

# **Muscatine Sidewalk Policy**

**Updated March 16, 2023**

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## Introduction

A critical step towards improving the health and quality of life of the Muscatine community is to increase access to safe sidewalks for citizens to use for recreational purposes, or to walk or bike to their destinations. Of particular importance is providing the means for children to walk or bike to school more frequently. The City of Muscatine recognized the importance of this goal in its recently adopted Comprehensive Plan in the following statement:

*“Members of the community should have the opportunity to travel safely to their destination by foot, bike, or by other non-motorized means. Children should be able walk or bike to their school safely. To achieve this goal critical routes for non-motorized travel, linking schools, parks, bus stops, most major employment and shopping centers, and are located within 400 feet of most residences in Muscatine will be identified. These routes will be made safe and attractive for travel by foot, bike, wheelchair, and all other forms of legal non-motorized travel.”*

## Purpose

The purpose of this document is to establish policy and guidelines for the inspection, replacement, and installation of sidewalks. In implementing the policy the City will: ensure that sidewalk construction conforms to the provisions of the Comprehensive Plan, ensure compliance with Federal ADA standards, and promote safe, walkable, and sustainable neighborhoods. This policy formalizes operational procedures and inspection documentation to maximize the effectiveness of City sidewalks and maximize public safety while maintaining fiscal responsibility. The City recognizes that it is not possible to maintain all sidewalks in perfect condition. The City also recognizes that certain user groups, primarily seniors and individuals with disabilities, are more sensitive to sidewalk problems than other users. An effective public education and feedback program is also important.

## Definitions

**ADA:** Americans with Disabilities Act - accessibility guidelines.

**Sidewalk:** Any improved portion of the public right-of-way lying between the edge of the improved roadway and adjacent property line intended for the use of pedestrians.

**City:** Shall mean the City of Muscatine, Iowa.

**Courtesy Walk:** A private sidewalk which connects to the public sidewalk and leads to the street, but does not lead to a crosswalk or function as part of an approved transit stop.

**Right-of-way:** A general term denoting land, property or interest therein acquired for or devoted to a highway, street, alley, or easement.

**Department:** The community, section, or agency that operates the sidewalk improvement program.

**Public Property:** Shall mean the dedicated right-of-way which includes public highways, streets, alleys and easements.

**Private Property:** Shall mean any property not belonging to the City.

**Street:** A public thoroughfare in the City that is designed for public travel and transportation.

**Driveway:** An area of private property outside the sidewalk for the purpose of parking vehicles or access to remaining property or structures.

**Driveway Approach:** An area within the right-of-way located between the sidewalk and the edge of the improved roadway for the purpose of vehicular access to the driveway.

**Owner:** Shall mean the individuals holding title to the property.

**Inspector:** Shall mean any representative of the City designated to perform the inspections.

# Responsibilities of the Adjoining Property Owner

## **Damaged Sidewalks Requiring Replacement:**

It shall be the duty of every owner of a lot or piece of ground fronting on any street to keep and maintain in repair any sidewalks, whether permanent or temporary, which are, or shall be, laid along such street in front of such lot or piece of ground. Without limiting the generality of the foregoing, when one or more of the following conditions exists, sidewalks shall be replaced or repaired as indicated:

- A.** If more than forty percent (40%) of the surface of any square section of the sidewalk has spalled out leaving a rough, uneven surface, that square section shall be replaced.
- B.** If any square section has cracked into sections less than one square foot in area, that square section shall be replaced.
- C.** If sections have settled or heaved to the extent that the resulting displacement at cracks and joints exceeds three-quarters inch (3/4") and/or creates a hazardous condition, such section or sections shall be replaced to eliminate such displacement or condition.
- D.** If sidewalks have settled and adjacent soil has built up higher than the sidewalk or drainage is otherwise impeded to the extent that water accumulates on the sidewalk to a depth exceeding one-half inch (1/2") over an area of two (2) square feet or more, that section of sidewalk shall be replaced or the drainage otherwise improved to eliminate such accumulation of water.

