Events Manager

SUBJECT: Calder Plaza Temporary Improvements

As outlined in *GR Forward*, Grand Rapidians aspire to make the large plaza surrounding the Kent County Administration Building, Grand Rapids City Hall and La Grande Vitesse more inviting and comfortable for people to use every day. To that end, in 2016 DGRI, the City of Grand Rapids and Kent County initiated the *Reimagining Calder Plaza* effort to further engage the community in prioritizing opportunities and creating a vision for the future of Calder Plaza. That process included multiple Steering Committee meetings, two community meetings, walking tours, six focus groups, individual interviews, and more than 3,000 citizens engaging through online surveys.

The outcome of that process, including the final conceptual master plan and recommendations for improvements were presented to City Commission in July 2017. Among the proposed improvements are a pavilion, shade trees, splash pad, overpass walkway across Monroe and more. An RFP to finalize the designs and move toward an initial construction phase is being posted in April 2018, with a goal of beginning construction by the 50th Anniversary of the Plaza dedication in June 2019.

While permanent improvements are being planned, it is the community's priority to activate the space in the immediate future with quick and temporary solutions for the coming season. To accomplish this, members of the Goal 5 Alliance, the City of Grand Rapids Parks and Office of Special Events Department have worked together to prioritize the needs of the space, strategize improvement plans, research activation ideas and put together a proposal to help activate the plaza.

Key areas of focus as specified by the Goal 5 Alliance include: seating, shade, greenery, storage, activities, restrooms, lighting, refuse and recycling for the space. The committee also prioritized that all temporary improvements must be made with the knowledge that special events actively happen within the space and downtown employees work nearby. Everything planned must be designed to be moved easily and accessibly, as well as create an inclusive environment for downtown residents, workers, and visitors as a gathering space.
The proposed plan and layout of the space is attached and includes an urban living room environment

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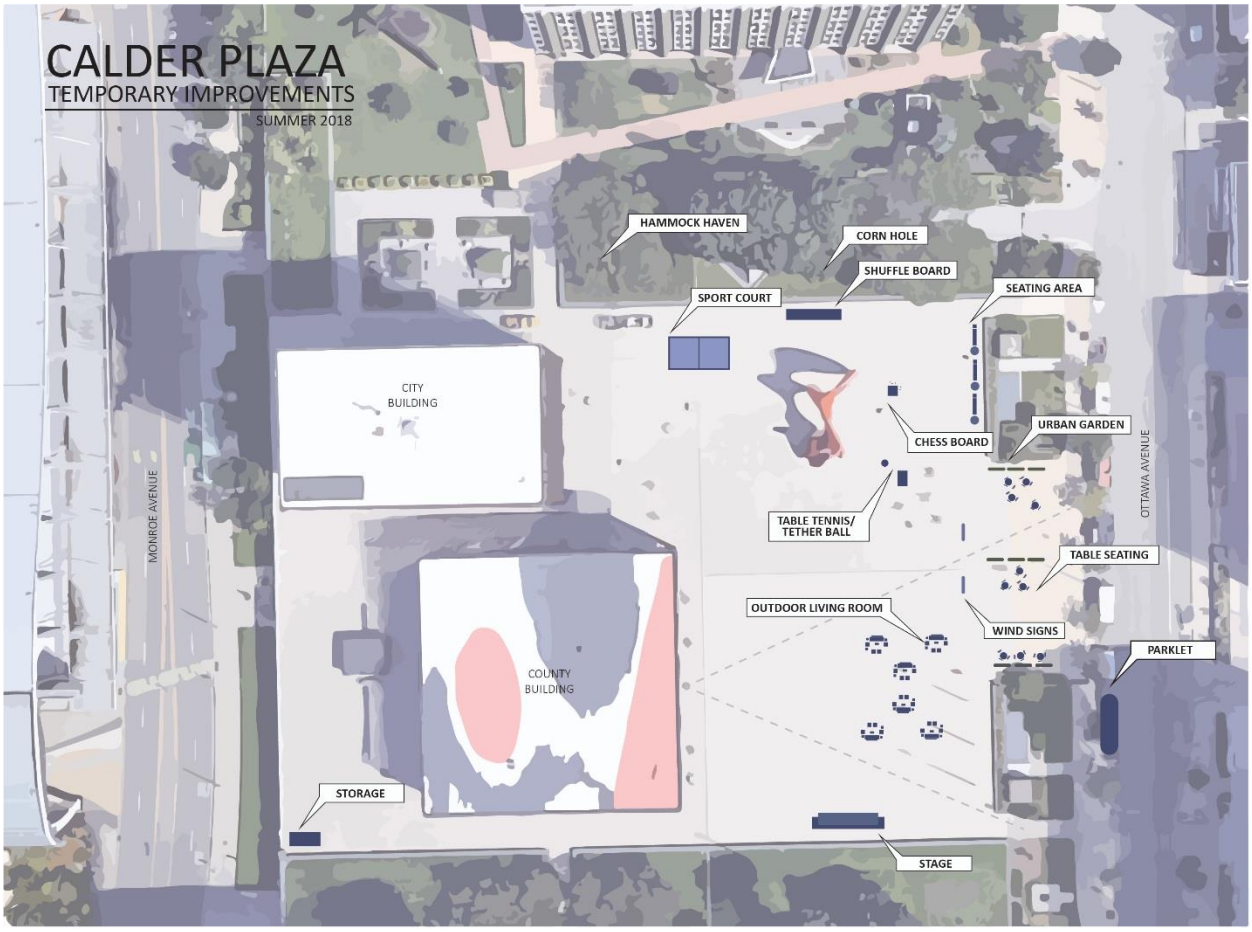
GRAND RAPIDS INC.

featuring cushioned seating, hammocks, games, greenery, food trucks, shading, storage, pop-up stage, signage, refuse and recycling.

The goal of activation is May 2018 for installations and a soft opening of the space with a final grand opening in June 2018. Improvements will be added throughout the year to help activate the space with additional amenities as directed by project partners. Funds for the project scope are available in the FY2018 Urban Recreation line item.

Recommendation:

Approve expenditures for Calder Plaza temporary improvement in an amount not to exceed $50,000.00.



DOWNTOWN GRAND RAPIDS INC.

MEMORANDUM

DOWNTOWN
DEVELOPMENT
AUTHORITY

DDA

Agenda Item #8
April 11, 2018
DDA Meeting

DATE: April 11, 2018

TO: Downtown Development Authority

FROM: Stephanie Wong, Project Specialist

SUBJECT: **Request for Funding Authorization to Procure and Install Outdoor Exercise Equipment**

DGRI Goal 5 Alliance and City of Grand Rapids Parks & Recreation 2017 Strategic Master Plan identified a great opportunity to highlight a series of low cost activities along the riverfront trail. A high level of interest included outdoor exercise equipment and raising the profile of downtown parks. In October 2017, DGRI and Parks and Recreation created a survey about exercise opportunities along 6th Street Park and Canal Park in the Monroe North Neighborhood. We received over 300 responses with informed decisions to move forward in style, strength training and endurance machines.

Norwell Outdoor Fitness met the majority vote in the public survey for a modern/sleek style. The stations are constructed from exclusive glass-blasted stainless steel which minimizes both vandalism and the need for maintenance. The Danish designs include access to the Norwell App and sticker instructions for proper use of each machine.

Installation of six stations with two exercise equipment per station will be permanently installed on concrete pads throughout the linear park trail. These include Cross Elliptical, Air Walkers, Hand Cycler, Leg and Bench Press, Pull Up and Bench, and Chest Press. Drinking fountains and signage will also be provided at the beginning and end of the trail.

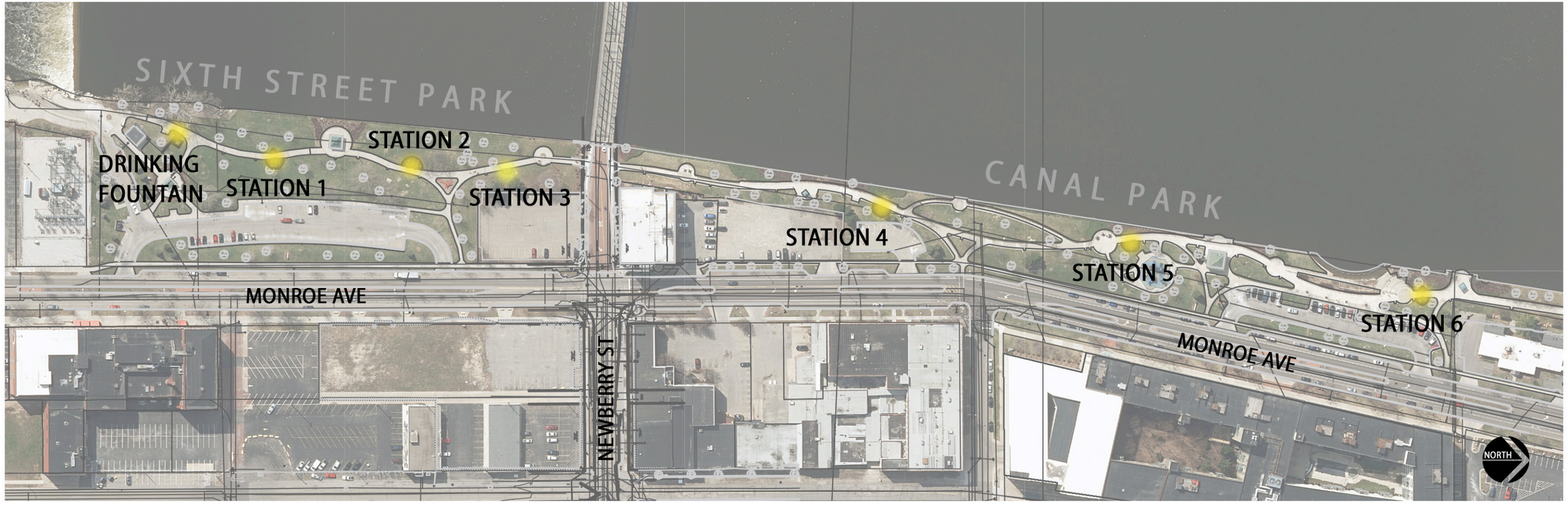
Fitness equipment selection criteria were based upon several key factors, including:

- Four-Season durability
- Mix of strength training and endurance
- Flexibility related to installation, site selection and maintenance
- Modern/sleek style

Total cost for the equipment is $126,141, and the DDA's share is proposed to be $102,000. Funding for the outdoor exercise equipment is provided in the FY18 in the Urban Recreation line item. If approved, Parks & Recreation will bid costs of installation and construction to begin in June 2018.

Recommendation: Approve Funding for an amount not to exceed $102,00 to procure equipment from Norwell Outdoor Fitness and installation in 6th Street Park and Canal Park with the City of Grand Rapids Parks and Recreation.

DOWNTOWN
GRAND RAPIDS INC.



DRINKING FOUNTAIN
w/ BOTTLE FILLER
AND ACCESSIBLE
DRINKING FOUNTAINS

STATION 1
CROSS ELLIPTICAL
(2) TOTAL
AND SIGN

STATION 2
AIRWALKER
(2) TOTAL

STATION 3
HAND
CYCLER

STATION 4
LEG PRESS
AND BENCH

STATION 5
PULL UP
AND BENCH

STATION 6
CHEST PRESS
AND SIGN

SIXTH STREET AND CANAL PARKS-EXERCISE PROJECT

City of Grand Rapids, Michigan
April 2018

DOWNTOWN GRAND RAPIDS INC

Parks and Recreation
CITY OF GRAND RAPIDS

VIRIDIS Design Group

3/30/2018

Hard Surface Improvements to Canal and Sixth Street Parks

VIRIDIS Design Group
Kalamazoo • Grand Rapids

Opinion of Probable Costs – 85% CDs

Item	Quantity	Unit	Unit Price	Total
Permit Fees	1	LS	$1,200	$1,200
General Site Improvements				
Salvage and Remove Ex. Building-Mounted Drinking Fountains	1	LS	$1,500.00	$1,500
4" Concrete Paving	1,700	SF	$5.00	$8,500
Project Sign	1	EA	$500.00	$500
Drinking Fountain	1	EA	$6,600.00	$6,600
Shutoff Valve/Drain Down	1	EA	$1,500	$1,500
3/4" Water Service	45	LF	$40	$1,800
Adjust Irrigation at each Station	6	EA	$1,000	$6,000
			Subtotal	$26,400
Exercise Equipment				
Norwell Chest - NW101	1	EA	$5,700	$5,700
Norwell Pull Up - NW104	1	EA	$5,100	$5,100
Norwell Leg - NW106	1	EA	$5,700	$5,700
Norwell Air Walker - NW201	2	EA	$5,700	$11,400
Norwell Sign - NW503	2	EA	$2,000	$4,000
Norwell Cross - NW202	2	EA	$6,000	$12,000
Norwell Bench - NW501	2	EA	$4,400	$8,800
Norwell Hand Cycle - NW2837	1	EA	$4,400	$4,400
			Subtotal	$57,100
Landscaping/Earthwork				
Topsoil	23	CY	$33	$759
Turf Restoration Seeding	1,800	SF	$0.11	$198
Grading	1	LS	$4,000	$4,000
Tree Protection Fence	130	LF	$5	$650
SESC Measures	1	LS	$500	$500
			Subtotal	$6,107
			Subtotal	**$90,807**
			Contingency (12%)	**$10,897**
			Mobilization and General Conditions (12%)	**$10,897**
			5% City Administration	**$4,540**
			A&E Design and CE/I Services	**$9,000**
			Construction Total	**$126,141**

MEMORANDUM

DOWNTOWN
DEVELOPMENT
AUTHORITY

DDA

Agenda Item #6
April 11, 2018
DDA Meeting

DATE: April 6, 2018

TO: Downtown Development Authority

FROM: Tim Kelly, AICP
President & CEO

SUBJECT: **Downtown Accessibility Audit Recommendations**

In October 2016, the Downtown Development Authority Board authorized the Executive Director to execute an agreement with Disability Advocates of Kent County (DAKC) to complete an update to the Downtown Accessibility Audit (Audit). The original report, completed in 2006, provided recommendations for improvements to public facilities, including transit stops, curb ramps, loading zones and alleys, to ensure compliance with the Americans with Disabilities Act Accessibility Guidelines. The update to the Audit was conducted to ensure that as construction changes the Downtown landscape our public facilities remain accessible. Further, guidelines for accessibility have evolved, including advances in Universal Design concepts and best practices.

The updated Audit, attached for your review, contains an overview of the findings of the audit conducted from December 2016 – October 2017, and makes several recommendations for improvements, including to streets identified as being the most inaccessible in Downtown. Those streets are:

- Front Street NW
- Division Avenue N
- Wealthy Street SW
- Sheldon Avenue SE

To further the recommendations of the Audit, and to ensure Downtown is accessible for all members of the community, the FY2018 budget includes a $100,000 line item for Accessibility Repairs, and several projects are scheduled to begin as part of street construction projects this spring. The FY2019 budget will also include a recommendation to continue this work.

DOWNTOWN
GRAND RAPIDS INC.

Accessibility Audit
for the
Downtown Development Authority
City of Grand Rapids, Michigan

Based upon an actual survey

Performed December 1, 2016 – October 13, 2017

Funded by the

Downtown Development Authority

City of Grand Rapids, Michigan

&

Downtown Grand Rapids, Inc.

Prepared by

Disability Advocates of Kent County

February 2018

Table of Contents

1. Introduction

Disability Advocates of Kent County (DAKC) performed an Accessibility Audit of the Downtown area of Grand Rapids, which consisted of evaluations for parking ramps and surface parking, the sidewalks, and intersections for compliance with accessibility standards designed to maximize movement by people with disabilities through and in the survey area.

The area surveyed is indicated on Appendix A (Project Area). The survey was performed by staff and volunteers from DAKC using standard protocols and survey tools, after a three hour training. Volunteers came from Cornerstone College, AMBUCS, and the Association for the Blind and Visually Impaired, as well as Disability Advocates of Kent County.

None of the survey teams were engineers; however standard measuring protocols and reporting formats were used. Disability Advocates' staff audit portions of the volunteers work to help assure quality control. However, there may be measuring differences between any two people who are not engineers or surveyors. In auditing the work, we found up to a 25% discrepancy for extreme slopes where there was significant damage to the measured element so standard measuring protocols could not be used. There were variances between different surveyors measuring the same slopes. The slope measurements should be considered a comparison of the relative severity of the problems.

The survey was performed from December 1, 2016 through October 13, 2017. The survey results for sidewalks and curb ramps were incorporated into an Access database to facilitate analysis. Generally, information about noncompliant elements were recorded and reported. Certain streets and corners could not be surveyed due to construction.

The survey was funded by the Downtown Development Authority of the City of Grand Rapids and the Downtown Grand Rapids, Inc.

Each element was surveyed at a particular point of time. Construction sites prevented access to some sections of sidewalk and curb ramps and prevented evaluation. In addition, over the 45 weeks survey period, compliance was changed for certain sites.

To illustrate:

When Broadway Avenue NW was evaluated, the sidewalks were in poor maintenance, with severe changes in level, fracturing, and potholes along the sidewalks. A couple months later, the sidewalks and street were reengineered bringing the site up to compliance with the ADA.

When the Veterans Memorial Park was examined, the sidewalks and curb ramps were in poor maintenance, with sections of the concrete showing extensive damage due to uplifting of the concrete and missing or settled brickwork. A couple months later, the construction commenced on reengineering the sidewalks, park paths, and intersections. At the time of the writing of this report, the construction project was still ongoing.

These are two changes a surveyor happened to observe. Other changes probably occurred where an element when from complaint to non-compliant. Hopefully when scheduled construction is completed, violations of the ADAAG are corrected.

2. Applicable Laws and Codes

2.1 Federal

The Americans with Disabilities Act of 1990 was the landmark civil rights legislation that identifies and prohibits discrimination against people with disabilities. It was not the first legislation dealing with physical accessibility, although it is the most comprehensive. For a history of the preceding legislation and guidelines see *Designing Sidewalks and Trails for Access, Part 2*, U.S. Department of Transportation, Publication No. FHWA-HEP-99-006, at http://www.fhwa.dot.gov/environment/sidewalks/chap1.htm#acc

Pursuant to the ADA, Accessibility Guidelines were promulgated. Known as the ADAAG, these guidelines establish Federal minimal standards. States are allowed to choose between the ADAAG and the Uniform Federal Accessibility Standard as a minimal standard of accessibility. States are also allowed to adopt more stringent accessibility standards. There are proposed amendments to the ADAAG, however it is unclear if they will be

adopted. See Appendix B for a brief summary of the status of the revised accessibility guidelines.

Michigan incorporated the ADAAG into the 2003 Michigan Building Code, effective February 29, 2004.

2.2 State

The 2003 Michigan Building Code, effective February 29, 2004 incorporates the ADAAG requirements. Sources include the International Building Code/2003 provisions (IBC), Michigan's amendments to the IBC, and the ICC/ANSI A117.1/1998. These codes were developed to incorporate the ADAAG, adopted pursuant to civil rights legislation, into the building codes used by architects, engineers, and building inspectors.