## **Courtesy Walks:**

Although they are often located in the city right of way, courtesy walks are considered private property because they solely serve private buildings and do not connect the main walking surface of the sidewalk to another public walking surface. Courtesy sidewalks are allowed to be constructed and may be replaced if they are removed during a construction project. Installation or replacement of courtesy walks shall require the same permits and inspections as standard sidewalk constructed within the right of way.

## **Snow and Ice:**

The occupant(s) of each and every building, dwelling, structure, or the owner of any unoccupied lot fronting upon any street or sidewalk, shall clear the entire public sidewalk in front of such building, dwelling, structure, or unoccupied lot, as the case may be, of all snow or ice within twenty-four (24) hours of termination of snowfall, and cause the same to be kept clear of snow and/or ice. If such ice is smooth and hard and not easily removed, such ice shall be covered with ashes, salt, sawdust, or other non-slippery substance sufficient enough to make the public sidewalk a safe passageway.

Whenever any snow or ice shall be allowed to remain upon any public sidewalk, permanent or temporary, within the City of Muscatine for more than a twenty-four (24) hour period of time, the City will attempt to notify the adjoining property owner of the violation as outlined in the City Code. If this attempt is unsuccessful or the owner fails to comply with the order of the City, the City shall cause the public sidewalk to be cleared, or made safe for passage by either private contract or City employees and equipment. The City will include the costs of treating the public sidewalk in an itemized statement, and if allowed by Council, shall by resolution assess the cost as a special assessment against the property, as outlined in the City Code.

### **Obstructions:**

If a sidewalk has been heaved up by a tree's root, and it is judged that removing the root(s) could cause the tree to die or fall, it is recommended the tree, as well as the root, be removed. This is the responsibility of the adjoining property owner, but there is a possibility of getting financial assistance from the City's Parks and Recreation Department if the tree is listed as an eligible species. The program is administered by the Weed Park Maintenance office, and the section of City Code on tree planting policy is outlined in the Appendix for reference. Any places where defective sidewalks have been removed, the property owner must provide lighted barricades to warn pedestrians during the night until the job is finished. For those who cannot provide such equipment, the Public Works Department will rent the proper equipment for a daily fee plus deposit. This service is administered by the Public Works Department.

### **Specifications for New Sidewalks and Replacement of Damaged Sidewalks:**

In reference to construction standards, both Muscatine's City Code and their internal document on sidewalk repair provides explicit specifications on both the construction of new sidewalks and the replacement of damaged sidewalks. Regarding sidewalk design, the Iowa Statewide Urban Design and Specifications (SUDAS) Manual contains a thorough overview of design standards for both sidewalks and ADA compliant curb ramps at sidewalk intersections. Both are available online and/or in the Public Works Department. The standard must be followed for all new and replaced sidewalks.

## **Existing Sidewalk Network and Curb Ramps**

The Muscatine Area Geographic Information Consortium (MAGIC), <http://magic-gis.com/magic/>, provides online access to the location of the existing sidewalk network and existing curb ramps that are in the City of Muscatine. Curb ramps are critical to providing access between the sidewalk and the street for people who have disabilities. Whenever new sidewalk construction or extensive sidewalk repair occurs on a section of a street that includes its curb ramps, then those curb ramps will be upgraded to be ADA compliant. Also, whenever street resurfacing or reconstruction occurs adjacent to an uncompliant ramp, the curb ramp shall be made compliant, if possible. If it is not possible, an alternative access point will be established. The City will complete a certain percentage of new ADA ramps every year depending on city funding available.