Michigan requires more van accessible parking spaces than the ADAAG. Parking was evaluated using the Michigan standard. Michigan requires 1 of every 6 spaces be van accessible.

2.3 City of Grand Rapids

The City of Grand Rapids' Planning Department adopted a Street Classification Policy (SCP) in June, 1996. In general, the SCP promotes accessibility and complies with the ADA and Michigan's barrier free requirements. These requirements merit special comments because of the potential impact on accessibility.

The Vital Streets Plan is an update to the City's 1996 Street Classification Policy. Design objectives and guidelines of the Vital Streets Plan, however, shall supersede conflicting guidance in the former Street Classification Policy. Conventional street types of the Street Classification Policy will continue to be used to provide the consistency necessary in interactions with the State (Michigan Department of Transportation).

The Vital Streets Plan is a complement to the Grand Rapids Standard Construction Specifications (also known as the "Red Book"). In any cases

of conflict in guidance, the Vital Streets Street Design Guidelines augment and supersede the guidance and standards provided in the Red Book.

The objectives of the Vital Streets plan:

1. Provide a reasonable and predictable set of processes and outcomes while minimizing conflict
2. Increase coordination and advance planning with stakeholders to reduce “re-work” (measure twice, cut once)
3. Provide consistent guidelines for facility and element design and operational strategies
4. Incorporate life-cycle thinking into the design and development process (considering street design choices and maintenance implications)
5. Provide sound and defensible methods for project definition and prioritization » Define measures for evaluation that are simple, consistent and meaningful
6. Improve the understanding and knowledge of the street design process among the public, community leaders, transportation agencies and other organizations.

The components of the Vital Streets plan:

1. establishes a street typology that unites street design with local land use context and community objectives;
2. Defines an integrated, multimodal network that provides quality mobility choices for pedestrians, bicyclists, transit services, motorists, and the movement of freight;
3. Provides current and state-of-the practice guidance and considerations in the use and design of numerous potential street elements and components;
4. Presents a clear methodological approach to facility selection and the balancing of competing demands to improve the consistency and transparency of street design; and
5. Provides a structure for performance measurement and evaluation of outcomes so that the city may continually learn, adapt, and improve.

3. Best Practices

Unless otherwise specified, best practices included in this report were taken from *Designing Sidewalks and Trails for Access, Part 2*, U.S. Department of Transportation, Publication No. FHWA-HEP-99-006, at http://www.fhwa.dot.gov/environment/sidewalks/chap1.htm#acc .

4. Construction & Inspection Issues

Plans may be compliant with all applicable accessibility provisions, but may not be constructed in accordance with the plans and specification.

Construction tolerances are so important that the U.S. Architectural & Transportation Barrier Compliance Board's 199 Regulatory Requirements for Accessible Public Rights-of-Way provides:

> **"3.1.1 Construction Tolerances**
> The right-of-way environment is typically held to less exacting tolerances for finishes, dimensions, and other parameters than are buildings and other facilities. It is rare for a fractional dimension to have significance in highway specifications. The dimensions of accessibility, however, must be more finely measured: a difference of more than 1/4 inch (6.5 mm) in the elevation of adjacent surfaces can significantly affect the usability of a walkway; a change in slope from 1:12 (8.33%) to 1:10 (10%) may preclude the independent use of a curb ramp by some pedestrians. For this reason, it is particularly important to design and specify exterior facilities that are well within the limits established in accessibility standards.
>
> By specifying the maximum permissible slope, an engineer may miss the opportunity to achieve a lesser and, therefore, more usable slope. Furthermore, field construction based on such a specification may fail to achieve the access that is required, leading to liability for changes that may be costly. Dimensions noted in accessibility provisions as

> "maximum" or "minimum" should not, therefore, be considered dimensions for design, because they represent the limits of a requirement. To be sure that field tolerances result in usable construction, notes and dimensions in construction documents should identify and incorporate expected tolerances so that a required dimension is not exceeded by the addition of a finish or a variation in construction practice. Plans that reflect such considerations also provide a better basis for decision making in the field."

In evaluating the curb ramps, we found that many failed to comply with the ADAAG. The ramp flares frequently had a slope that exceeded the maximum slope outlined in the ADA. These included some ramps that were recently constructed.

This raises a key issue with the City of Grand Rapids' inspection process for compliance with the plans and specifications. If the plans and specifications called for conformance with the ADAAG, staff inspecting the work needs to make sure it actually complies with the ADAAG.

5. Maintenance

A curb ramp, side walk, or street constructed to be fully barrier free may become noncompliant over time. This may be due to settling, weather, snow removal, vandalism, normal wear and tear, or seasonal adjustments made intentionally.

A prime example of seasonal issues is the access to the sidewalks along Division Avenue north of Lyon Street NW. On October 10, 2017, the West side of Division Avenue was surveyed. The sidewalk was open to pedestrian traffic, but the concrete pavers were severely cracked where the surface has buckled, and potholes where season changes in temperature have resulted in pitting. There is also places where the sidewalks are settling due to erosion, creating significant changes in level and creating a tripping hazard. In addition, the steel stairway structures that connect the Ellis surface lot to the Division Avenue sidewalk are separating from the

concrete due to settling of the asphalt concrete surface that it is constructed on, creating a gap that objects may fall through, including canes and wheels.

Another example are the curb ramps at several of the intersections along Division South. It appears that some of the edges of the sidewalk are lined with brick trim, and due to settling and/or erosion the bricks are either being dislodged or sinking below the adjacent concrete material.

Another example are the curb ramps along Michigan Street between Division Avenue and Lafayette, with particular focus on the Bostwick & Michigan intersection. In this case the ramp flares have been destroyed, creating severe changes in level and potholes. In addition, the concrete sidewalks have been patched with asphalt concrete. This may present a barrier in that the two materials will endure weathering and erosion at different rates, leading to potholes and changes in level.

Periodic inspections and repairs are an essential element of maintaining an environment friendly to all people, including people with disabilities. The individuals performing inspections need to be aware of the requirement of the ADAAG and the impact of noncompliance on the mobility of people with disabilities. A minor pothole may be easily avoided by most people, but could cause a wheelchair to tip over or a person with blindness to fall.

6. Physical survey

DAKC surveyed approximately 100 individual elements with ADAAG requirement, or recommended by best practices, included in the survey area.

The categories are:

- Sidewalks, Bridges, and other elements included in an accessible route, other than streets
- Curb cuts at Intersections and Crosswalks
- Crosswalks

- Parking Ramps and Surface Lots
- Bus stops

7. Findings

Some of the results of the survey of the Project Area are reported on an Access Database entitled ***DDA 2016 Database_Curbs & Sidewalks***, and the ***DDA 2016 Database_Bus Stops & Parking lots***. The disk containing the data is enclosed. The database with allow the information to be sorted by street or problem. Elements that complied with the ADAAG did not have applicable measurements recorded.

8. The Most Noncompliant Street

Wealthy Street SW has many ADA violations, centered along the spaces over and near US 131.

As an example, the intersection at Wealthy Street SW and Century Avenue SW has no curb ramps: it is an effective barrier to people using wheelchairs or having difficulty with ambulation. For people with low vision or blindness, it is a tripping hazard that could lead them laying in traffic if they tripped. This is particularly problematic as there is no nearby alternative options to cross Century Avenue SW, which also provides access to Ellsworth Avenue SW.

Another example of the barriers to access along Wealthy Street SW would be the Wealthy Street Bridge, over US 131. The intersection at Wealthy Street SW and Wealthy Street SW has curb ramps. However, the intersections along the north and south side of the Wealthy Street Bridge do not, making this section of street difficult to impossible to navigate for people with mobility related disabilities. In addition, the crosswalks are not clearly marked, and the sidewalks are very high with a large step up from the street level. The sidewalks also have several maintenance issues, with large potholes with bare rebar present along both sides of the street. The metal bridge transitions that are located on the sidewalks at either ends of

the bridge are damaged, with sections uplifting and bending due to weathering of the concrete sidewalk and damage brought about by snow-removal vehicles.

This barrier is made even more problematic as there is no other alternative way of crossing US 131, meaning that people with disabilities have no other option but to travel a significant distance north, along Grandville Avenue SW, to Cherry Street SW, to Ionia Avenue SW, eventually reconnecting to Wealthy Street SW.

In addition, the width of the sidewalks on the bridge makes it difficult to impossible for standard wheelchairs to maneuver and turn around once on the bridge. This means that should a person mistakenly believe that this section of Wealthy Street SW is accessible, due to the presence of the curb ramp at either ends of the bridge, that person will not have the space to turn around once they are there, and may risk falling into traffic by attempting to backtrack to the Wealthy Street SW and Wealthy Street SW intersection.

The Wealthy Street Bridge, over the Grand River, also has barriers. The sidewalks along the north and south side of the bridge have a potholes along the edges where snow-removal vehicles have impacted the concrete. The metal bridge transitions at either ends of the bridge have uplifted, creating a change in level and a tripping hazard. There is also extensive vegetation on the sidewalk, which may present a tripping hazard, and prevent some forms of assistive technology, such as wheelchairs and motorized scooters, from traversing the space.

In addition, many of the curb ramps along Wealthy Street SW have ramp flares that are that have a greater slope than permitted by the ADAAG. Many of the curb ramps also have detectible warning that is stamped concrete. Stamped concrete is problematic due to Michigan's climate, where the dome will break from expansion and contraction of the sidewalks and snow-removal vehicles. In addition, the stamped concrete is not indicated with a contrasting color, making the domes harder to see for people with vision related disabilities.

Replacing the stamped concrete is costly as the sidewalk would need to be re-poured to recreate the truncated domes. Replacing the stamped

concrete with a metal plate would provide a more durable and visible detectible warning system.

Wealthy Street SW demonstrates that ADAAG compliance is a multidiscipline endeavor, starting with site plan review, ending with ongoing maintenance.

9. Passengers Become Pedestrians-Arrival Points

Bus stops and shelters, City and Ellis Parking Ramps and Surface Lots, and Passenger Loading Zones were surveyed for compliance with the ADAAG, as well as functional use issues.

9.1 Passenger Loading Zones

The ADAAG requirements for Passenger Loading zones are:

> **209 Passenger Loading Zones and Bus Stops**
>
> **209.1** General. Passenger loading zones shall be provided in accordance with 209.
>
> 209.2 Type. Where provided, passenger loading zones shall comply with 209.2.
>
> > **209.2.1** Passenger Loading Zones. Passenger loading zones, except those required to comply with 209.2.2 and 209.2.3, shall provide at least one passenger loading zone complying with 503 in every continuous 100 linear feet (30 m) of loading zone space, or fraction thereof.
> >
> > **209.2.2** Bus Loading Zones. In bus loading zones restricted to use by designated or specified public transportation vehicles, each bus bay, bus stop, or other area designated for lift or ramp deployment shall comply with 810.2.
> >
> > **209.2.3** On-Street Bus Stops. On-street bus stops shall comply with 810.2 to the maximum extent practicable.

209.3 Medical Care and Long-Term Care Facilities. At least one passenger loading zone complying with 503 shall be provided at an *accessible* entrance to licensed medical care and licensed long-term care facilities where the period of stay exceeds twenty-four hours.

209.4 Valet Parking. Parking facilities that provide valet parking services shall provide at least one passenger loading zone complying with 503.

209.5 Mechanical Access Parking Garages. Mechanical access parking garages shall provide at least one passenger loading zone complying with 503 at vehicle drop-off and vehicle pick-up areas.

503 Passenger Loading Zones

503.1 General. Passenger loading zones shall comply with 503.

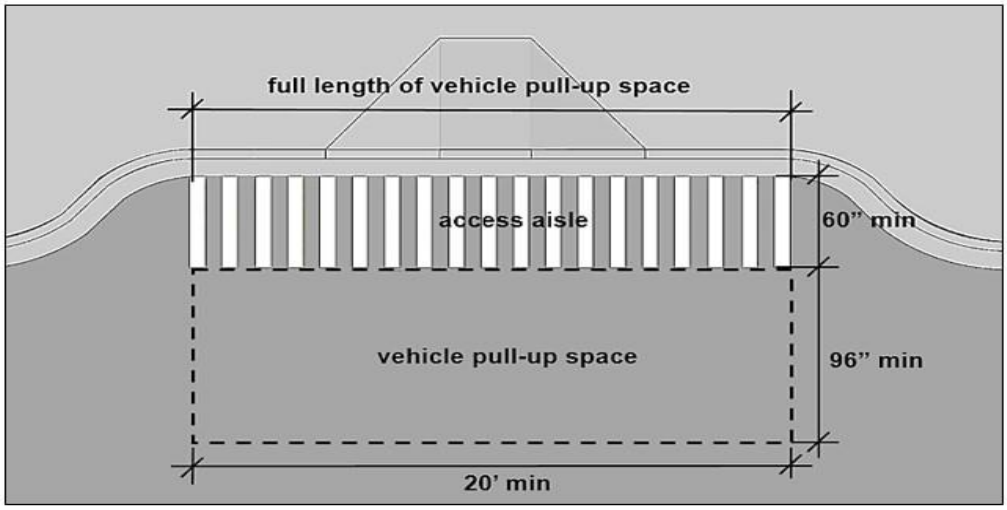
503.2 Vehicle Pull-Up Space. Passenger loading zones shall provide a vehicular pull-up space 96 inches (2440 mm) wide minimum and 20 feet (6100 mm) long minimum.

503.3 Access Aisle. Passenger loading zones shall provide access aisles complying with 503 adjacent to the vehicle pull-up space. Access aisles shall adjoin an accessible route and shall not overlap the vehicular way.

> **503.3.1** Width. Access aisles serving vehicle pull-up spaces shall be 60 inches (1525 mm) wide minimum.
>
> **503.3.2** Length. Access aisles shall extend the full length of the vehicle pull-up spaces they serve.
>
> **503.3.3** Marking. Access aisles shall be marked so as to discourage parking in them.

Vehicle Pull-Up Space (§503.2)
The vehicle pull-up space must be at least 96" wide and at least 20' long.

Access Aisle (§503.3)
A marked access aisle is required next to, and at the same level as, the vehicle pull-up space. The access aisle must be at least 60" wide, extend the full length of the vehicle pull-up space, adjoin an accessible route, and cannot overlap vehicular ways. The marking method and color is not specified.



Surfaces (§503.4)
Vehicle pull-up spaces and access aisles must meet requirements for ground and floor surfaces (§302) and cannot have changes in level other than slopes not steeper than 1:48. Curb ramps cannot overlap access aisles or vehicle pull-up spaces.

Vertical Clearance (§503.5)
A vertical clearance of 114" is required at the vehicle pull-up space and access aisle and along a vehicular route connecting them to a vehicle entrance and exit.

Accessible passenger loading zones are not required to be identified by the International Symbol of Accessibility.

503.4 Floor and Ground Surfaces. Vehicle pull-up spaces and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the vehicle pull-up space they serve. Changes in level are not permitted.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

503.5 Vertical Clearance. Vehicle pull-up spaces, access aisles serving them, and a vehicular route from an entrance to the passenger loading zone, and from the passenger loading zone to a vehicular exit shall provide a vertical clearance of 114 inches (2895 mm) minimum.

Very few of the Passenger Loading Zones had curb ramps, requiring that people use the curb ramps located at the nearest intersection in order to get from the street level to the sidewalk level, thus entering the vehicular way. Of the loading zones that did have curb ramps, many did not comply with the ADAAG. For example, the curb ramp that provides access from the Passenger Loading Zone near the service entrance at the Grand Rapids Public Library, along Library Plaza NE, is in very poor repair, with damaged ramp/gutter transitions. In addition, the Passenger Loading Zone does not have a clear access aisle which and is not marked. The ADAAG 209.2.1 requires that for every 100 feet of Passenger Loading Zone or fraction thereof, at least one space needs to be made accessible in accordance with ADAAG 503.

Many Passenger Loading Zones are being used as short term parking. When cars are parked in the Passenger Loading Zone, a person who disembarked from a vehicle who cannot ambulate up the curb has to travel in the street to reach the curb ramp to reach the sidewalk. Enforcement of parking regulations is a part of maintaining ADAAG compliance.

9.2 Bus Stops

Many people with disabilities use public transportation since they do not drive. Many factors, other than the ADAAG requirements, affect the use of the line-haul bus service by people with disabilities. Before addressing the ADAAG requirements, these other issues will be addressed.

If a bus stop lacks a stable, level surface where the bus deploys passengers, many people who use wheelchairs or have problems with ambulation cannot use that bus stop.

The lack of bus pads outside of the survey area prevents many people from using the line-haul buses to access the survey area, increasing the number of Go! Buses traveling in the urban core.

During the time of the 2006 DDA Downtown Audit, aside from the ADAAG, Michigan Barrier Free code, and the City of Grand Rapids Vital Streets Plan, disability organizations had worked to get consistent signs of a distinctive shape on distinctive poles. Round signs on round poles were agreed upon. They were easy to identify in the distance and those with vision impairments would know via the shape of the pole that it is a bus stop.

During the 2016 DDA Downtown survey, we found that some of the bus stops were moved to a temporary location due to renovations to the sidewalks and curbs. Some of these stops had signs mounted in concrete bases at a height that can be easily obscured by minivans, SUVs and large cars. In some cases the temporary Rapid stop was placed on soil and grass. In addition The Rapid bus stop signs in these bases are not all round, some appear to be mounted to U-channel posts. A small number of the temporary bus stops were on bare soil and turf, meaning people with wheelchairs or other mobility difficulties cannot use that stop.

While conducting the survey, DAKC was able to identify some Rapid bus stops where the schedule plates were cracked or had moisture behind the plastic leading to damage to the text. In addition, none of the bus stops had Braille or tactile characters. Maintenance of accessibility features is an ongoing process.

The DASH bus stops are marked to allow users to identify which DASH routes are served by the bus stop. Raising the signs on poles would make it easier for users to find the Dash stops from a distance. Not all of the DASH have pads. These are not accessible for the reasons outlined above.

Newer bus stop shelters have benches with handles. Many people with disabilities have problems standing up from a chair or bench without arms. Upgrading the seating in the bus shelters will help those with disabilities access the survey area using the line-haul buses. This will improve access to the shelters for the increasingly large ageing population in the area who rely on the buses.

The ADA Standards for Transportation Facilities provide:

810 Transportation Facilities

810.1 General. Transportation facilities shall comply with 810.

810.2 Bus Boarding and Alighting Areas. Bus boarding and alighting areas shall comply with 810.2.

> Advisory 810.2 Bus Boarding and Alighting Areas. At bus stops where a shelter is provided, the bus stop pad can be located either within or outside of the shelter.