## New Sidewalk Construction

The City of Muscatine defines the requirement for new sidewalks in the following four ways.<sup>2</sup>

- A.** New property developments, such as subdivisions, are covered under Planning and Zoning requirements. As a new house is constructed, a sidewalk is installed by the developer after heavy equipment finishes deliveries and prior to issuance of an Occupancy Permit.
- B.** The City shall approach every transportation improvement project as an opportunity to improve or construct needed sidewalks within the project corridor. Sidewalk improvements and construction will be made into an integral part of the larger transportation improvement project.
- C.** The City annually allocates a portion of its Road Use Tax Funds from the State of Iowa for the construction of new sidewalks. The new sidewalks using these funds will be of highest priority using the criteria set forth in this policy. The cost of sidewalk construction must fit within a given years allocation.
- D.** The City Council may order installation of sidewalks. A policy was established by the City Council in 1981 which included an order of priority along with factors to take into consideration when developing priorities.

## Criteria for the Prioritization of Sidewalk Construction Projects

The City's goal is for all members of the community to have the opportunity to travel safely to their destination by foot, bike, or by other non-motorized means. Improvements to the City's sidewalk network will be one of the primary means of achieving this goal. However, with budgetary and physical constraints, this goal will take a significant amount of time to fully achieve. Therefore, the City will prioritize sidewalk improvements in a manner that provides the greatest short and medium term benefits. The Comprehensive Plan recognized the need to prioritize sidewalk improvements by establishing an initial target of creating a sidewalk network that allows all children to walk to school safely. The Comprehensive Plan further directs that initial work will be established on improving the sidewalk focus on safe routes for non-motorized travel that radiate out from schools to the residential areas that they serve. Then these school-centered networks of safe routes for non-motorized travel will be linked together to form a community-wide network of routes for non-motorized travel. Further criteria which will be used in establishing priority of projects to address gaps in sidewalk network are as follows:

- Existing level of non-motorized traffic
- Continuity with existing sidewalks
- Presence or absence of viable alternate routes for non-motorized traffic
- Proximity to shopping areas, parks, recreation areas or schools

## **Funding Approach**

Funding for an annual sidewalk inspection and construction process will be on a regular and predictable basis, with total sidewalk replacement required only if non-compliant with City Code. Total sidewalk replacement will be completed at the adjoining owner's expense.

A general outline of sidewalk construction projects and cost responsibilities is provided below:

<b>Sidewalk Construction Project</b>	<b>Project Cost and Party Responsible</b>
Repairing Defective Sidewalks	The City will remove defective sidewalks (per the City Code) upon request, and the homeowner is responsible for the replacement and new installation at their own cost.
Construction of New ADA Ramps	The City will complete a certain percentage of new ADA ramps per year, depending on the funding that is available.
Major New Sidewalk Projects	Major new projects are completed at the City's expense, however adjacent property owner will then assume maintenance responsibility going forward.
Addressing Gaps in the Sidewalk Network	The City will complete existing sidewalk gaps based on priority and funding availability annually.
New Subdivision Construction	Sidewalks for new property developments, such as subdivisions, are installed by the developer at their own cost.

## **Regular Sidewalk Inspection**

It is important that the city conducts regular sidewalk inspection to continually assess the condition of existing sidewalks, and pinpoint where sidewalks are damaged to the point of noncompliance to City Code. An inventory of current sidewalk conditions will be established in tandem with the sidewalk inspections that are conducted.

Relatedly, it should be noted that any time an existing sidewalk faces alteration beyond regular maintenance, then its curb ramps must also be upgraded to be ADA compliant.

### **Purpose:**

Currently, the City of Muscatine only conducts sidewalk inspections as a reaction to complaints received about specific locations in dire need of enforcement actions. By conducting regular sidewalk inspection, the identification and maintenance of noncompliant, unsafe, and ineffective sidewalk sections will remain proactive and action-oriented.

### **Inspection and Inventory:**

The Public Works Department will divide the City into separate sections, and will inspect an entire section within one year's time. The Department will then rotate their inspection to another section in the following year, and so on, ensuring a systematic approach wherein every portion of the city is inspected at least once every ten years. An inventory of all sidewalks will be maintained by the Department of Public Works, which will include a history of inspections and conditions information.