810.2.1 Surface. Bus stop boarding and alighting areas shall have a firm, stable surface.

810.2.2 Dimensions. Bus boarding and alighting areas shall provide a clear length of 96 inches (2440 mm), measured perpendicular to the curb or vehicle roadway edge, and a clear width of 60 inches (1525 mm), measured parallel to the vehicle roadway. Public entities shall ensure that the construction of bus boarding and alighting areas comply with 810.2.2, to the extent the construction specifications are within their control.

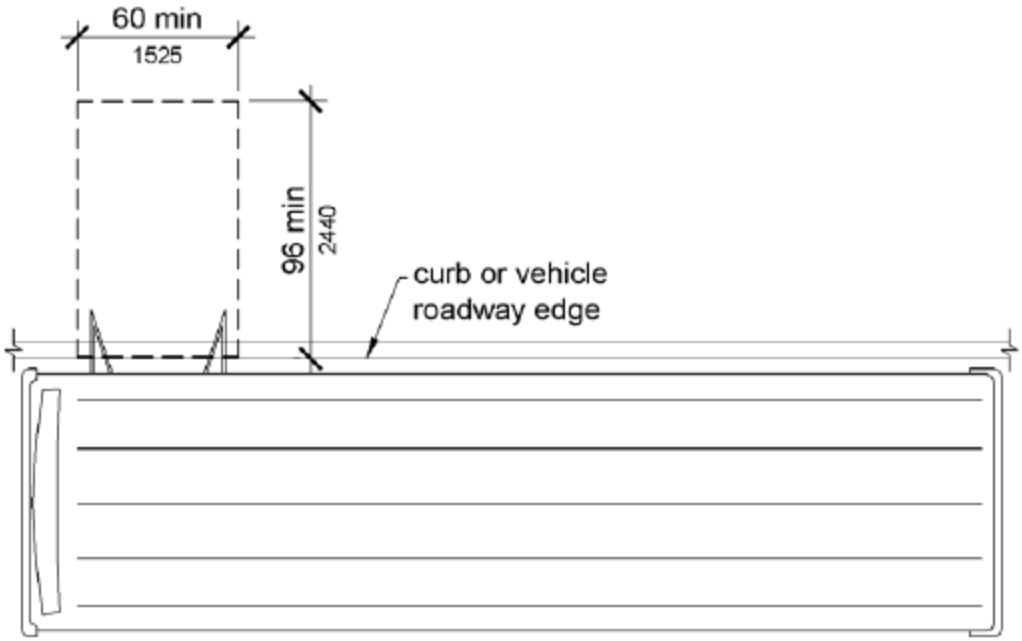


Figure 810.2.2 Dimensions of Bus Boarding and Alighting Areas

810.2.3 Connection. Bus stop boarding and alighting areas shall be connected to streets, sidewalks, or pedestrian paths by an accessible route complying with 402.

810.2.4 Slope. Parallel to the roadway, the slope of the bus stop boarding and alighting area shall be the same as the roadway, to the maximum extent practicable. Perpendicular to the roadway, the slope of the bus stop boarding and alighting area shall not be steeper than1:48.

810.3 Bus Shelters. Bus shelters shall provide a minimum clear floor or ground space complying with 305 entirely within the shelter. Bus shelters shall be connected by an accessible route complying with 402 to a boarding and alighting area complying with 810.2.

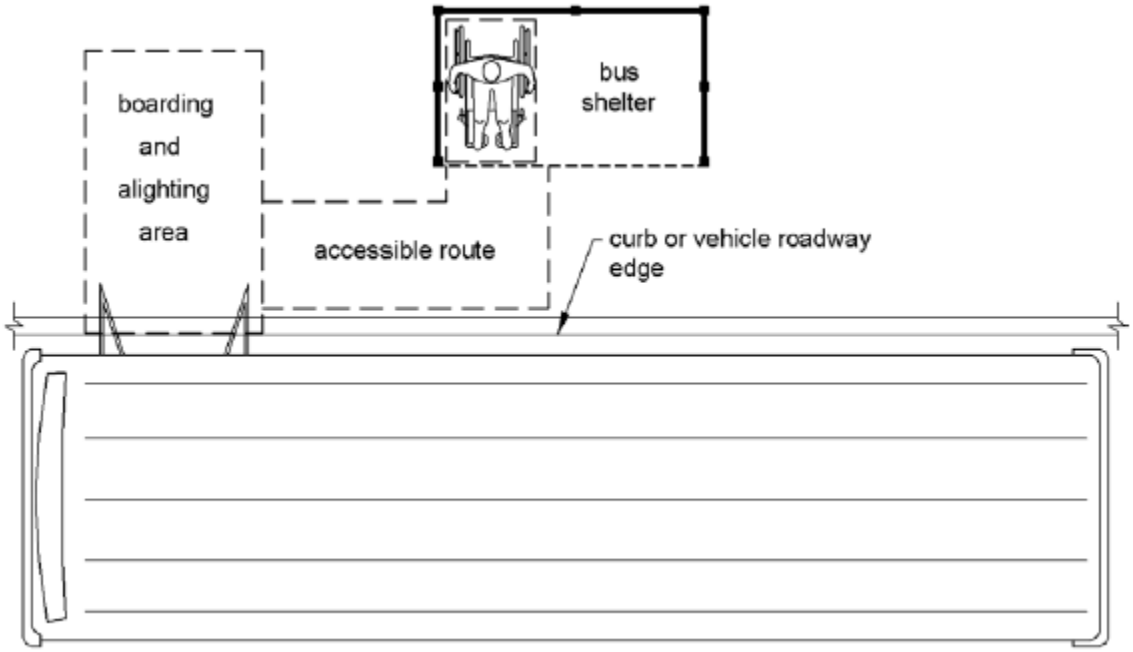


Figure 810.3 Bus Shelters

810.4 Bus Signs. Bus route identification signs shall comply with 703.5.1 through 703.5.4, and 703.5.7 and 703.5.8. In addition, to the maximum extent practicable, bus route identification signs shall comply with 703.5.5.

EXCEPTION: Bus schedules, timetables and maps that are posted at the bus stop or bus bay shall not be required to comply.

810.7 Public Address Systems. Where public address systems convey audible information to the public, the same or equivalent information shall be provided in a visual format.

810.8 Clocks. Where clocks are provided for use by the public, the clock face shall be uncluttered so that its elements are clearly visible. Hands, numerals and digits shall contrast with the background either light-on-dark or dark-on-light. Where clocks are installed overhead, numerals and digits shall comply with 703.5.

810.9 Escalators. Where provided, escalators shall comply with the sections 6.1.3.5.6 and 6.1.3.6.5 of ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1) and shall have a clear width of 32 inches (815 mm) minimum.

EXCEPTION: Existing escalators in key stations shall not be required to comply with 810.9.

810.10 Track Crossings. Where a circulation path serving boarding platforms crosses tracks, it shall comply with 402.

EXCEPTION: Openings for wheel flanges shall be permitted to be 2 1/2 inches (64 mm) maximum.

Figure 810.10 (Exception) Track Crossings

In general, the bus stops within the survey area comply with the minimal requirements of the ADAAG. The problems for people with disabilities arise from non-ADAAG issues.

9.3 Parking Lots

The City owned parking lots and parking ramps and DASH Parking Areas1, 2, 4, 5, 6, 6A, 7, 8, and 9 were reviewed for compliance with the ADAAG.

The ADAAG requirements are:

> **208 Parking Spaces**
>
> **208.1** General. Where parking spaces are provided, parking spaces shall be provided in accordance with 208.
>
> EXCEPTION: Parking spaces used exclusively for buses, trucks, other delivery vehicles, law enforcement vehicles, or vehicular impound shall not be required to comply with 208 provided that lots accessed by the public are provided with a passenger loading zone complying with 503.
>
> **208.2** Minimum Number. Parking spaces complying with 502 shall be provided in accordance with Table 208.2 except as required by 208.2.1, 208.2.2, and 208.2.3. Where more than one parking facility is provided on a site, the number of *accessible* spaces provided on the site shall be calculated according to the number of spaces required for each parking facility.

Total Number of Parking Spaces Provided in Parking Facility	Minimum Number of Required *accessible* Parking Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2 percent of total
1001 and over	20, plus 1 for each 100, or fraction thereof, over 1000

Table 208.2 Parking Spaces

Advisory 208.2 Minimum Number. The term "parking facility" is used Section 208.2 instead of the term "parking lot" so that it is clear that both parking lots and parking structures are required to comply with this section. The number of parking spaces required to be *accessible* is to be calculated separately for each parking facility; the required number is not to be based on the total number of parking spaces provided in all of the parking facilities provided on the site.

208.2.1 Hospital Outpatient Facilities. Ten percent of patient and visitor parking spaces provided to serve hospital outpatient facilities shall comply with 502.

Advisory 208.2.1 Hospital Outpatient Facilities. The term "outpatient facility" is not defined in this document but is intended to cover facilities or units that are located in hospitals and that provide regular and continuing medical treatment without an overnight stay. Doctors' offices, independent clinics, or other facilities not located in

hospitals are not considered hospital outpatient facilities for purposes of this document.

208.2.2 Rehabilitation Facilities and Outpatient Physical Therapy Facilities. Twenty percent of patient and visitor parking spaces provided to serve rehabilitation facilities specializing in treating conditions that affect mobility and outpatient physical therapy facilities shall comply with 502.

Advisory 208.2.2 Rehabilitation Facilities and Outpatient Physical Therapy Facilities. Conditions that affect mobility include conditions requiring the use or assistance of a brace, cane, crutch, prosthetic device, wheelchair, or powered mobility aid; arthritic, neurological, or orthopedic conditions that severely limit one's ability to walk; respiratory diseases and other conditions which may require the use of portable oxygen; and cardiac conditions that impose significant functional limitations.

208.2.3 Residential Facilities. Parking spaces provided to serve residential facilities shall comply with 208.2.3.

208.2.3.1 Parking for Residents. Where at least one parking space is provided for each residential dwelling unit, at least one parking space complying with 502 shall be provided for each residential dwelling unit required to provide mobility features complying with 809.2 through 809.4.

208.2.3.2 Additional Parking Spaces for Residents. Where the total number of parking spaces provided for each residential dwelling unit exceeds one parking space per residential dwelling unit, 2 percent, but no fewer than one space, of all the parking spaces not covered by 208.2.3.1 shall comply with 502.

208.2.3.3 Parking for Guests, Employees, and Other Non-Residents. Where parking spaces are provided for persons other than residents, parking shall be provided in accordance with Table 208.2.

208.2.4 Van Parking Spaces. For every six or fraction of six parking spaces required by 208.2 to comply with 502, at least one shall be a van parking space complying with 502.

208.3 Location. Parking facilities shall comply with 208.3

208.3.1 General. Parking spaces complying with 502 that serve a particular building or facility shall be located on the shortest *accessible* route from parking to an entrance complying with 206.4. Where parking serves more than one *accessible* entrance, parking spaces complying with 502 shall be dispersed and located on the shortest *accessible* route to the *accessible* entrances. In parking facilities that do not serve a particular building or facility, parking spaces complying with 502 shall be located on the shortest *accessible* route to an *accessible* pedestrian entrance of the parking facility.

EXCEPTIONS: 1. All van parking spaces shall be permitted to be grouped on one level within a multi-story parking facility.

2. Parking spaces shall be permitted to be located in different parking facilities if substantially equivalent or greater *accessibility* is provided in terms of distance from an *accessible* entrance or entrances, parking fee, and user convenience.

> Advisory 208.3.1 General Exception 2. Factors that could affect "user convenience" include, but are not limited to, protection from the weather, security, lighting, and comparative maintenance of the alternative parking site.

208.3.2 Residential Facilities. In residential facilities containing residential dwelling units required to provide mobility features complying with 809.2 through 809.4, parking spaces provided in accordance with 208.2.3.1 shall be located on the shortest *accessible* route to the residential dwelling unit entrance they serve. Spaces provided in accordance with 208.2.3.2 shall be dispersed throughout all types of parking provided for the residential dwelling units.

EXCEPTION: Parking spaces provided in accordance with 208.2.3.2 shall not be required to be dispersed throughout all types of parking if substantially equivalent or greater *accessibility* is provided in terms of distance from an *accessible* entrance, parking fee, and user convenience.

> Advisory 208.3.2 Residential Facilities Exception. Factors that could affect "user convenience" include, but are not limited to, protection from the weather, security, lighting, and comparative maintenance of the alternative parking site.

The City of Grand Rapids Parking Department provided the total number of parking spaces for each lot.

Facility	Facility total (all Spaces including Handicapped, Reserved, 1Hr and EV-Charging)	Designated Handicapped Parking Spaces
DeVos Place Ramp	**660**	20
Government Center Ramp	**907**	20
Pearl Ionia Ramp	**593**	8
Louis Campau Ramp	**533**	14
Ottawa Fulton Ramp	**782**	11
Monroe Center Ramp	**523**	23
Monroe Center Louis	**18**	0
Cherry Commerce Ramp	**290**	7
Cherry Commerce Reserved Area	**22**	0
Gallery on Fulton Ramp	**229**	7
Weston Commerce Ramp	**379**	8
Area 2	**146**	5

Area 3	**65**		2
Area 4	**425**		9
Area 5	**175**		6
Area 6A	**191**		5
Area 7	**474**		10
Area 8	**110**		5
Area 9	**487**		14
Market Lot	**60**		0
Ionia North	**59**		0
Monroe North	**112**		6
Scribner	**165**		6
Ionia Mason	**67**		4

The Monroe North Lot was not evaluated due to construction at the time of review.

The parking spaces meet the requirement of the ADAAG unless otherwise noted below:

Facility	**Minimum Required Accessible Spaces/Van Accessible Spaces**		**Actual ADA Accessible Spaces/Van Accessible Spaces**
DeVos Place Ramp	**12/3**		20
Government Center Ramp	**15/4**		22/6
Pearl Ionia Ramp	**10/2**		12/0
Louis Campau Ramp	**10/2**		14/0
Ottawa Fulton Ramp	**13/3**		11/2
Monroe Center Ramp	**9/2**		23/1
Cherry Commerce Ramp and Reserved Area	**5/2**		6/0

Gallery on Fulton Ramp	**5/2**		4/2
Weston Commerce Ramp	**6/2**		8/1
Area 2	**4/1**		5/1
Area 3	**2/1**		2/2
Area 4	**7/2**		9/2
Area 5	**2/1**		6/2
Area 6A	**5/1**		5/1
Area 7	**7/2**		20/6
Area 8	**4/1**		10
Area 9	**7/2**		14/6
Market Lot	**2/1**		16/1
Ionia North	**2/1**		0/0
Monroe North	**4/1**		Unknown
Scribner	**5/1**		6
Ionia Mason	**2/1**		4

The Ionia North lot did not have any ADAAG compliant parking spaces: no spaces were marked as accessible. The Cherry Commerce Ramp and Reserved Area did not have any Van-Accessible parking spaces.

The other problems with some of the areas are improper curb ramps. The applicable ADAAG requirements for curb ramps are:

406 Curb Ramps

406.1 General. Curb ramps on accessible routes shall comply with 406, 405.2 through 405.5, and 405.10.

406.2 Counter Slope. Counter slopes of adjoining gutters and road surfaces immediately adjacent to the curb ramp shall not be steeper than 1:20. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.

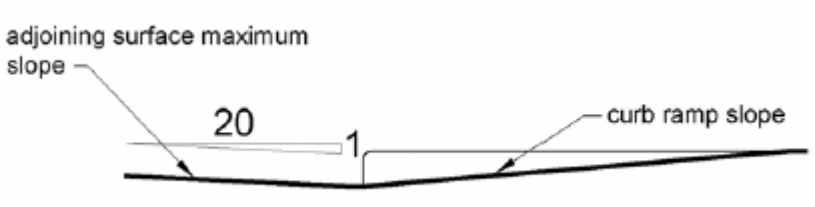


Figure 406.2 Counter Slope of Surfaces Adjacent to Curb Ramps

406.3 Sides of Curb Ramps. Where provided, curb ramp flares shall not be steeper than 1:10.

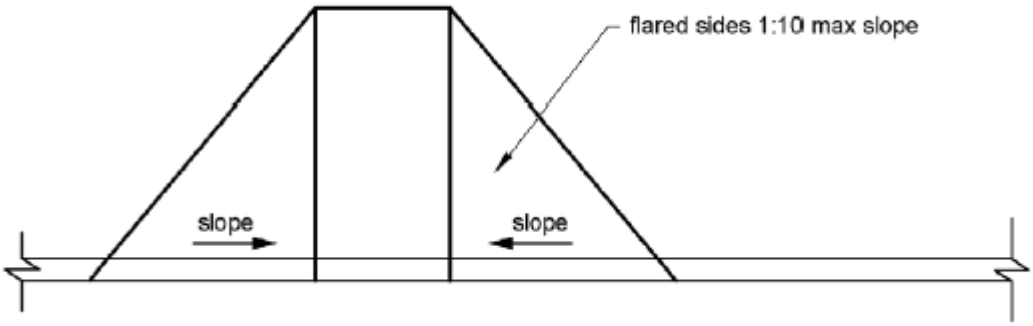


Figure 406.3 Sides of Curb Ramps

406.4 Landings. Landings shall be provided at the tops of curb ramps. The landing clear length shall be 36 inches (915 mm) minimum. The landing clear width shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing.

EXCEPTION: In alterations, where there is no landing at the top of curb ramps, curb ramp flares shall be provided and shall not be steeper than 1:12.

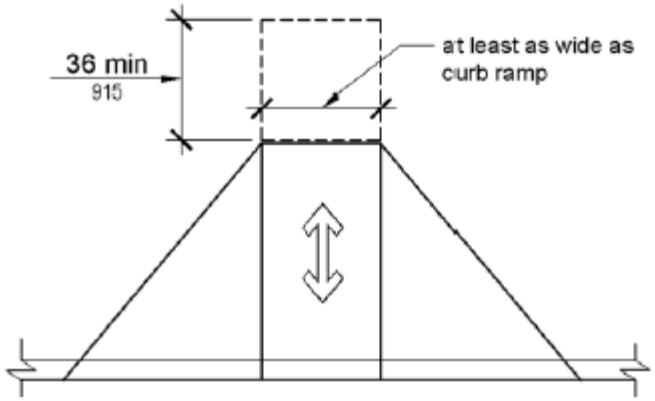


Figure 406.4 Landings at the Top of Curb Ramps

406.5 Location. Curb ramps and the flared sides of curb ramps shall be located so that they do not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides.

406.6 Diagonal Curb Ramps. Diagonal or corner type curb ramps with returned curbs or other well-defined edges shall have the edges parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have a clear space 48 inches (1220 mm) minimum outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48 inches (1220 mm) minimum clear space within the markings. Diagonal curb ramps with flared sides shall have a segment of curb 24 inches (610 mm) long minimum located on each side of the curb ramp and within the marked crossing.

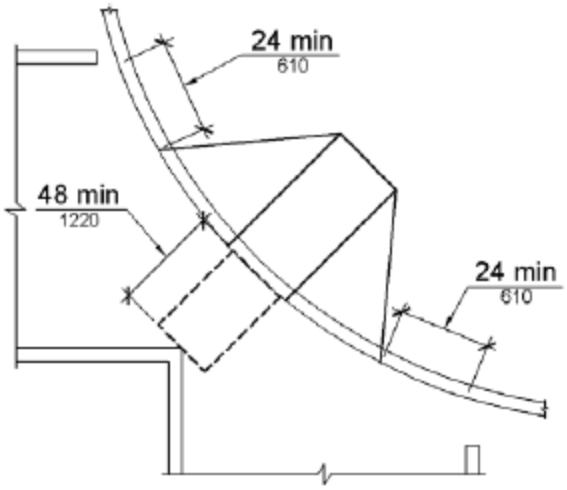


Figure 406.6 Diagonal or Corner Type Curb Ramps

406.7 Islands. Raised islands in crossings shall be cut through level with the street or have curb ramps at both sides. Each curb ramp shall have a level area 48 inches (1220 mm) long minimum by 36 inches (915 mm) wide minimum at the top of the curb ramp in the part of the island intersected by the crossings. Each 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum area shall be oriented so that the 48 inch (1220 mm) minimum length is in the direction of the running slope of the curb ramp it serves. The 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum areas and the accessible route shall be permitted to overlap.

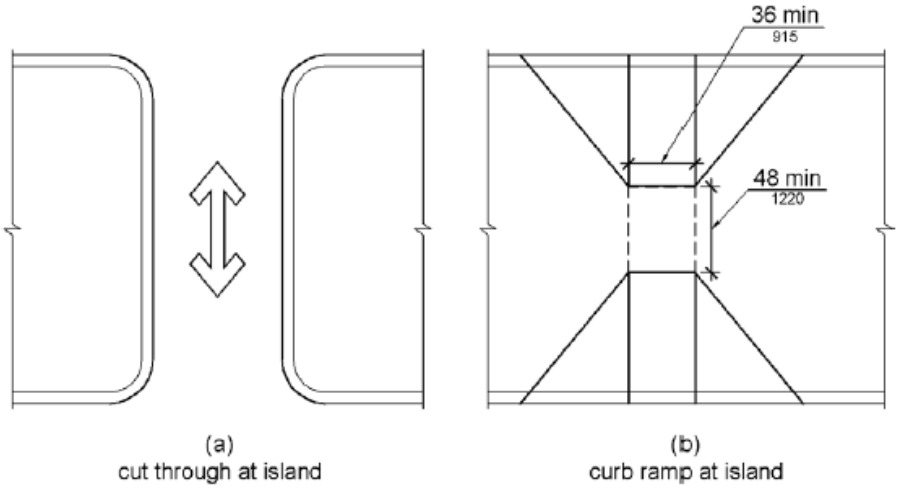


Figure 406.7 Islands in Crossings

Note to Reader: The Department of Transportation's ADA standards require detectable warnings on curb ramps:
406.8 Detectable Warnings. A curb ramp shall have a detectable warning complying with 705. The detectable warning shall extend the full width of the curb ramp (exclusive of flared sides) and shall extend either the full depth of the curb ramp or 24 inches (610 mm) deep minimum measured from the back of the curb on the ramp surface.

There are a few problems with the DASH Parking Lot curb ramps. A few curb ramps that have been constructed to accommodate inset bricks. Inset bricks do not meet the requirements to be Detectible Warning under the ADAAG. In addition, the transitions of the curb ramps have a steeper slope than outlined in the ADAAG.

Section 7.3.8 from *Designing Sidewalks and Trails for Access Best Practices Guide* explains why the transition between adjacent curb ramp surfaces should be flush.

7.3.8 Transition height

Transition points between adjacent curb ramp surfaces should be flush. Even a 13 mm (0.5 in) change in level combined with a change in grade can complicate access for wheelchair users. If the change in grade is significant, a height transition may also increase the likelihood of problems for individuals with balance limitations.

Transition points found within the curb ramp area include:

- Street and gutter;
- Gutter and ramp;
- Ramp and landing; and
- Landing and sidewalk approach.

The two most problematic transition points occur between the street and the gutter and the gutter and the curb ramp. In these situations, it is critical that the combination of change in grade and transition height be minimized. In addition to contributing to a user's dynamic instability, curb ramp lips will also change the angle of the wheelchair, as if the wheelchair were on an increased grade. For example, if a ramp is designed with an 8.3 percent slope and has a 19 mm (0.75 in) lip at the bottom of the ramp, the actual grade the wheelchair user has to negotiate is 11.6 percent. Curb ramp lips are not allowed by ADAAG.

10. Vehicles Crossing Sidewalks

Vehicles cross areas that are an integral part of the sidewalks at train tracks and driveways. These areas can pose safety concerns for pedestrians.

10.1 Driveways

In general, the City of Grand Rapids has done a good job requiring the sidewalks remain useable by pedestrians crossing driveways: the sidewalk remains level where they cross sidewalks or have ADAAG compliant slopes.

However, the slopes of the driveways from the street to the level part of the sidewalk level are high along some of the streets.

The driveways where this is a problem mainly found along the following streets:

- Front Street NW, between 4th Street NW and Leonard Street NW.
- Logan Street SW, between Grandville Avenue SW and Century Avenue SW.

- Market Street SW, between Wealthy Street SW and the Railroad Bridge, near Godfrey Avenue SW and Chestnut Street SW.
- Alabama Avenue NW, between Second Street NW and Bridge Street NW.
- Broadway Avenue NW, between Second Street NW and Bridge Street NW.
- Ransom Avenue NE, between Fulton Street E and Lyon Street NE.

The remaining driveways with slope issues are at parking ramps in the Hillside Area. Between the slopes of streets interacting with the slopes of the ingress and egress ramps, some of the slopes exceed the 8.3% allowed by the ADAAG.

The other issues with the driveways are maintenance issues. Due to the truck and automobile traffic, and snow-removal vehicles, there are potholes, cracks, and abrupt level changes. See the Section **11.2.**

Although not ADAAG issues, driveways pose a few issues for those who are blind or have vision impairments. One problem is when there are parking lots with traffic control arms close to the sidewalk. It is easy for a person to walk into the parking structure, rather than along the sidewalk.

10.2 Railroad Crossings

Detectable warnings are required whenever a pedestrian walkway crosses vehicular traffic lanes, except for driveways. They act as a stop sign for those with blindness or visual impairments. Vehicular traffic lanes include railroad tracts. None of the railroad crossings in the Project Area had detectable warnings as required by the ADAAG. See Section **12.1.6**, page 60 for the requirements for detectable warnings.

The railroad tracks were constructed in a way that resulted in cracks in excess of 1/2” wide between the adjacent pedestrian traffic aisle and the track. There are many devices to reduce the cracks to ½” or less, as allowed by the ADAAG. They may be made of steel, concrete or rubber. In the parkway, but not the sidewalk area, steel devices were occasionally used to reduce the cracks, but more slip resistant products are available.

A brief search of the internet yielded several products designed to comply with the ADAAG. Rubber or concrete devices are preferable because they are more slip resistant than those made of steel.

11. Sidewalks & Areas for Pedestrians

Curb ramps, pedestrian controlled traffic signals, and crosswalks will be addressed in a separate section since they pose unique and persistent problems.

The ADAAG requirements for accessible routes are:

204 Protruding Objects

204.1 General. Protruding objects on circulation paths shall comply with 307.

EXCEPTIONS: 1. Within areas of sport activity, protruding objects on circulation paths shall not be required to comply with 307.

2. Within play areas, protruding objects on circulation paths shall not be required to comply with 307 provided that ground level *accessible* routes provide vertical clearance in compliance with 1008.2.

206 Accessible Routes

206.1 General. *Accessible* routes shall be provided in accordance with 206 and shall comply with Chapter 4.
206.2 Where Required. *Accessible* routes shall be provided where required by 206.2.
206.2.1 Site Arrival Points. At least one *accessible* route shall be provided within the site from *accessible* parking spaces and *accessible* passenger loading zones; public streets and

sidewalks; and public transportation stops to the *accessible* building or facility entrance they serve.

302 Floor or Ground Surfaces

302.1 General. Floor and ground surfaces shall be stable, firm, and slip resistant and shall comply with 302.

EXCEPTIONS: 1. Within animal containment areas, floor and ground surfaces shall not be required to be stable, firm, and slip resistant.

302.3 Openings. Openings in floor or ground surfaces shall not allow passage of a sphere more than ½ inch (13 mm) diameter except as allowed in 407.4.3, 409.4.3, 410.4, 810.5.3 and 810.10. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

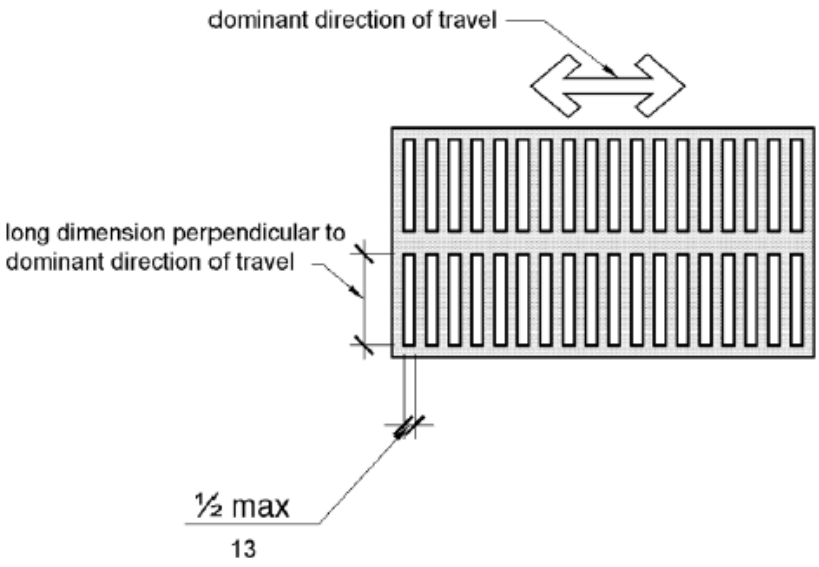


Figure 302.3 Elongated Openings in Floor or Ground Surfaces

303 Changes in Level

303.1 General. Where changes in level are permitted in floor or ground surfaces, they shall comply with 303.

EXCEPTIONS: 1. Animal containment areas shall not be required to comply with 303.

2. Areas of sport activity shall not be required to comply with 303.

303.2 Vertical. Changes in level of ¼ inch (6.4 mm) high maximum shall be permitted to be vertical.

Figure 303.2 Vertical Change in Level

303.3 Beveled. Changes in level between ¼ inch (6.4 mm) high minimum and ½ inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.

> Advisory 303.3 Beveled. A change in level of ½ inch (13 mm) is permitted to be ¼ inch (6.4 mm) vertical plus ¼ inch (6.4 mm) beveled. However, in no case may the combined change in level exceed ½ inch (13 mm). Changes in level exceeding ½ inch (13 mm) must comply with 405 (Ramps) or 406 (Curb Ramps).

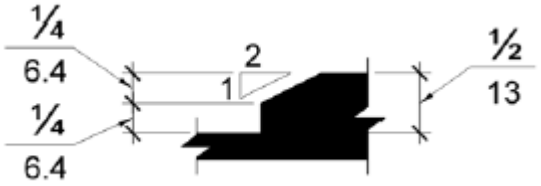


Figure 303.3 Beveled Change in Level

303.4 Ramps. Changes in level greater than ½ inch (13 mm) high shall be ramped, and shall comply with 405 or 406.

307 Protruding Objects

307.1 General. Protruding objects shall comply with 307.

307.2 Protrusion Limits. Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finish floor or ground shall protrude 4 inches (100 mm) maximum horizontally into the circulation path.

EXCEPTION: Handrails shall be permitted to protrude 4½ inches (115 mm) maximum.

Advisory 307.2 Protrusion Limits. When a cane is used and the element is in the detectable range, it gives a person sufficient time to detect the element with the cane before there is body contact. Elements located on circulation paths, including operable elements, must comply with requirements for protruding objects. For example, awnings and their supporting structures cannot reduce the minimum required vertical clearance. Similarly, casement windows, when open, cannot encroach more than 4 inches (100 mm) into circulation paths above 27 inches (685 mm).

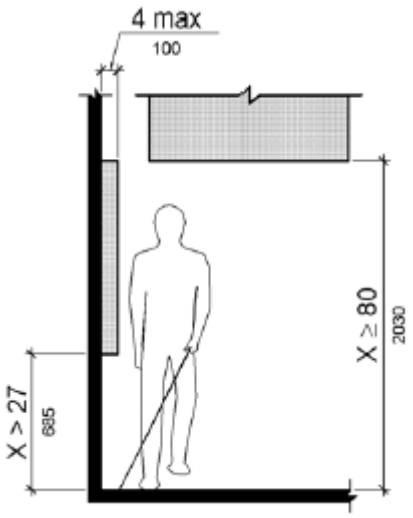


Figure 307.2 Limits of Protruding Objects

307.3 Post-Mounted Objects. Free-standing objects mounted on posts or pylons shall overhang circulation paths 12 inches (305 mm) maximum when located 27 inches (685 mm) minimum and 80 inches (2030 mm) maximum above the finish floor or ground. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) maximum or 80 inches (2030 mm) minimum above the finish floor or ground.

EXCEPTION: The sloping portions of handrails serving stairs and ramps shall not be required to comply with 307.3.

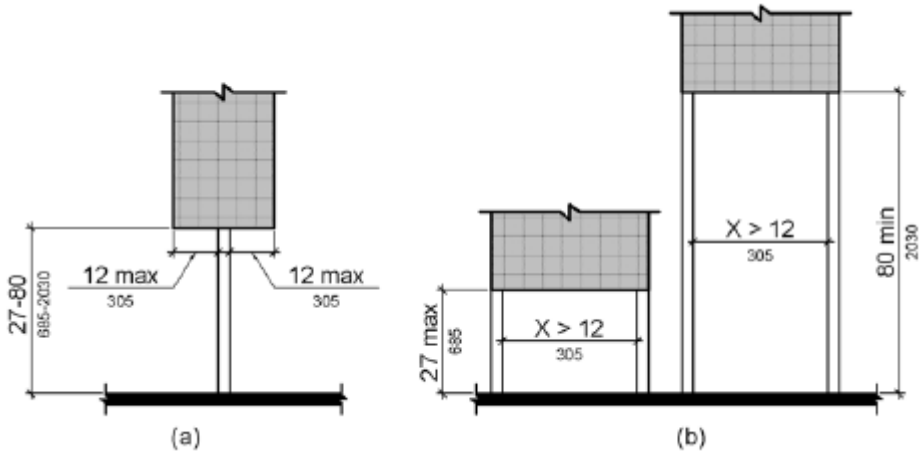


Figure 307.3 Post-Mounted Protruding Objects

307.4 Vertical Clearance. Vertical clearance shall be 80 inches (2030 mm) high minimum. Guardrails or other barriers shall be provided where the vertical clearance is less than 80 inches (2030 mm) high. The leading edge of such guardrail or barrier shall be located 27 inches (685 mm) maximum above the finish floor or ground.

EXCEPTION: Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.

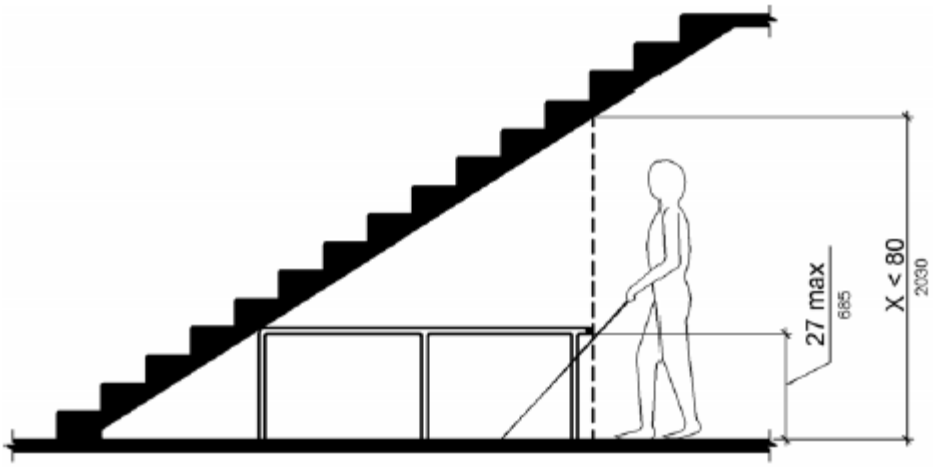


Figure 307.4 Vertical Clearance

307.5 Required Clear Width. Protruding objects shall not reduce the clear width required for *accessible* routes.

402 Accessible Routes

402.1 General. Accessible routes shall comply with 402.

402.2 Components. Accessible routes shall consist of one or more of the following components: walking surfaces with a running slope not steeper than 1:20, doorways, ramps, curb ramps excluding the flared sides, elevators, and platform lifts. All components of an accessible route shall comply with the applicable requirements of Chapter 4.

Advisory 402.2 Components. Walking surfaces must have running slopes not steeper than 1:20, see 403.3. Other components of accessible routes, such as ramps (405) and curb ramps (406), are permitted to be more steeply sloped.

403 Walking Surfaces

403.1 General. Walking surfaces that are a part of an accessible route shall comply with 403.

403.2 Floor or Ground Surface. Floor or ground surfaces shall comply with 302.

403.3 Slope. The running slope of walking surfaces shall not be steeper than 1:20. The cross slope of walking surfaces shall not be steeper than 1:48.

403.4 Changes in Level. Changes in level shall comply with 303.

403.5 Clearances. Walking surfaces shall provide clearances complying with 403.5.

EXCEPTION: Within employee work areas, clearances on common use circulation paths shall be permitted to be decreased by work area equipment provided that the decrease is essential to the function of the work being performed.

403.5.1 Clear Width. Except as provided in 403.5.2 and 403.5.3, the clear width of walking surfaces shall be 36 inches (915 mm) minimum.

EXCEPTION: The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1220 mm) long minimum and 36 inches (915 mm) wide minimum.

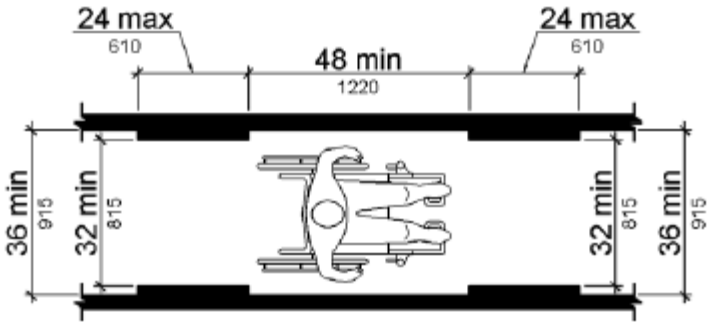


Figure 403.5.1 Clear Width of an Accessible Route

403.5.2 Clear Width at Turn. Where the accessible route makes a 180 degree turn around an element which is less than 48 inches (1220 mm) wide, clear width shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn and 42 inches (1065 mm) minimum leaving the turn.