## **Public Concerns:**

Citizen concerns related to sidewalks or curbs will be documented by the City of Muscatine and directed to either the Director of Public Works or the City Engineer. All concerns will be investigated in a timely manner considering manpower and workload.

## **Priority:**

- **Priority 1:** Locations that are damaged are an immediate serious safety concern, and are considered to be non-compliant with the City Code and shall be replaced by the adjacent owner at their own expense.
- **Priority 2:** Locations that have a condition of Poor or Average or where the inspector determines that the problem is not an immediate safety concern, and may benefit from particular repair methods.
- **Priority 3:** Locations that have a condition of Fair or New or where the inspector determines that the problem is not a safety concern, and may or may not benefit from particular repair methods.

## **Priority Actions:**

- If a Priority 1 hazard is identified during an inspection, the hazard will be marked and the City Engineer, or his/her designee, will notify the owner in accordance with existing codes to require replacement.
- If a Priority 2 hazard is identified during an inspection, the hazard will be marked and the City Engineer, or his/her designee, will receive a report of the hazard once scheduled inspections are complete, which may be directed to the owner if they may benefit from a particular repair method.
- If a Priority 3 hazard is identified during an inspection, a report of the hazard will be submitted to the City Engineer, or his/her designee, once scheduled inspections are complete, which may be directed to the owner if they may benefit from a particular repair method.

## **Replacement and Repairs:**

- Priority 1 problems, as confirmed by the City Engineer, or his/her designee, will be replaced by the owners in accordance with existing codes that require replacement.
- Priority 2 problems, as confirmed by the City Engineer, or his/her designee, will be repaired as soon as practical for the owner (or City, if public property). These properties are still compliant with City Code, but may benefit from sidewalk repair best practices.
- Priority 3 problems, as confirmed by the City Engineer, or his/her designee, may be delayed for several years, depending on the severity of the damage.

## Figure 1: Sidewalk Surface Deficiencies

- **Displacement or heaving:** when the edges of sidewalk squares are vertically offset. This can be caused by frost, tree roots and other factors. It should be noted that the Muscatine City Code has regulations on tree planting in public ways, including a right-of-way approved tree planting list.
- **Cracks** occur in sidewalk squares and can be a tripping hazard. Minor cracks may not be a problem but when they begin letting water in and grass grow up through them, they can grow into a tripping hazard.
- **Spalling** occurs when extreme temperatures, salt and other de-icing chemicals weaken the surface of concrete, masonry, or brick, causing it to chip, pit, and scar. Spalling can be recognized by distinct deformity on the surface, with chips, craters and broken pieces.
- **Obstructions** such as bushes, grass, flowers, fences or low-hanging tree limbs can interfere with accessibility for people walking or using wheeled transportation. Anything that penetrates into the sidewalk space or is within a minimum height limit of 8 feet is considered an obstruction. According to ADA requirements, sidewalks must be constructed to allow the minimum width requirement of 36 inches between the edge of an obstruction and the edge of the sidewalk. In some cases, if a sidewalk cannot be constructed to comply with this guideline, the obstruction may need to be removed or relocated.

## Sidewalk Repair Best Practices:

### 1. Crack filling

Crack filling is done primarily to seal concrete cracks to prevent moisture from penetrating the base, causing additional crack widening and uneven settlement. Crack filling is appropriate for longitudinal cracks where separation is less than 12mm ( $\frac{1}{2}$ ") and differential settlement has not occurred. Cracks are routed or sand blasted, and then filled with a sealant. Crack filling is usually done on an area basis as crews and budget are available.

### 2. Mud jacking

Mud jacking is used to correct differential settlement between concrete panels. It is appropriate where individual panels are in relatively good condition but have settled adjacent to one another.

### 3. Concrete Planing

Concrete planing is a recently perfected technology which is used to plane up to 20mm ( $\frac{3}{4}$ ") of concrete to flatten out trip edges. Planing is done on a contract basis, paid by the meter of "Trip Edge" removed, and done on a location-by-location basis.