EXCEPTION: Where the clear width at the turn is 60 inches (1525 mm) minimum compliance with 403.5.2 shall not be required.

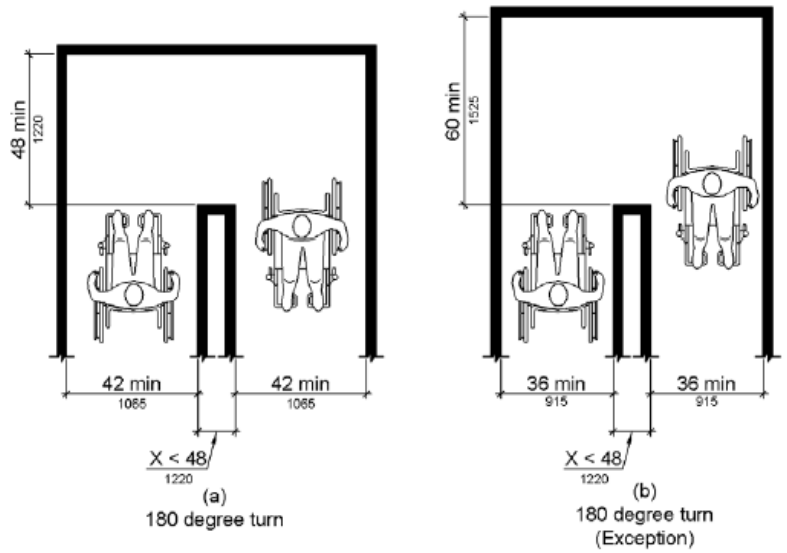


Figure 403.5.2 Clear Width at Turn

403.5.3 Passing Spaces. An accessible route with a clear width less than 60 inches (1525 mm) shall provide passing spaces at intervals of 200 feet (61 m) maximum. Passing spaces shall be either: a space 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum; or, an intersection of two

walking surfaces providing a T-shaped space complying with 304.3.2 where the base and arms of the T-shaped space extend 48 inches (1220 mm) minimum beyond the intersection.

406 Curb Ramps

406.1 General. Curb ramps on accessible routes shall comply with 406, 405.2 through 405.5, and 405.10.

406.2 Counter Slope. Counter slopes of adjoining gutters and road surfaces immediately adjacent to the curb ramp shall not be steeper than 1:20. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.

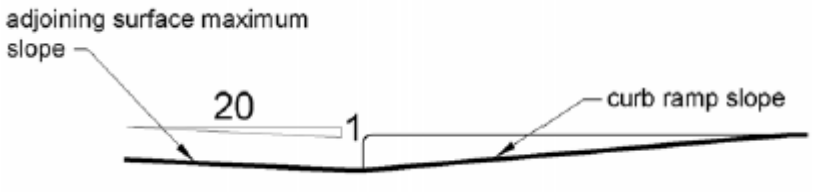


Figure 406.2 Counter Slope of Surfaces Adjacent to Curb Ramps

406.3 Sides of Curb Ramps. Where provided, curb ramp flares shall not be steeper than 1:10.

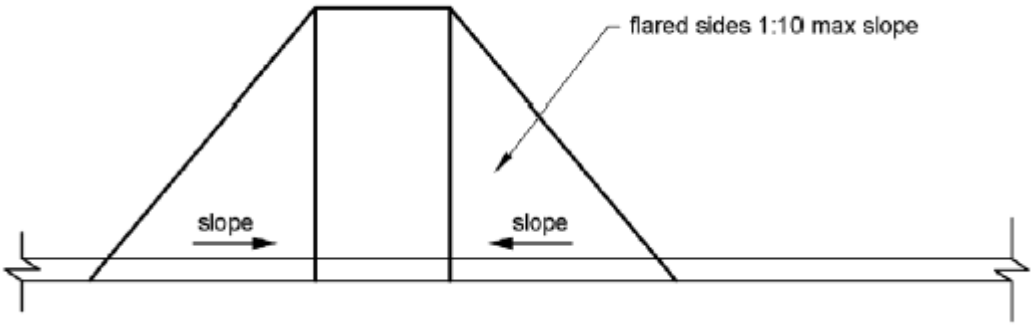


Figure 406.3 Sides of Curb Ramps

406.4 Landings. Landings shall be provided at the tops of curb ramps. The landing clear length shall be 36 inches (915 mm) minimum. The landing clear width shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing.

EXCEPTION: In alterations, where there is no landing at the top of curb ramps, curb ramp flares shall be provided and shall not be steeper than 1:12.

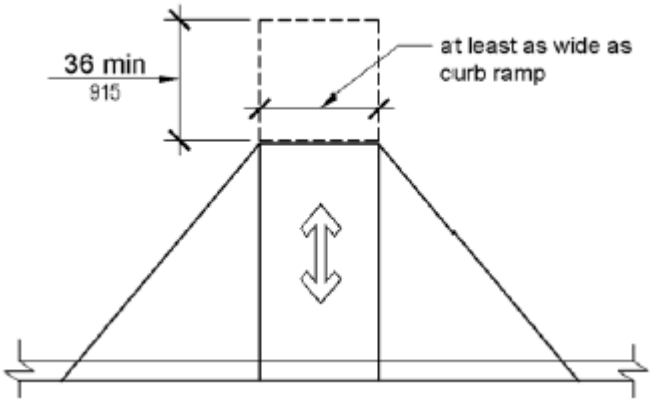


Figure 406.4 Landings at the Top of Curb Ramps

406.5 Location. Curb ramps and the flared sides of curb ramps shall be located so that they do not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides.

406.6 Diagonal Curb Ramps. Diagonal or corner type curb ramps with returned curbs or other well-defined edges shall have the edges parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have a clear space 48 inches (1220 mm) minimum outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48 inches (1220 mm) minimum clear space within the markings. Diagonal curb ramps with flared sides shall have a segment of curb 24 inches (610 mm) long minimum located on each side of the curb ramp and within the marked crossing.

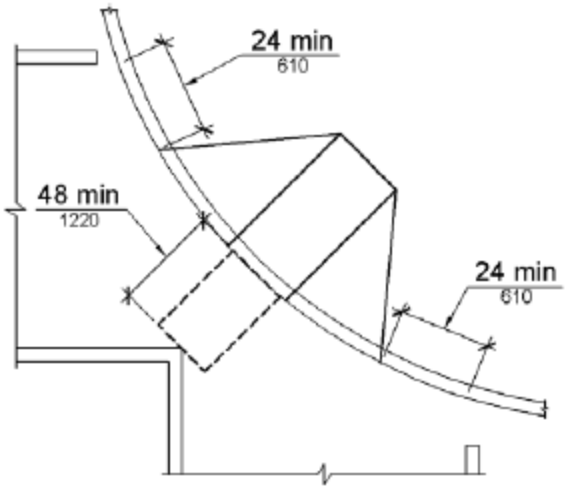


Figure 406.6 Diagonal or Corner Type Curb Ramps

406.7 Islands. Raised islands in crossings shall be cut through level with the street or have curb ramps at both sides. Each curb ramp shall have a level area 48 inches (1220 mm) long minimum by 36 inches (915 mm) wide minimum at the top of the curb ramp in the part of the island intersected by the crossings. Each 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum area shall be oriented so that the 48 inch (1220 mm) minimum length is in the direction of the running slope of the curb ramp it serves. The 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum areas and the accessible route shall be permitted to overlap.

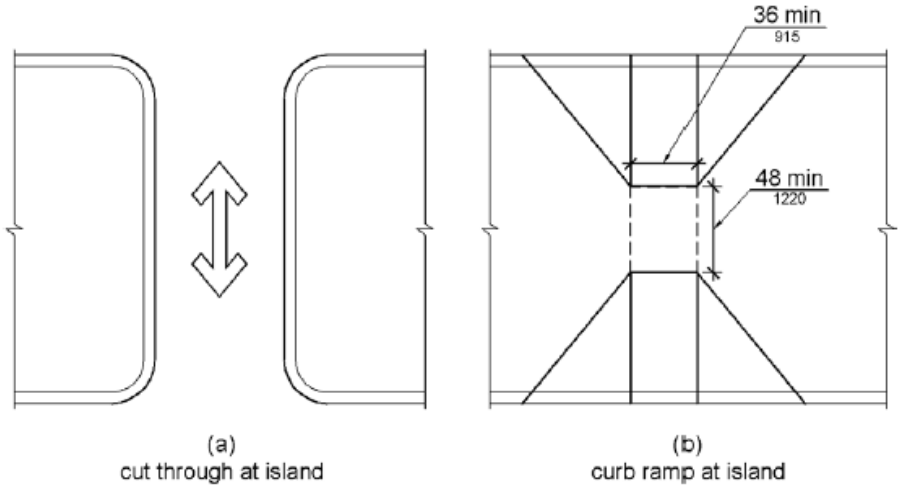


Figure 406.7 Islands in Crossings

Note to Reader: The Department of Transportation's ADA standards require detectable warnings on curb ramps:
406.8 Detectable Warnings. A curb ramp shall have a detectable warning complying with 705. The detectable warning shall extend the full width of the curb ramp (exclusive of flared sides) and shall extend either the full depth of the curb ramp or 24 inches (610 mm) deep minimum measured from the back of the curb on the ramp surface.

11.1 Sidewalk Width

In general, the sidewalk widths in the survey area met ADAAG requirements. Violation occurred when hedges and vegetation became overgrown and encroached upon the path of travel.

Streets where this occurred are as follows:

- Front Street NW, between 4th Street NW and Leonard Street NW.
- Front Street SW, Between Watson Street SW and Fulton Street W.
- Division Street S, between Cherry Street S and Wealthy Street S.

11.2 Abrupt changes In Level

During the evaluations, many changes in level in excess of 1/4" that were not ramped were recorded: these pose a tripping hazard for people with mobility impairments, as well at the general population. In addition, if the change in level is significant enough, people in wheelchairs cannot navigate the change in level. A routine maintenance program to ramp the changes in elevation should be considered and would resolve these issues.

The following changes in elevation are more than a routine maintenance program could resolve and should be addressed:

- Division Street N, between Lyon Street N and Michigan Street N. The concrete has not been maintained. The sidewalks are in serious need of repairs, resulting in numerous ADAAG violations.
- Wealthy Street SW, between Grandville Avenue SW and Division Street S. The sidewalks in serious need of repairs, resulting in numerous ADAAG violations.
- Market Street SW, between Oakes Street SW and the Railroad Bridge near Godfrey Avenue SW and Chestnut Street SW. The sidewalks are in serious need of repairs, resulting in numerous ADAAG violations.

11.3 Vertical Protrusions

Vertical protrusions are projections into the path of travel in excess of 4" that are between 27" and 80" above ground level. The survey only found 2 vertical protrusions violations: a sign in front of 33 Library Street NE, vegetation and trees along the west side of Front Street SW, between Watson Street SW and Wealthy Street SW and a guy wire west of the David D. Huntington YMCA parking lot.

11.4 Slopes and Cross slopes

In general, sidewalk slopes should not exceed 5% and the cross slope should not exceed 2%. Due to the terrain of the Hillside Area of Downtown Grand Rapids, most of the slopes exceed the recommended limit. While short ramps of 8.3% are manageable, long slopes over 5% are difficult for most people with disabilities to navigate. These areas pose problems for people using wheelchairs as well as those individuals with ambulation problems, respiratory problems, cardiac problems and blindness.

The second area where there are grade problems is on Williams, Bartlett, and Goodrich streets between Division and Ionia Avenue. The slopes exceed 10%.

One solution is to use wider sidewalks so people with disabilities can walk or roll across the side walk at an angle, making for a longer distance traveled, but at less slope. In the Hillside Area this has been done. On Lyon between Bostwick and Division there is a significant cross slope ranging between 9.9-19.1% on part of the sidewalk, preventing the use of this tactic to navigate the hill. In addition the steep cross slope presents a serious risk of a person in a wheelchair tipping over sideways or a person with ambulation problems falling. Examining the building entrances on this block brings home the need to consider the ADAAG requirements when evaluating and approving site plans.

Another option is to provide periodic level resting areas with a bench and space for a wheelchair to sit level to allow people to rest before proceeding. This should be considered on the steeper slopes. On the south side of Michigan Avenue, the entrance to the Van Andel Institute provides a more level area for people to rest, as does a part of the overpass.

A third option is to provide warnings about steep grades and suggest alternative routes. This could easily be done.

With Hillside being an important medical center in West Michigan and the hotels nearest the hospital being downtown, the City may want to consider publicizing the DASH system as a way to help people with disabilities access the many facilities in this area.

Where the sidewalks meet a curb ramp, a level area (less than 2% grade in any direction) provides a place for people using manual wheelchairs to change direction of travel and wait to cross the street, without having to hold their chair in place. This would be very valuable in the Hillside area.

11.5 Grates, Gaps, & Openings

Gratings should have opening in the predominate direction of travel no more than ½". Other than manhole covers with have openings between ¾" and 1", there are other grate openings that present a barrier to people with disabilities. Those that pose the most immediate risk are those along the front of buildings that cover window wells. These grates are often not secured firmly to the concrete sidewalk, resulting in instability while being used as a path of travel. In addition, the openings in these grates are often very large, measuring over 16-inches in level. To compound the problem, there is often a large open space by the lintel of the basement window, where large objects may fall through. The window wells cannot be accessed except by removing the grate, so if something should fall into the space, a person traveling along the sidewalk would not be able to retrieve the object. This is problematic if the object is an essential piece of assistive technology such as a wheelchair wheel or cane.

The newer trees plantings have done away with grates in the surrounding sidewalks. The new policy appears to prescribe the use of permeable surface material. However, the material require maintenance more often. During the evaluations, it was frequently found that the surface would sink below the level of the concrete sidewalk, creating a change in level, in addition to separating from the concrete, and cracking as the tree grew creating fissures. This was illustrated along the east side of Ottawa Avenue SW, between Fulton Street W and Oakes Street SW. It was also found, in some places, that when a tree was removed, the permeable surface was not repaired, leaving a rough hole and tree stump in the sidewalks.

Many of the grates that are noncompliant are due to installation with the ½" dimension parallel to the path of travel, rather than perpendicular to the path of travel. These call attention to the need to pay attention to the ADAAG from specifying product through installation and inspection.

11.6 Condition

The ADAAG requires a stable, firm, and slip resistant walking surface. The sidewalks were examined for cracks greater than ½ inch, badly cracked areas, settled areas, overgrown vegetation, and potholes. Between the un-ramped elevation changes and the above barriers, the following sections of sidewalks need repairs above a routine maintenance program:

- Division Street N, between Lyon Street N and Michigan Street N. The concrete has not been maintained. The sidewalks are in serious need of repairs, resulting in numerous ADAAG violations.
- Wealthy Street SW, between Grandville Avenue SW and Division Street S. The sidewalks in serious need of repairs, resulting in numerous ADAAG violations.
- Market Street SW, between Oakes Street SW and the Railroad Bridge near Godfrey Avenue SW and Chestnut Street SW. The sidewalks are in serious need of repairs, resulting in numerous ADAAG violations.

All of the sidewalks on the overpasses and bridges serving vehicles have serious condition problems, especially near the buttresses:

- Michigan Avenue, between Division & Ottawa and over the Grand River
- Pearl Street, over the Grand River
- West Fulton Street, over the Grand River
- Wealthy Street, over US 131

Slip resistance must be considered in the design and construction phases. Best practices included in *Designing Sidewalks and Trails for Access, Part 2,* provides:

4.3.1.2 Slip resistant

Under dry conditions, most asphalt and concrete surfaces are fairly slip resistant.

1. **Slip resistance** is based on the frictional force necessary to permit a person to ambulate without slipping. A slip resistant surface does not allow a shoe heel, a wheelchair tire, or a crutch tip to slip when ambulating on the surface.

A broom finish should be used on concrete sidewalks to increase the slip resistance for pedestrians. Decorative paints and surfaces, such as polished stones or exposed aggregate rock, are not as slip resistant and should be avoided.

Some asphalt sealants decrease the slip resistance of asphalt. In addition, the specification of the aggregate sieve spectrum has a significant impact on the slip resistance of the final surface. In general, brushed concrete is more slip resistant than asphalt, depending on the type of aggregate used. The U.S. Access Board Technical Bulletin #4 (1994a) addresses slip resistance in further detail.

Thermoplastic materials, commonly used to mark lines on asphalt or concrete at crosswalks, are generally not as slip resistant as the roadway surface. The problem is exaggerated when the surface is wet. Whenever possible, a texture should be added to thermoplastic materials to improve slip resistance. Some research suggests that additives, such as crushed glass will improve the slip resistance of thermoplastics. Further research is necessary to identify more effective materials to mark crosswalks. More information about crosswalks is included in Section 8.5.

4.3.1.3 Wet or icy surfaces

Slip resistant surfaces are more difficult to achieve when the sidewalk material is wet or icy. Surfaces that are wet or icy are difficult for all pedestrians to travel across, but they are especially difficult for people who use wheelchairs or walking aids. Crutch users, for example, rely

on being able to securely plant their crutch tip to travel effectively on the sidewalk. If the surface is icy, it creates a major safety problem.

Solutions for preventing water and ice from collecting on the sidewalk include:

1. **SOLUTION 1** - Design the sidewalk so that only water that falls directly onto the sidewalk and not water that falls onto adjacent surfaces requires management;
2. **SOLUTION 2** - Create drainage systems to prevent water from settling on the sidewalk; or
3. **SOLUTION 3** - Establish a regular maintenance program to remove snow and add salt or sand to slippery sidewalk areas.

There are many decorative surface materials that do not violate then ADAAG, however they pose significant difficulties for people with disabilities. *Designing Sidewalks and Trails for Access, Part 2,* provides a more diplomatic explanation than wheelchair users who have been stuck or tipped from their chairs due to decorative materials.

4.3.1.4 Decorative surface materials

Asphalt and concrete are the most common surfaces for sidewalks; however, some sidewalks are designed using decorative materials, such as brick or cobblestone. Although these surfaces may improve the aesthetic quality of the sidewalk, they may also increase the amount of work required for mobility. For example, tiles that are not spaced tightly together can create grooves that catch wheelchair casters. These decorative surfaces may also create a vibrating bumpy ride that can be uncomfortable and painful for those in wheelchairs. Thus, the surface texture should be vibration free with a limit of 6.4 mm (1/4 inch) or less rise not more than every 760 mm (30 in). In addition, brick and cobblestone have a tendency to buckle creating changes in level. This creates a tripping hazard for people with vision impairments and for ambulatory pedestrians with mobility impairments. Finally, decorative surface materials can make it more difficult for pedestrians with vision impairments to identify detectable warnings which provide critical information about the transition from the sidewalk to the street.

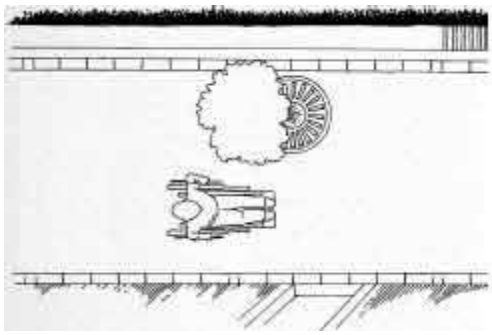


Figure 4-34. Concrete with brick trim edging is easier for people with mobility impairments to negotiate.

For these reasons, brick and cobblestone sidewalks are not recommended. Creative alternatives to brick sidewalks include:

- Concrete sidewalks with brick trim, which preserves the decorative quality of brick but is an easier surface to negotiate; or
- Colored asphalt or concrete (stamped to look like brick). Although preferred in comparison to using actual decorative surface material, this option can also create a bumpy surface. Consequently, people with mobility impairments may experience some difficulty when traveling over these surfaces. The surface texture should be vibration free with a limit of 6.4 mm (1/4 in) or less rise not more than every 760 mm (30 in).

Many historic districts use decorative surface materials for pathways. Access to historic districts is critical, because they provide cultural enrichment and a sense of connection with the past. Oftentimes, historic districts are not accessible to people with disabilities and therefore require novel solutions to improve access. In downtown Seattle, for example, Pioneer Square is designated as a historic district. The majority of pathways are surfaced with an uneven cobblestone. To accommodate people with mobility impairments in this park, an additional pathway was created using smoother and larger pavers with fewer changes in level. The look of the park was preserved and people with mobility impairments are accommodated.

12. Intersections

Many ADAAG issues arise at intersections. The interaction between pedestrians and vehicular traffic makes crossing the street one of the more dangerous pedestrian activities, particularly for many people with disabilities.

12.1 Curb Ramps

The most numerous problems disclosed by the survey involved curb ramps. Below are the specific ADAAG requirements of curb ramps, followed by the status of the ramps in the survey area.

303 Changes in Level

303.1 General. Where changes in level are permitted in floor or ground surfaces, they shall comply with 303.

303.4 Ramps. Changes in level greater than ½ inch (13 mm) high shall be ramped, and shall comply with 405 or 406.

406 Curb Ramps

406.1 General. Curb ramps on accessible routes shall comply with 406, 405.2 through 405.5, and 405.10.

406.2 Counter Slope. Counter slopes of adjoining gutters and road surfaces immediately adjacent to the curb ramp shall not be steeper than 1:20. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.

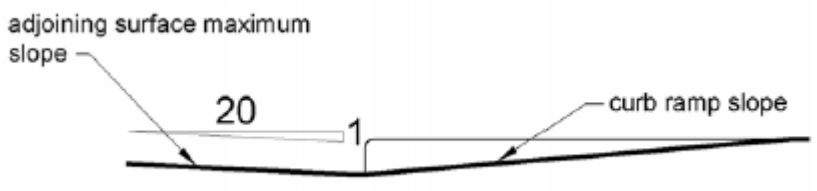


Figure 406.2 Counter Slope of Surfaces Adjacent to Curb Ramps

406.3 Sides of Curb Ramps. Where provided, curb ramp flares shall not be steeper than 1:10.

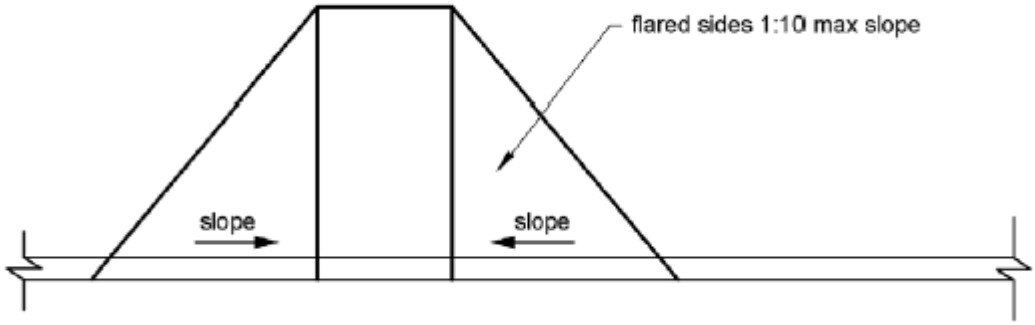


Figure 406.3 Sides of Curb Ramps

406.4 Landings. Landings shall be provided at the tops of curb ramps. The landing clear length shall be 36 inches (915 mm) minimum. The landing clear width shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing.

EXCEPTION: In alterations, where there is no landing at the top of curb ramps, curb ramp flares shall be provided and shall not be steeper than 1:12.

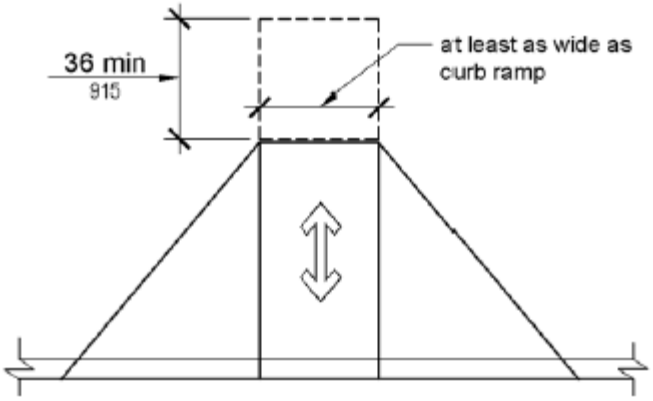


Figure 406.4 Landings at the Top of Curb Ramps

406.5 Location. Curb ramps and the flared sides of curb ramps shall be located so that they do not project into vehicular traffic lanes,

parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides.

406.6 Diagonal Curb Ramps. Diagonal or corner type curb ramps with returned curbs or other well-defined edges shall have the edges parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have a clear space 48 inches (1220 mm) minimum outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48 inches (1220 mm) minimum clear space within the markings. Diagonal curb ramps with flared sides shall have a segment of curb 24 inches (610 mm) long minimum located on each side of the curb ramp and within the marked crossing.

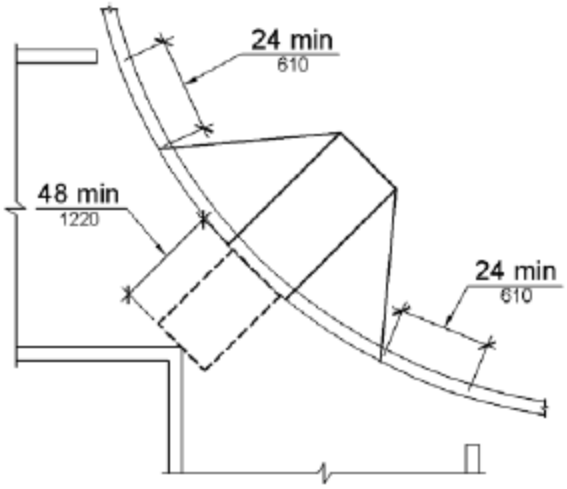


Figure 406.6 Diagonal or Corner Type Curb Ramps

406.7 Islands. Raised islands in crossings shall be cut through level with the street or have curb ramps at both sides. Each curb ramp shall have a level area 48 inches (1220 mm) long minimum by 36 inches (915 mm) wide minimum at the top of the curb ramp in the part of the island intersected by the crossings. Each 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum area shall be oriented so that the 48 inch (1220 mm) minimum length is in the direction of the running slope of the curb ramp it serves. The 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum areas and the accessible route shall be permitted to overlap.

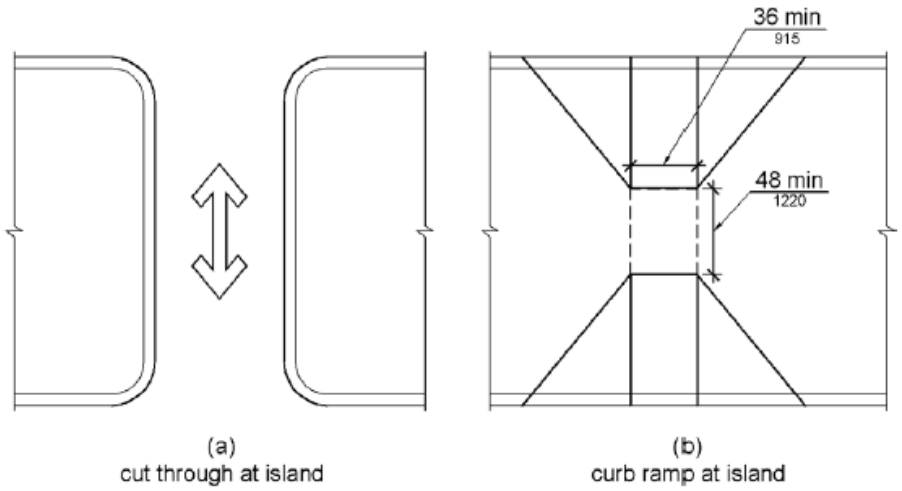


Figure 406.7 Islands in Crossings

Note to Reader: The Department of Transportation's ADA standards require detectable warnings on curb ramps:

406.8 Detectable Warnings. A curb ramp shall have a detectable warning complying with 705. The detectable warning shall extend the full width of the curb ramp (exclusive of flared sides) and shall extend either the full depth of the curb ramp or 24 inches (610 mm) deep minimum measured from the back of the curb on the ramp surface.

There are many curb ramps that do not meet the specification of the ADAAG, but there is One (1) intersection that does not have curb ramps and Three (3) where, at the time of evaluation, the curb ramps are so deteriorated that they are nonexistent for all practical purposes.

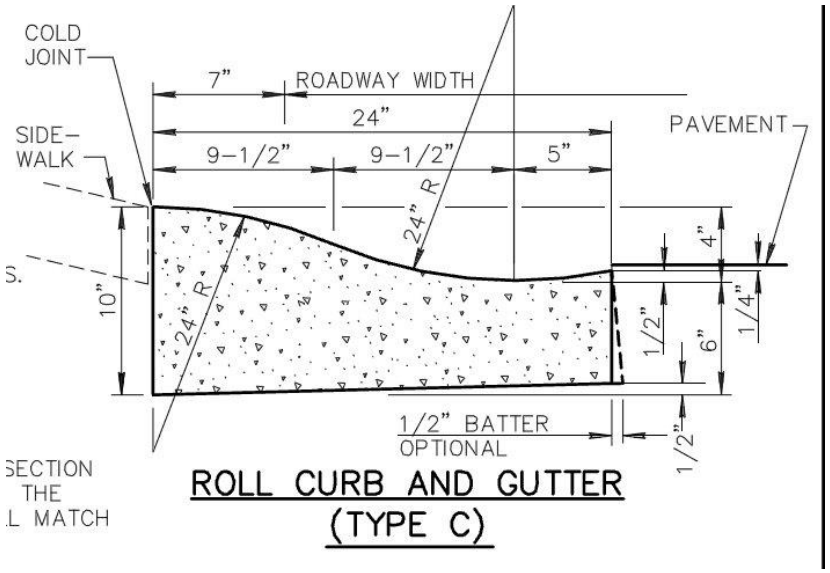
The exact number varies for a variety of reasons. For example, the curb ramp on the south side of Coldbrook Street NW and the east side of Ottawa Avenue NW displayed significant damage that made the curb ramp difficult to impossible to use for people with mobility related disabilities and who use assistive technology. The other corner on the south of Coldbrook Street NW and the west side of Ottawa Avenue NW does have a fully compliant and functional curb ramp.

12.1.1 Slopes and Grades

The survey measured the slopes of the curb ramps. The slope were recorded as percentages, also known as grades, as opposed to the standard rise-over-run ratio. A 1:12 slope equates to 8.33%. A 1:20 slope equates to 5%.

The most inaccessible slope on a curb ramp was on the north side of Campau Avenue NW and the west side of Monroe Avenue NW, with a ramp slope of 19.1% or a nearly 1:5 ratio.

The real problem with the curb ramps was the transition from the ramp to the street or gutter. Then transition is supposed to be flush and free of abrupt transitions. Nearly all the ramps surveyed had a rolled curb between the ramp and gutter (see illustration below).



The two steepest ramp gutter transitions were both along Summer Avenue NW. The one on the west side of Summer Avenue NW and north side of Blumwich Street NW had a grade of 44.7%. The midblock curb ramp on the east side of Summer Avenue NW had a ramp gutter transition slope of 43.5%. These extreme slope make it very difficult to navigate for people who use assistive technology such as wheelchairs or motorized scooters.

Designing Sidewalks and Trails for Access, Part 2, provides:

7.3.7.1 Impacts of change of grade on people who use wheelchairs

A rapid change of grade, such as what might be found between the base of a curb ramp and the gutter, may be difficult to negotiate because the wheelchair's footrests or anti-tip wheels cannot clear the ground surface. In general, footrests are positioned low to the ground and extend beyond the front casters. Anti-tip wheels are placed on the back of some wheelchairs, behind the rear axle, to improve stability. Both the footrests and anti-tip wheels limit the clearance height of the wheelchair. Clearance may be a particular problem at an abrupt change of grade because the footrests or anti-tip wheels extend beyond the wheelbase of the wheelchair and therefore may contact the surface across the transition point from where the wheels are located.

A further complication associated with severe changes in grade is the increased risk of tipping if the wheelchair user is traveling with speed such as when going down the slope of a curb ramp. If the footrests catch on the ground, the wheelchair will come to an abrupt stop; the forward momentum of the individual and wheelchair is interrupted and can cause the wheelchair user's upper body to fall forward or can cause the user and the wheelchair to tip forward.

If the user moves quickly through the change in grade, without compromising the ground clearance of the wheelchair, the dynamic stability of the wheelchair may still be compromised. Dynamic stability can be compromised because the momentum of the wheelchair will rotate backwards as the wheelchair climbs up the gutter slope. If there is a severe change in grade, this may cause the wheelchair to tip over backwards. Any amount of height transition such as lips between the curb ramp and the gutter can further contribute to the stability problems experienced by wheelchair users (Section 7.3.8).

7.3.8 Transition height

Transition points between adjacent curb ramp surfaces should be flush. Even a 13 mm (0.5 in) change in level combined with a change

in grade can complicate access for wheelchair users. If the change in grade is significant, a height transition may also increase the likelihood of problems for individuals with balance limitations.

Transition points found within the curb ramp area include:

- Street and gutter;
- Gutter and ramp;
- Ramp and landing; and
- Landing and sidewalk approach.

The two most problematic transition points occur between the street and the gutter and the gutter and the curb ramp. In these situations, it is critical that the combination of change in grade and transition height be minimized. In addition to contributing to a user's dynamic instability, curb ramp lips will also change the angle of the wheelchair, as if the wheelchair were on an increased grade. **For example, if a ramp is designed with an 8.3 percent slope and has a 19 mm (0.75 in) lip at the bottom of the ramp, the actual grade the wheelchair user has to negotiate is 11.6 percent. Curb ramp lips are not allowed by ADAAG.** *(Bold text added for emphasis added).*

The rolled curbs provide obstacles to those with blindness and vision impairments as well. Then Association for the Blind and Visually Impaired teaches people to use their cane when stepping off a curb. The cane is placed at the intersection of the curb and street in a vertical position. The person walks up until their cane touches their body and then step down. The rolled curbs are confused for regular curbs, and their foot land on the rolled curb, causing imbalance. In wet or icy conditions, the situations is worse.

In effect, the rolled curb between the ramp and the gutter becomes a curb to many individuals with disabilities.

The City of Ypsilanti continues facing lawsuits due violations of the ADAAG, in part due the “rolled curbs”, among other issues.

12.1.2 Ramp Widths

In the survey area there was complete compliance with the ramp width requirement.

12.1.3 Ramp Surfaces

The surface requirements for the ramps are the same as the requirements for sidewalks: they must be firm, stable and slip resistant. Other than in certain areas, such as the one ramp at Ottawa and Coldbrook which has serious overall deterioration, a sidewalk/crosswalk maintenance program should resolve the issues.

12.1.4 Ramp Sides

Curb returns were only used where people would not walk across them. During the survey, some of the curb ramps encountered had flared and curbed sides, with a curb on one side of the ramp run and a flare on the other. In general The City had complete compliance on that portion of the ADAAG requirement.

Many of the flared sides exceeded the 10% slope requirement. This was the measurement subject to the most variation between individual members of the survey team since each member had to judge where to take the measurement. Most flared sides did have a point where the slope was less than 10% further from the street.

12.1.5 Built-up Curb Ramps

During the survey, no built up curb ramps were found in the project area. As such, there were no violations of this section of the ADAAG.

12.1.6 Detectable Warnings

The ADAAG requires 24” strip of truncated domes, that contrast with adjacent surfaces, across the entire width of curb ramps to alert those with blindness or visual impairments that they are about to cross a vehicular traffic lane (except driveways.) The truncated domes act as a stop sign.

The truncated domes are being installed as sidewalks are renovated.

During the time of the 2006 DDA Downtown Audit, The City of Grand Rapids was installing detectable warning by having truncated domes pressed into the concrete. After a year or two, snow removal plus wear and tear, wore down the domes. Stamping the domes into the concrete meant that the detectable warning would need to be replaced every few years.

As of the time of this report, that policy has changed and detectable warning on curb ramps now take the form of steel plate with truncated domes.

There are many systems to install truncated domes, other than pressing the domes into the concrete.

The Association for the Blind and Visually Impaired prefers the yellow tiles that can be laid into the concrete which are highly visible and durable. Only 2% of those with vision impairments are totally blind: the yellow contrasts sufficiently with most sidewalk materials to help those individuals.

12.1.7 Obstructions

There was One (1) instance of curb ramps being obstructed by parked vehicles while the survey teams were surveying a particular area. This was not due to the location of the ramp. All the streets in the project area had signage indicating that parking was not permitted within a certain distance of each intersection. The solution appears to be enforcement of the City of Grand Rapids' parking ordinances.

12.1.8 Crosswalk Markings

The areas where the crosswalks were not wholly contained within crosswalks, were in older area or where sidewalks or where the street surface was recently replaced. See **Section 12.2** for a full explanation of the importance of this requirement.

12.1.9 Diagonal Curb Ramps

There are three separate elements in this particular requirement.

- If diagonal curb ramps have return curbs or other well defined edges, they must be parallel to the direction of pedestrian flow. This is to provide an additional cue to people with vision problems so they can align themselves perpendicular to the street. Most diagonal curb ramps have flared sides, so this section does not apply. Those curb ramps that have curb returns are in compliance with this section.
- At diagonal curb ramps, there is to be a 48" clear space in the street. If there are crosswalk markings, this clear area must be within the crosswalk markings. This is very important since a person using a wheelchair or other ambulation device is actually in them path on

oncoming traffic before they pivot and proceed along the typical pedestrian route. See **section 12.2** below. Newer crosswalk markings generally comply with this requirement.