### 4. Replacement

Sidewalk replacement is appropriate if severe damage has occurred to the sidewalk which cannot be corrected by one of the methods described above. Replacement is most cost effective when done on an area basis, but replacement at individual locations is sometimes necessary.

**Interpretation:**

The City of Muscatine acknowledges that all sidewalks cannot be maintained in perfect condition due to fiscal and practical constraints. The timing and scope of sidewalk and curb rehabilitation will be planned at the discretion of the City Engineer, within the scope of the current operating budget, to balance sidewalk safety and appearance with other Public Works priorities. The aim of this policy is to maintain the City of Muscatine's sidewalks and curbs in as safe a condition as practical, in balance with fiscal reality and other priorities. The Iowa SUDAS guidelines shall be the current direction for design and specifications when constructions or repairs are done.

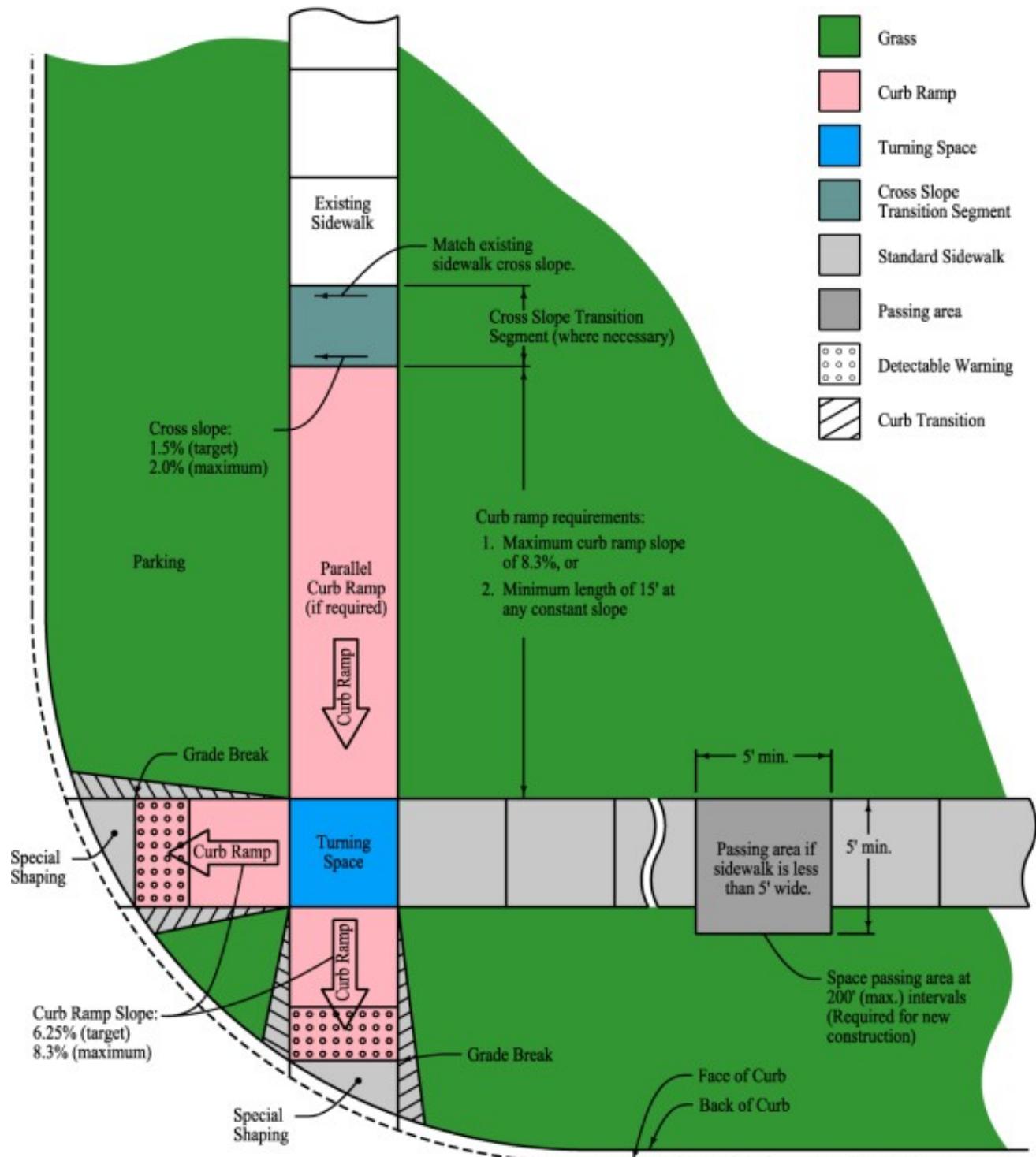
## **Appendix A: Iowa Statewide Urban Design and Specifications (SUDAS)**

The following guidelines are copied from Iowa Statewide Urban Design and Specifications (SUDAS). The language for both General Sidewalk Requirements and Accessible Sidewalk Requirements originates from Chapter 12 of the SUDAS Design Manual, whereas the more technical schematics and specifications for handling stems from Section 7030 of the SUDAS Specifications Manual. Both the Design and Specifications Manual can be found in its entirety online at <http://www.iowasudas.org/>.

### **General Sidewalk Requirements**

Sidewalks are an integral component of the transportation system. They provide a designated area, separated from the roadway, for pedestrians to use for both travel and recreation. Along roadways where pedestrians are present or anticipated, consideration should be given to constructing sidewalks on both sides of the road to minimize conflicts between vehicles and pedestrians. Where sidewalks are provided, they must be constructed so they are accessible to all potential users, including those with disabilities. Design standards for pedestrian access routes are provided in Section 12A-2 of the SUDAS Design Manual.

**Figure 2: Standard Sidewalk and Curb Ramp Elements**

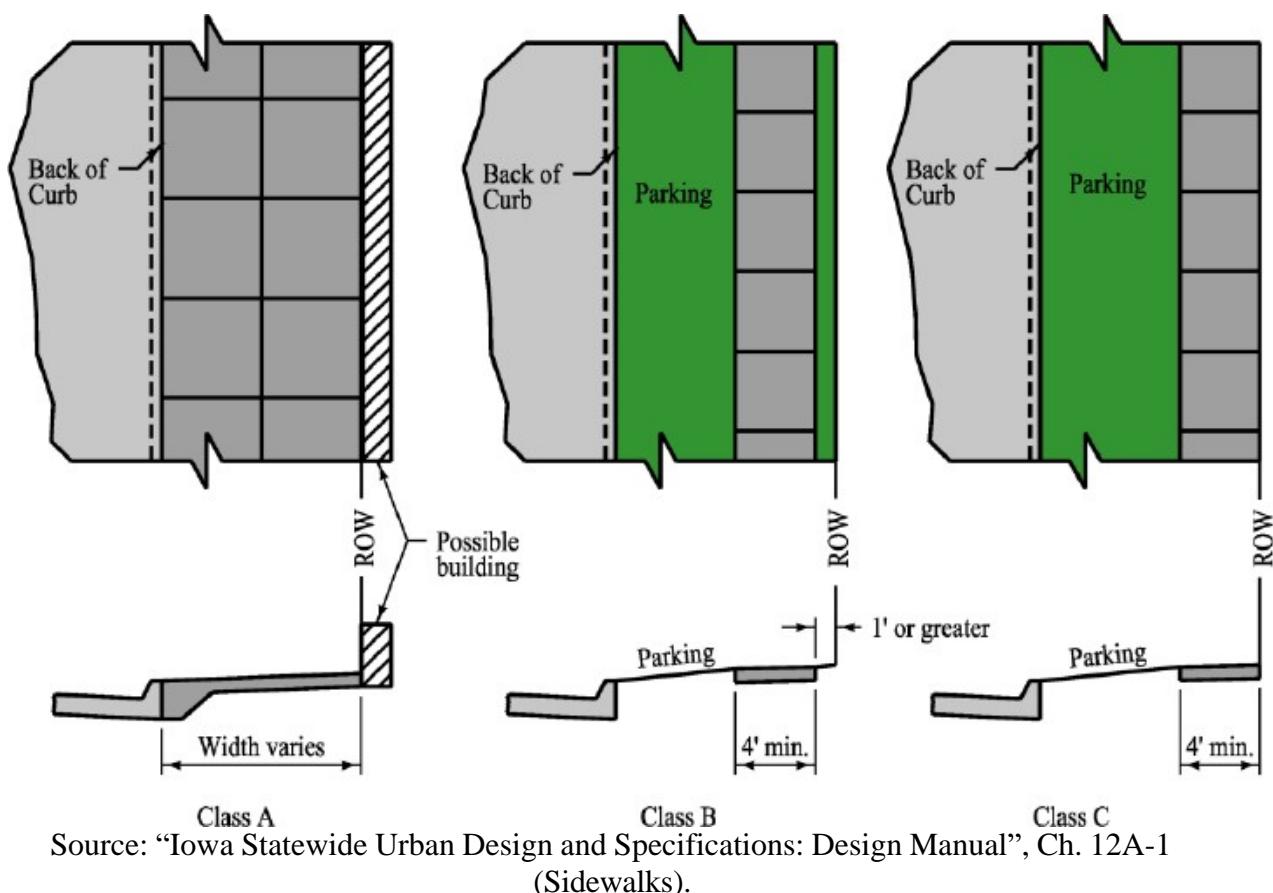


Source: "Iowa Statewide Urban Design and Specifications: Design Manual", Ch. 12A-1 (Sidewalks).

SUDAS identifies three classes of sidewalks, which are described below. Class B and C sidewalks provide a grass strip between the back of curb and the sidewalk, often referred to as the “parking.”

- 1. Class A:** Class A sidewalks begin at the back of curb and generally extend to the right-of-way line. These types of sidewalks are typical in downtown areas. Consideration must be given to the location of street signs, street lighting, utilities, mailboxes, snow storage, and other obstacles when utilizing Class A sidewalk.
- 2. Class B:** Class B sidewalks are constructed with the back edge of the sidewalk 1 foot or more off of the right-of-way line.
- 3. Class C:** Class C sidewalks have the back edge of the sidewalk on the right-of-way line.

**Figure 3: Classes of Sidewalk**



## **Construction Requirements**

**1. Sidewalk Thickness:** Sidewalks should be constructed of PCC with a minimum thickness of 4 inches. Where sidewalks cross driveways, the minimum thickness is 6 inches, or the thickness of the driveway, whichever is greater.