- If diagonal curb ramps have flared sides, they shall also have at least a 24" long segment of straight curb located on each side of the curb ramp and within the marked crossing.

  This is important to those with blindness and visual impairments. It allows the person to use the curb to align themselves to cross the street. In intersections, the necessary segment aligns with the marking where vehicles are supposed to stop, not the crosswalk. There was virtually no compliance with this section of the ADAAG. The ADAAG provides for other designs and technologies where they will provide substantial greater or equivalent access and usability. Accessible pedestrian signals include and audible component that would provide equivalent facilitation and are mandated in certain instances under the Transportation Equity Act for the 21st Century (TEA-21).

12.1.10 Islands and Medians

Medians within the Project Area have the required area of refuge to accommodate wheelchairs and people using other mobility aids. There was full compliance with this section of the ADAAG, however the curb ramps to and from the area of refuge often suffered the same problem with the transition between the curb ramp and gutter as other curb ramps.

12.2 Curb Ramp- Best Practices

During the survey, many different styles of curb ramps were found at a variety of different intersections. Often, there were several varieties of curb ramp at the same intersection. Many of these curb ramps designs were

influenced by the shape of the sidewalks, the natural terrain of the area, and the angle of the streets involved.

The City of Grand Rapids seems to have had a strong preference for diagonal curb ramps, with ramps that border on a depressed corner. The majority of newer construction seem to be a blend of Diagonal curb ramps and Perpendicular curb ramps. There were very few Lowered Sidewalk style curb ramps, and there were no protruding curb ramps in the project area.

Designing Sidewalks and Trails for Access, Part 2, provides,

> In many situations, diagonal curb ramps are not recommended. Diagonal curb ramps force pedestrians descending the ramp to proceed into the intersection before turning to the left or right to cross the street. This problem is worse at intersections with a tight turning radius and without on-street parking because wheelchair users are exposed to moving traffic at the bottom of the curb ramp. Furthermore, diagonal curb ramps can make it more difficult for individuals with vision impairments to determine the correct crossing location and direction.
>
> When designed to promote access, diagonal curb ramps include at least 1.22 m (48 in) of clear space at the bottom of the curb ramp. However, providing 1.22 m (48 in) of clear space is often not possible at intersections with tight turning radii without exposing the pedestrian to vehicular traffic. In addition, the clear space should be level with a slope that is not more than 2.0 percent in any direction. The level area is necessary so users are not required to turn on a sloped surface. For existing facilities, designing a level landing at the bottom of a curb ramp is difficult because the cross slope of the gutter and the roadway usually exceed 2.0 percent. Limiting the slope of the gutter and roadway to 2.0 percent may interfere with the proper operation of drainage structures and will complicate street resurfacing. If creating level landings is too difficult or a 1.220 m (48 in) clear space cannot be provided, diagonal curb ramps should not be considered.

The following lists summarize the advantages and disadvantages of diagonal curb ramps:

Advantages of diagonal curb ramps

- Require less space because there is only one curb ramp per corner;
- Are less expensive for alterations because there is only one curb ramp per corner; and
- Allow a pedestrian's normal path of travel to intersect a curb rather than a curb ramp, which enhances detectability of the intersection by people with vision impairments who use the curb to identify the transition from the sidewalk to the street. Street furniture and vegetation should be kept out of this area. (*This statement is not applicable as the curb ramps in Grand Rapids have depressed corners)*

Disadvantages of diagonal curb ramps

- Put pedestrians into a potential area of conflict with motorists who are traveling straight and turning;
- Require turning at the top and bottom of the ramp;
- Provide no alignment with the proper crossing direction, which is difficult for most people with disabilities;
- Make the essential level maneuvering area difficult to achieve at the bottom of the curb ramp; and
- Can cause a person with a vision impairment to mistake a diagonal curb ramp for a perpendicular curb ramp and unintentionally travel into the middle of the intersection due to the lack of, or ambiguous, audible cues from the surge of traffic.

For these reasons, Disability Advocates of Kent County strongly encourages looking at other types of designs for curb ramps. If anyone believes the expense of alternatives outweighs the advantages, a representative from Disability Advocates would be delighted to meet with the person and travel to an onsite location to illustrate the experience of crossing a busy intersection win a wheelchair. To people with mobility

related disabilities and vision related disabilities, such an experience can be very frightening.

12.3 Pedestrian Controlled Traffic Signals

Pedestrian controls of traffic signals are governed by the following provisions of the ADAAG:

X02.5 Pedestrian Street Crossings

X02.5.1 Pedestrian signal push buttons.

X02.5.1.1 General. Where new traffic signals with *pedestrian* controls are installed, they shall comply with this section.

X02.5.1.2 Features. *Push buttons* shall have the following features.

(A) Size. Push buttons shall be a minimum of 2 inches (51mm) across in at least one dimension.

(B) Maximum force. The force required to activate push buttons shall be no greater than 3.5 pounds (15.5N).

(C) Operation. Push buttons shall be operable with a closed fist.

(D) Locator tone. There shall be a *locator tone* complying with X02.5.1.5.

(E) Visual contrast. Push buttons shall have a *visual contrast* with the body background of at least 70 percent.

(F) Indicator. There shall be a visible and audible indicator that the button press has occurred.

Advisory: *A long button press (e.g., 3 seconds) may bring up the accessible features or additional accessibility features of the individual device. An additional button should not be used to bring up*

additional accessibility features. All accessible features available are to be actuated in the same way. Thus, for a given signal, a long button press could request more than one additional feature. Possible additional features include: 1) sound beaconing by increasing the volume of the WALK tone and the associated locator tone for one signal cycle, so a blind pedestrian might be able to use the sound from the opposite side of the street to provide alignment information; 2) sound beaconing by alternating the audible WALK signal back and forth from one end of the crosswalk to the other; 3) providing extended crossing time; and 4) providing a voice message with the street names at the intersection.

(G) Signage. Signage accompanying *push buttons* shall comply with Section X02.5.1.4.

Discussion: These specifications are intended to make pedestrian push buttons accessible. The recommended change to a reduced maximum operating force is based in part, on the preamble to proposed ADAAG309 Operable Parts (p 62262, 2nd col): "Information indicates that most control buttons of keys can meet a 3.5 maximum pounds of force and a maximum stroke depth of 1/10 inches." The closed fist requirement is based on the Access Board's design guidelines: "Devices that can be operated by a closed fist acting on any point on the surface will be most usable by pedestrians who have mobility impairments." The provision of visual contrast and a locator tone enable blind or visually impaired pedestrians to locate the push button. The visible and audible indicator informs both visually impaired and sighted individuals that the request for a walk signal has been received.

X02.5.1.3 Push button location. The location of *push buttons* shall be in accordance with the following minimum requirements.

(A) Adjacent to landing. The push button shall be mounted adjacent to a clear ground space or a landing on

the *pedestrian access route* leading to the *crosswalk*. The clear ground space shall be at least 32 inches by 54 inches (815 by 1370mm), shall slope no more than 1:48 in any direction, and shall be provided with a stable, firm and slip resistant surface from which to operate controls. This clear ground space may overlap entirely with the pedestrian access route.

(B) Proximity to approach. Where a parallel approach to the push button is provided, controls shall be within 10 inches (255 mm) of the clear ground space, measured horizontally, and centered on it. Where a forward approach is provided, controls shall abut and be centered on the clear ground space.

(C) Direction of control face. The control face of the push button shall be parallel to the direction of the crosswalk controlled by the push button, and no closer than 30 inches (760mm) to the curb line.

(D) Mounting height. The centerline of the push button shall be mounted 42 inches (1070mm) above the clear ground space for approach.

(E) Close to crosswalk. The push button shall be mounted no further than 5 feet (1.5m) from the extension of the crosswalk lines, and within 10 feet (3m) of the curb line, unless the *curb ramp* is longer than 10 feet (3m).

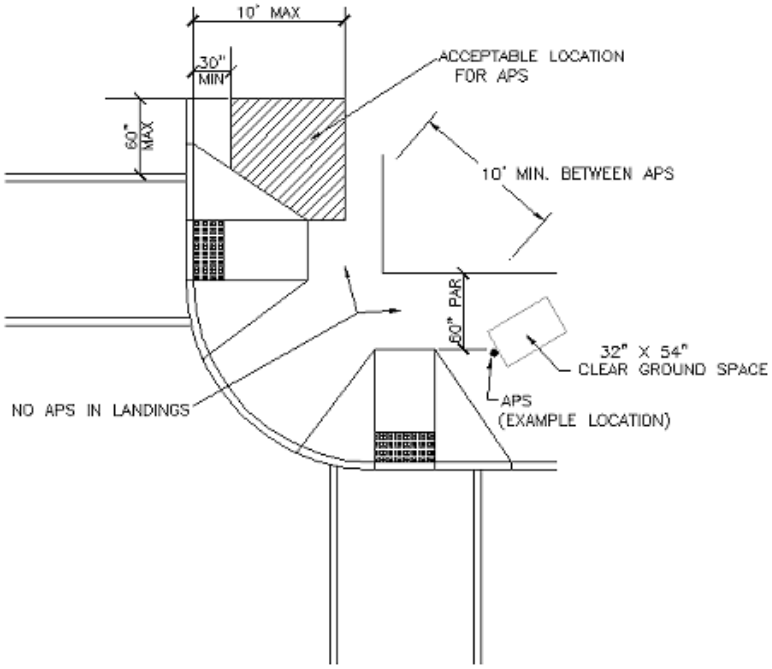
(F) Proximity to curb or transition ramp. When located at a curb ramp, the push button shall be placed within 24 inches (610mm) of the top corner of the curb ramp, on the side furthest from the center of the intersection of the roadway. When located at a *transition ramp*, the push button shall be placed adjacent to the lower landing.

> ***Advisory:*** *It should be noted that for information in vibrotactile format to be useable, the pole must be located so the user is able to keep a hand on the button while aligned at the top of the curb ramp or at the crosswalk. Note: vibrotactile information alone is not allowed.*

(G) Separation. Where there are two accessible pedestrian signals on the same corner, the push buttons shall be mounted on poles separated by at least 10 feet (3 meters).

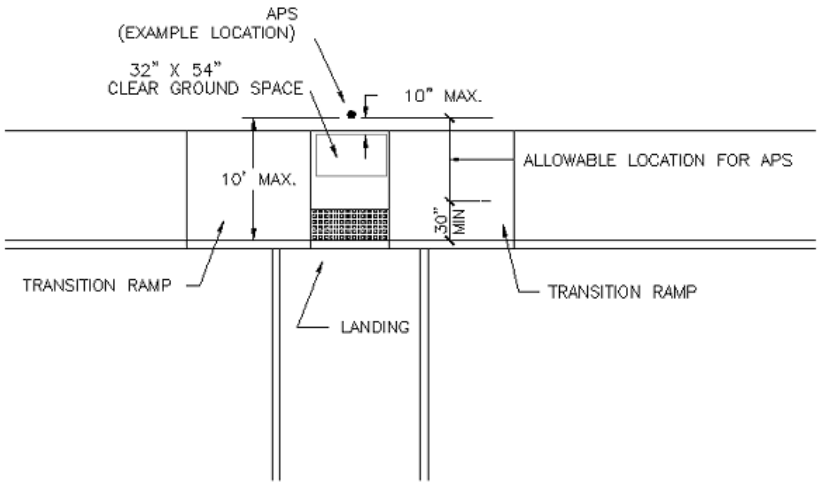
EXCEPTION: If the requirement for separation cannot be met due to location requirements (A) through (G), two accessible pedestrian signal-related push buttons may be installed on a single pole. If installed on the same pole, the APS must be equipped to provide speech-transmitted data or other technology that delivers an unambiguous message about which crosswalk has the walk signal indication.

Figure X02.5 A Curb Ramp APS Zones



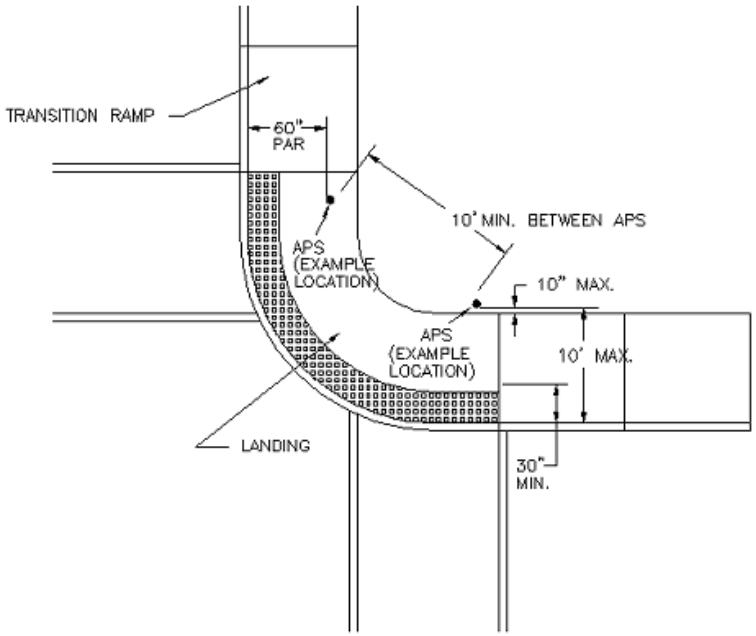
Curb ramps at an intersection with APS zones indicated in plan.

Figure X02.5 B Transition Ramp APS Zones



Transition ramps at an intersection with APS zones indicated in plan.

Figure X02.5 C Shared Curb Ramp APS Zones



Shared ramp at an intersection with APS zones indicated in plan.

Discussion: Requirements for push button location were discussed in detail by the subcommittee and are essentially the same as requirements proposed by FHWA for inclusion in the Manual on

Uniform Traffic Control Devices (MUTCD) in December 1999. The committee's intent is to standardize some elements of pedestrian push button location to make the push button more accessible to pedestrians who are blind or who have vision impairments. Locating the pedestrian push buttons at some distance from the crosswalk, which is common now, makes it difficult for a pedestrian, particularly a blind pedestrian or a pedestrian using a mobility aid, to push the button and return to the crosswalk location in time for the walk phase. Users of wheelchairs and mobility aids need to be able to push the button from a level surface. The control face of the push button or the push button housing will include a tactile arrow to inform a blind pedestrian about the direction of the crosswalk, so the location and direction of the control must be aligned with the crosswalk. Since the APS will provide an audible indication of the walk interval from the pedestrian push button, the blind pedestrian must be able to discern which signal is sounding at each phase. This is much harder if both APS are on the same pole, since using only different tones to distinguish the directions is prohibited in Section X02.5.2.2 (A). The separation is intended to allow the blind pedestrian to determine which APS is sounding through sound localization while standing at the curb preparing to cross the street. While the separation is not required for call buttons that are not associated with an APS or locator tone, routinely separating the call buttons will result in a more uniform and predictable location, and will facilitate future APS and/or locator tone installation.

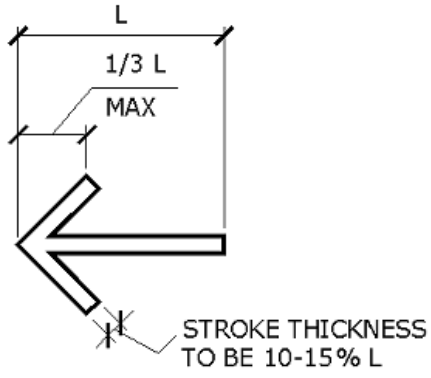
X02.5.1.4 Push Button Signage.

(A) Tactile arrow. Where there is a *push button*, there shall be a tactile arrow pointing in the direction of pedestrian travel controlled by the button. The arrow shall be raised at least 1/32 inch (0.8 mm), 1 1/2 inches (38mm) in length. Stroke width shall be between 10 percent minimum and 15 percent maximum the length of the arrow. The arrowhead shall be open and at 45 degrees to the shaft. The arrowhead shall be no more than 33 percent of the length of the arrow shaft.

Advisory: *If the curb ramp is not aligned with the crosswalk, the arrow will point in the direction of*

travel, not in the direction of the curb ramp orientation.

Figure X02.5 D Tactile Arrow



Diagrammatic view of arrow illustrating proportional relationships.

(B) Universal symbol. Controls are to include a universal tactile and visual symbol (if established by the Access

Board) that will go on or at the push button indicating the presence or absence of an accessible pedestrian signal at a *crosswalk*.

Figure X02.5 E APS Symbol

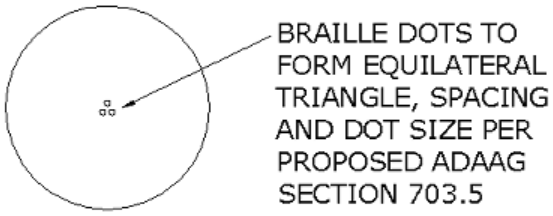


Diagram of three Braille dots forming an equilateral triangle centered on the face of a 2" push button.

Discussion: For the universal tactile and visual symbol, the committee suggests application of three dots in a triangle on the button as close to the center as practicable.

(C) Street name. Street name information shall be provided at pedestrian push buttons. The accessible street name information provided at a pedestrian push button shall include the street name (or a reasonable abbreviation) in grade 2 Braille and in tactile raised letters complying with Section X02.3 and Section X02.5.1.4. The sign shall be located immediately above the push button mechanism and parallel to the crosswalk controlled by the button. The street name shall be the name of the street whose crosswalk is controlled by the push button.

Advisory: *While this is in contrast to the convention in visual street naming, where the street name is parallel to the street itself in order to be visible to drivers and pedestrians, it is not in contrast to visual signs adjacent to pedestrian push buttons which indicate which street is controlled by the push button.*

Audible signage may be provided in addition to Braille and tactile signage. Audible signage can provide auxiliary information about the intersection, which can be of great value to persons with visual impairments and to persons benefiting from redundancies.

Discussion: The arrow and street name information at the push button will provide information accessible to blind pedestrians, now typically provided to sighted pedestrians by signage, to clearly indicate which crosswalk is controlled by the push button. The arrow must be oriented parallel to the crosswalk to give this information clearly; the specifications of the arrow are to make it more easily distinguishable by touch.

(D) Crosswalk mapping. Where a map of a crosswalk is associated with a push button, the map shall be visual and tactile. Maps shall have at least 70 percent *visual contrast*, light-on-dark or dark-on-light. The characters and/or symbols shall be raised 1/32 inch (0.8mm) minimum. The crosswalk shall be represented by a vertical line, with the departure end of the crosswalk at

the bottom of the map. The map shall be on the side of the push button housing that is furthest from the street to be crossed.

Advisory: *The above elements should be arranged at a push button as follows: symbol on the push button, arrow on or immediately above the push button, and signage above the arrow.*

X02.5.1.5 Locator tone. Where provided, *locator tones* shall meet the following requirements.

(A) Volume. Volume of the locator tone shall be at least 2 dB and no more than 5 dB greater than the ambient noise level and shall be responsive to level changes. At installation, signal system is to be adjusted to be audible at no more than 5 to 12 feet (1.5 - 3.7m) from the system or at building line, whichever is closer.