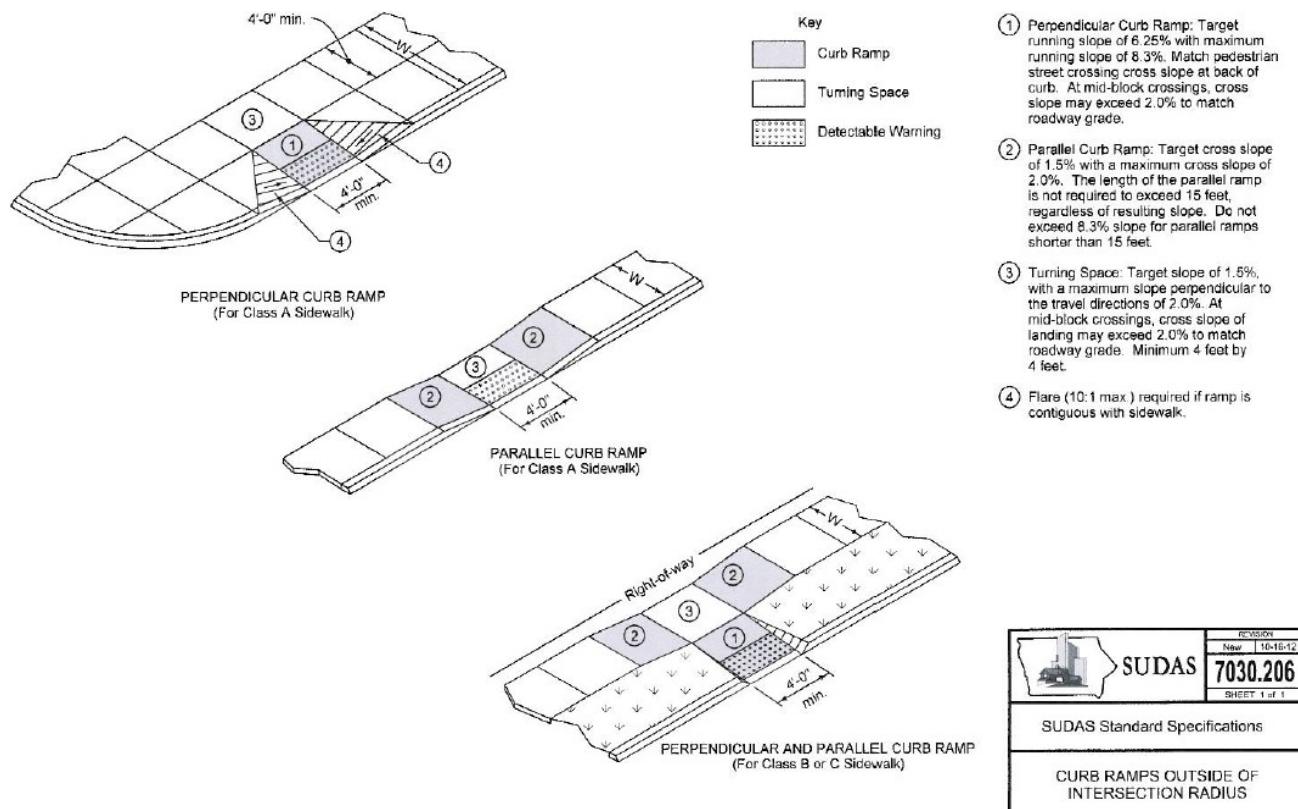
**2. Obstructions:** All obstructions are to be removed or relocated except for those that are impractical to move. In new development areas, these items should never occur, but in older, established areas, they will have to be addressed. In the case where the sidewalk is shifted to avoid an obstacle, use of a minimum 2:1 taper to and from the obstruction with a straight section adjacent to the obstruction should be considered. Flatter tapers may be used if space is available and user volume is high.

**3. Construction Tolerances:** Dimensions are subject to conventional industry tolerances except where dimensions are stated as a range, minimum, or maximum. Conventional industry tolerances include tolerances for field conditions and tolerances that may be a necessary consequence of a particular manufacturing process. Conventional industry tolerances do not apply to design work; see PROWAG R103.1. Designing features to the target values, rather than the allowable maximum or minimum, allows for appropriate construction tolerances and field adjustment during construction while maintaining compliance with PROWAG.

## **Accessible Sidewalk Design**

It has been common practice to place the responsibility for sidewalk ramp layout on the contractor or construction inspector. This has resulted in the sidewalk, curb ramps, driveway crossings, etc. being designed in the field, often with mixed accessibility results. As public right-of-way accessibility comes under greater scrutiny, it is increasingly important that newly constructed or altered sidewalks meet accessibility requirements. Therefore, sidewalks, curb ramps, and street crossings shall be included as part of the design process and the details of those designs shall be included in the contract documents as appropriate. Projects reviewed or let by the Iowa DOT will require use of S sheets according to the Iowa DOT Design Manual Section 1F-18.

Figure 4: Curb Ramps Outside of Intersection Radius



Source: "Iowa Statewide Urban Design and Specifications: Specifications Manual", Section 7030.206