EXCEPTION: At locations with audible beaconing, in response to a long button press, the locator tone loudness may increase during the *pedestrian clearance interval* to allow the user to hear the tone on the opposite side of the intersection (see Section X02.5.2.3 (B)).

(B) Repetition. The locator tone shall be 0.15 seconds maximum in duration and repeat at one second intervals. Sound shall operate during the DON'T WALK and flashing DON'T WALK pedestrian clearance interval of the signal.

(C) Availability. The locator tone shall be audible whenever people are in the vicinity.

Advisory: *The locator tone may be initiated by a passive detector such as an infrared detector, and therefore sound only when pedestrian presence triggers the device.*

(D) Deactivation. The locator tone shall be deactivated during periods in which the pedestrian signal system is inactive.

Discussion: A locator tone notifies pedestrians who are blind or visually impaired of the need to push a button to request a WALK

signal. It also indicates the location of the push button. These specifications are the same as the specifications in the proposed MUTCD for the locator tone.

Research need: A variety of tones are currently utilized as locator tones. The above specifications describe the repetition rate of the tone, however the exact nature of the tone is not specified. Research is recommended to determine the most localizable tone in the presence of traffic sounds.

X02.5.2 Accessible pedestrian signals (APS).

X02.5.2.1 General. Where new traffic signals are installed, *accessible pedestrian signals (APS)* shall be provided when any of the following conditions are present:

(A) Actuation. An accessible pedestrian signal shall be provided where the timing of pedestrian phases is affected by *push button* actuation.

(B) Lead pedestrian interval. An accessible pedestrian signal shall be provided where the signal includes a leading pedestrian interval (LPI).

Advisory: *Without an accessible pedestrian signal, a blind pedestrian listening for a parallel traffic surge at a crosswalk with LPI may miss the walk interval and enter the crosswalk without enough time to complete the crossing before the signal changes.*

(C) Pretimed signal. An accessible pedestrian signal that is available at the option of the user shall be provided where there is a pretimed traffic signal that presents pedestrian signal indication information. In this instance, a push button shall be provided that actuates the accessible pedestrian signal.

Discussion: The primary technique that people who are blind or visually impaired have used to cross streets at signalized locations is to initiate their crossing when they hear the traffic alongside them

begin to move, corresponding to the onset of the green interval. The effectiveness of this technique has been reduced by several factors including: increasingly quiet cars, the availability of right turn on red (which masks the beginning of the through phase), complex signal operations and wide streets. Further, low traffic volumes make it difficult for pedestrians who are blind or visually impaired to discern signal phase changes. The increasing use of actuated signals, at which the pedestrian must push a button and cross during the pedestrian phase, requires blind pedestrians to locate the pedestrian push button and to cross only at the proper time during that phase. These changes in signalization make it necessary to provide the pedestrian signal information in an accessible format. In responding to a request for an accessible pedestrian signal at an existing intersection, the jurisdiction may find it useful to work closely with the blind pedestrian(s) who will be using the intersection and with an orientation and mobility specialist.

X02.5.2.2 Required features. Where *accessible pedestrian signals* are provided, they shall comply with the following requirements.

(A) Crosswalk indication. Accessible pedestrian signals shall clearly indicate which *crosswalk* has the walk interval. The use of two different tones as sole indication of which crosswalk has the walk interval is not permitted.

Advisory: *When walk interval information is broadcast from the push button housing, then separation of the push buttons combined with the required signage is a good means to provide crosswalk-specific information. A speech message may also be used to provide this information. The MUTCD specifies the wording of such a speech message. Remote infrared audible signs (RIAS), which are inherently directional, are another good way to clearly indicate which crosswalk has the walk interval. Additional strategies that may provide unambiguous information are an alternating audible signal or an audible signal from the far end of the crosswalk; however, this type of beaconing is not*

generally recommended; see X02.5.2.3 (B), Audible Beaconing.

(B) Walk indication. When indicating the walk interval, the accessible pedestrian signal shall deliver the indication in audible and in vibrotactile format. Signals providing accessible information in vibrotactile format only are not permitted.

(C) Locator tones. Where an accessible pedestrian signal is controlled by a push button, there shall be an associated *locator tone*.

(D) Walk interval tone. When an APS uses audible tones, it shall have a specific tone for the walk interval. If the same tone is used for the push button locator tone, the walk interval tone shall have a faster repetition rate than the associated locator tone. The two signals shall be distinguishable either by tone and/or by repetition rate. A voice message may be used for the WALK indication.

Where the APS provides signal information using tones, the tone shall consist of multiple frequencies with a large component at 880 Hz. The walk tone shall have a repetition rate of 5 Hz minimum and a duration of 0.15 seconds maximum.

Advisory: *Frequencies above 1 kHz are difficult for persons with an age related hearing loss to detect. Multiple frequencies will assist a larger population group of vision and hearing impaired persons.*

(E) Operating period. Under stop-and-go operation, APS shall not be limited in operation by time of day or day of week.

Advisory: *Information access must not be abridged by day or time. Rather than disconnect a device for periods of time, volume should modulate in response to ambient levels.*

(F) Activation. Actuating a single APS on an intersection is not intended to activate all other devices at all other *crosswalks*.

(G) Volume. Tones shall be at least 2dB and no more than 5dB greater than the ambient noise level and shall be sensitive to level changes. The walk tone shall be no louder than the locator tone. At installation, the signal system should be adjusted to be audible at no more than 5 to 12 feet (1.5 to 3.7m) from the system or at building line whichever is closer. If an audible tone is provided, the audible tone(s) shall be audible from the beginning of the associated crosswalk. Audible information shall be provided at the departure curb only.

EXCEPTION: Where audible beaconing is provided, the opposite beacon may be audible at the departure curb. A louder walk interval audible tone and subsequent *pedestrian clearance interval* tone may be provided after a long button press at intersections where audible beaconing is needed.

Advisory: *The APS specifications and sound levels recommended here are intended to provide precise information about the onset of the walk interval. Using special actuation as specified below, they may also function as audible beacons, giving assistance in alignment and crossing within the crosswalk.*

X02.5.2.3 Optional Features.

(A) Prolonged push button press. Additional features which may be required to make a specific intersection accessible shall be brought up by a prolonged press of the *push button*.

Advisory: *A long button press (e.g., pushing the pushbutton for 3 seconds) may bring up the accessible features or additional accessibility features of the individual device. An additional button should not be used to bring up additional accessibility features. All accessible features available are to be actuated in the same way. Thus, for a given signal, a long button press could request more than one additional feature. Possible*

additional features include: 1) sound beaconing by increasing the volume of the WALK tone and the associated locator tone for one signal cycle, so a blind pedestrian might be able to use the sound from the opposite side of the street to provide alignment information; 2) sound beaconing by alternating the audible WALK signal back and forth from one end of the crosswalk to the other; 3) providing extended crossing time; and 4) providing a voice message with the street names at the intersection.

(B) Audible Beaconing. Where provided, audible beaconing signals shall be provided during the walk interval. Audible beaconing may be provided during the *pedestrian clearance interval*, if no conflicting traffic movements are permitted.

Advisory: *Audible beaconing is usually not needed. Beaconing may be needed at intersections that are wide, have low parallel traffic volume, or have skewed crosswalks. Where beaconing is desired as an additional accessibility feature, it should be actuated by depressing the push button for a longer period of time.*

Where beaconing is provided, it will be most effective if it functions only for that crosswalk where the push button was actuated. The area of definite audibility in the direction of travel should be detectable within one-third of the width of the crosswalk from the entrance to the crosswalk. Beaconing may be provided by the increase in the locator tone (see Section X02.5.1.5 (A.)).

Discussion: The technology of accessible pedestrian signals has developed in recent years. There are now four types of APS available in the United States. Overhead signals mounted on the pedestrian signal indication have been most commonly used, but problems noted include: difficulties identifying which signal is associated with which crosswalk and which signal is associated with which

intersection; noise complaints from neighbors; and difficulty by blind pedestrians in hearing traffic above the loud sound of the APS.

Signals in which sound comes from the pedestrian push button and include a locator tone and vibrotactile information, are used extensively in Europe and Australia and are now available in the United States. There are also signals that are vibrotactile only, but that system is not recommended by the committee. Sound transmitted to a receiver carried by the blind pedestrian, using RIAS or Light Emitting Diode (LED) technology, has also been used to provide information about the status of the walk signal and to provide additional information about the location and the nature of the intersection. RIAS systems provide a beaconing effect by means of the directional sensitivity of the receiver units.

The features and specifications listed above are currently appropriate given the technology and research available. Future technological developments may lead to additional alternatives. The committee wished to open the door to new technologies, but was interested in clarifying some features that most members considered essential in an APS. The committee did not want travelers to be required to carry a single, function-specific receiver in order to access intersection information.

While sound beaconing is an alternative that may assist a blind pedestrian in aligning at a difficult crosswalk, the committee did not feel that the use of beaconing at all intersections is necessary. There are concerns that loud overhead APS may mask traffic sounds that are useful to the blind pedestrian, and subject residents who live near the APS to unacceptable noise levels. Nearby residents have objected to audible signals in the past where they used two different sounds in a beaconing manner to alert users. By providing tones with volume that modulates to ambient noise levels, noise intrusion beyond the intended hearing range is minimized and termination of the tone during night hours is unnecessary.

Research need: A variety of tones, speech messages, or melodies are currently utilized to indicate the walk interval. Research is recommended to determine the most localizable tone in the presence of traffic sounds. The committee felt there was enough information to provide basic specifications for the walk interval tones. Research now being conducted by the National Institutes of Health on accessible

pedestrian signals will compare usability of overhead and pedestrian button mounted speakers for orientation and alignment and provide additional information regarding the use of tones, speech messages, or alternating signals for localization.

X02.5.3 Other pedestrian signals and timing controls.

X02.5.3.1 Other *pedestrian* signals and timing controls not specifically described elsewhere shall comply with the requirements of this section.

Advisory: *When a dedicated phase for left-turning auto traffic precedes the through movement and the walk interval, it increases the difficulty for persons using auditory cues to accurately determine the appropriate time to start crossing. It is easier to determine the appropriate time to start when the through movement occurs first and the left-turning movement afterward.*

X02.5.3.2 Mid-block crosswalks. Reserved.

Research need: The committee had a lengthy discussion about how best to notify blind and visually impaired pedestrians of the availability of a mid-block crosswalk. The committee discussed requiring a push button with a locator tone at mid-block unsignalized crosswalks. The button would initiate a speech message notifying the user of the unsignalized condition. However, the committee was concerned about diluting the meaning of a locator tone. The committee decided that a guidance surface would be preferable to a locator tone. However, at this time the information necessary to fully specify the texture, placement, material, contrast or other characteristics of guidance surfaces is not available. As this research is completed, requirement for a detectable surface may be appropriate.

X02.5.3.3 Near side pedestrian signals. Reserved.

Discussion: Providing pedestrian signal indication on the near side of the crosswalk is of direct benefit to persons with low vision and to persons benefited by redundancies. Use of larger devices and signage which is visible at near side curbs is encouraged.

In the project area, though all pedestrian controlled signals had signs indicating the direction that the button serviced, none of the signs had tactile arrows. There were a very few pedestrian controlled signals that had a tactile arrow on the control activation button itself.

12.4 Crosswalks

Crosswalks need to meet the same criteria as sidewalks since they are a part of the pedestrian path of travel. The worst problems are indicated in the ***2016 DDA Database_Curbs & Sidewalks***.

In making street repairs, making sure the repaired area is level with the street is the main consideration, as well as repairing potholes.

Several intersections currently under construction also had that problem. Monitoring the street at intersection heavily used by trucks is a key to maintaining ADAAG compliance.

13. Wayfinding

13.1 Diagonal Crosswalks

Crosswalks that are not perpendicular to both sides of the street pose a special problem for people with vision problems. They may start crossing a street and not reach the other side: instead they walk down the middle of a street. On the north side of Fulton, opposite the southbound lane of Ottawa there is a crosswalk that connects with the southwest corner of Ottawa and Fulton. A person who cannot see the crosswalk could travel straight across Fulton and proceed to walk down Ottawa Street in the traffic lanes.

Moving the curb ramp on the north side of Fulton so that the crosswalk is at a right angle to the sidewalk edge and create a perpendicular crosswalk with the curb ramp on the south side of Fulton, would help resolve this dangerous situation.

13.2 Open Areas- Wayfinding

Way finding strips are a 18” strip in the middle of a path of travel with a different texture, detectable by a person with blindness’s cane. They allow a person to travel through open areas along the path of travel. Areas where people can lose orientation includes plazas, such as Calder Plaza, and along areas Campau Street where there are 5 contiguous driveways and alleys, without any buildings in between.

13.3 Closed Sidewalks

Several sidewalks on throughout the project area were closed or incomplete during the survey period. Information was requested by Disability Advocates of Kent County to the Downtown Grand Rapids, Inc., for the 2017 construction schedule for upcoming projects, but not much information was available. This resulted in some awkward situations where some of the areas that were evaluated by Disability Advocates were, shortly after the review process, renovated. There were no warnings posted that extensive construction projects were to soon commence.

The construction zones that were encountered in the project area had very few accessible indicators that the zone was closed to pedestrian traffic. For people with vision problems, they cannot jay-walk across a driveway. There should be a warning before the segment of sidewalk that does not connect to another sidewalk. This indicator should be substantial, hard to displace, and contain a button with audible information and suggested detours.

14. Overview of Survey Area &

Where Remedial Action is Required

Below is a list of the most essential remedial actions needed to bring the specific problems up to ADAAG standards in each area surveyed. *Safe passage for most people* was the standard used. It is not an exhaustive list, but it would facilitate access in the area.

14.1 Northwest Quadrant

1. Most inaccessible street: Front Street NW.
2. Sidewalks and Crosswalks needing repair:
    a. East and West side of Front Street, between Leonard Street NW & 4th Street NW.
    b. East and West side of Ottawa Avenue NW, between Coldbrook Street NW & Newberry Street NW.
    c. East and West side of Summer Avenue NW, between Bridge Street NW & Pearl Street NW.
3. Curb ramps: restore damage curb ramps, even out the transitions, and lower the slopes so that the ramp is not steeper than 8.3% with a cross slope not more than 2% with flares that are not more than 10%. Replace curb ramps with stamped concrete with metal detectable warning.
4. Driveways: lower slopes of the driveways that cross the sidewalks to be not more than 8.3% with a cross slope not more than 2%.
5. Crosswalks: restore the visual indicators. These may be paint, brick, or concrete.
6. Sidewalks: Restore sidewalks along the bridges on Pearl, Michigan, and Fulton. Replace grates in sidewalks with models that have openings that are not greater than ½-inches in length or width.

14.2 Northeast Quadrant

1. Most inaccessible street: Division Avenue N.
2. Sidewalks and Crosswalks in need of repair:
    a. East and West side of Division Avenue N, between Library Street NE & Michigan Street NE.
    b. South side of Michigan Street, between Ionia Avenue NE & Coit Avenue NE.
    c. East and West side of Ransom Avenue NE, between Fulton Street E & Lyon Street NE.
3. Curb ramps: restore damage curb ramps, even out the transitions, and lower the slopes so that the ramp is not steeper than 8.3% with a cross slope not more than 2% with flares that are not more than 10%.
4. Driveways: lower slopes of the driveways that cross the sidewalks to be not more than 8.3% with a cross slope not more than 2%.
5. Crosswalks: restore the visual indicators. These may be paint, brick, or concrete.
6. Sidewalks: Remove changes in level and repair the tree/sidewalk transitions. Restore the sidewalks along bridge on Michigan over Division. Replace grates with models that have openings not greater than ½-inches in length and width. Signage indicating alternate routes in the Hillside area.

14.3 Southwest Quadrant

1. Most inaccessible street: Wealthy Street SW.
2. Sidewalks and Crosswalks in need of repair:
    a. East and West side of Market Avenue SW, south of Oakes Street SW.
    b. North and South side of Wealthy Street SW, between Grandville Avenue SW & Division Avenue S.
    c. East and West side of Front Street SW, between Butterworth Street SW & Wealthy Street SW.

3. Curb ramps: restore damage curb ramps, even out the transitions, and lower the slopes so that the ramp is not steeper than 8.3% with a cross slope not more than 2% with flares that are not more than 10%.
4. Driveways: lower slopes of the driveways that cross the sidewalks to be not more than 8.3% with a cross slope not more than 2%.
5. Crosswalks: restore the visual indicators. These may be paint, brick, or concrete.
6. Sidewalks: Repair the brick trim along Division Avenue S to remove changes in level. Repair the tree/sidewalk transitions. Restore the sidewalks along bridge on Wealthy over US131. Either install curb ramps along the Wealthy Street Bridge over US131, install an accessible sign before Wealth Street SW overpass indicating that the sidewalk is not on an accessible route. Repair the grading for the Railroad tracks on Market and Wealthy, and reduce changes in level and gaps.

14. 4 Southeast Quadrant

1. Most inaccessible street: Sheldon Avenue SE.
2. Sidewalks and Crosswalks in need of repair:
    a. North and South side of Cherry, between Division Avenue S & La Grave Avenue SE.
    b. East and West side of Sheldon Avenue SE, Between Fulton Street E and Maple Street SE.
    c. East and West side of La Grave Avenue SE, between Fulton Street SE & Cherry Street SE.
3. Curb ramps: restore damage curb ramps, even out the transitions, and lower the slopes so that the ramp is not steeper than 8.3% with a cross slope not more than 2% with flares that are not more than 10%. Replace curb ramps with stamped concrete with metal detectable warning.
4. Driveways: lower slopes of the driveways that cross the sidewalks to be not more than 8.3% with a cross slope not more than 2%.
5. Crosswalks: restore the visual indicators. These may be paint, brick, or concrete.
6. Sidewalks: Repair the brick trim along Division Avenue S to remove changes in level. Repair the tree/sidewalk transitions.

Replace grates in sidewalk with models that have openings not greater than ½-inches in length and width.

15. Suggested Remedial Actions

There may be legal grounds for recourse against contractors and design professional who were responsible for compliance with then ADAAG. Areas that were renovated, after the 2010 edition ADAAG became effective, should comply with the ADAAG. There is no provision for a “transition plan” for noncompliant work done after that.

ADA educational materials are readily available for use by City staff on the ADA.gov website.

All areas that have an impact on ADA compliance need to pay attention to the ADAAG requirements.

16. Summary

The City of Grand Rapids deserves credit for attempting to comply with the Americans with Disabilities Act. To the casual observer without a disability, the survey area looks friendly to people with disabilities. To those people with disabilities who use the pedestrian circulation elements, certain spaces may be very difficult, or even impossible, to access. If the Downtown Development Authority desires to maximize the potential to attract conventions and employers desiring a diverse work force, including people with disabilities, meeting the minimum ADAAG requirements and going further, by following best practices, will help achieve those goals.

APPENDIX

Project Area