

CITY OF URBANA, IOWA



**GENERAL SUPPLEMENT TO SUDAS
DESIGN MANUAL**

2021 EDITION

**CITY OF URBANA
102 CAPITOL AVENUE
URBANA, IA 52345**

TABLE OF CONTENTS

CHAPTER 1 – GENERAL PROVISIONS	
1C-1 Submittal Procedures	2
1D-1 Detailed Plans for Construction of Public Improvements	2
1H Design Survey Standards (New)	
CHAPTER 2 – STORMWATER	
2A-1 General Information	3
CHAPTER 4 – Water Mains	
4C-1 Facility Design	4
CHAPTER 5 – Roadway Design	
5C-1 Geometric Design Tables	4
5C-2 Geometric Design Elements	4
5F-1 Pavement Thickness Design	4
5N-1 Traffic Impact Studies	5
CHAPTER 12 – Street Tree Criteria	
12A-1 General Sidewalk Requirements	5

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2020 EDITION

This general supplement amends or supplements the Statewide Urban Design and Specifications (SUDAS) Design Manual and other provisions of the Contract Documents as indicated below. All provisions which are not so amended and supplemented remain in full force and effect.

The terms used in this general supplement will have the meanings indicated in SUDAS.

Chapter 1 – General Provisions

1C-1 Submittal Procedures

A. Construction Plans and Specifications Submittal Procedure:

Add the following to Item 9:

“Submit design files in AutoCAD or GIS Shapefile format that shows all proposed public utilities, private service line connections, streets, sidewalks, and other items to be publicly maintained.”

1D-1 Detailed Plans for Construction of Public Improvements

A. Public Improvement Plan Sheet Requirements

Delete Item 2. Plan Sheet Material

C. Public Improvement Plan Sheet Requirements

Replace item 7 with the following:

“Location, size, and type of all sewer stubs and wyes. Reference stub locations to the nearest manhole. When risers are to be installed, show riser location and size.”

Add Paragraph J – Design Survey Standards as follows:

J. Design Survey Standards

All design survey shall be performed directly by or under responsible charge of a Professional Engineer or Professional Land Surveyor licensed in the State of Iowa.

References

Cedar Rapids Coordinate System:

Name: US State Plane 1983

Datum: NAD 1983 (NA2011)

Zone: Iowa North 1401

Geoid: GEOID12A (Conus)

Vertical Datum: NAVD88

Include a list of all horizontal and vertical control points used for the project design in the construction drawings per SUDAS Design Manual Section 1D-1.B.

Chapter 2 – Stormwater

2A-1 General Information

D. Unified Sizing Criteria:

1. General Information:

Delete the second paragraph and Table 2A-1.01 and replace with following:

Stormwater quality requirements shall be addressed in the design of the stormwater management per the criteria in Table URBANA - 2A-1.01.

Table URBANA - 2A-1.01: Summary of the Recommended Unified Stormwater Sizing Criteria for Management of Stormwater Quality and Quantity

Sizing Criteria	Required Method
Water Quality Volume (WQv)	<p>Runoff that is generated from a 1.25-inch rainfall event shall be captured and treated using appropriate stormwater Best Management Practices (BMPs). The WQv shall be calculated in accordance with Chapter 2 of the current Iowa Stormwater Management Manual (ISWMM) and calculations provided in the Engineer's drainage report.</p> <p>For new development projects, the WQv shall be calculated based on the entire site, not just impervious areas.</p> <p>For redevelopment projects that result in 0.5 acre or more of land disturbance, the WQv shall be calculated as follows:</p> <ul style="list-style-type: none"> If less than 50% of the site is disturbed, WQv shall be based on the increase of the impervious area, not the entire site. If 50% or more of the site is disturbed, WQv shall be based on the area of the entire site. <p>The BMP practice selected by the applicant/owner, to capture and treat the WQv shall be selected and designed in accordance with the ISWMM. Where favorable soil conditions are present, infiltration based practices are highly encouraged. The submitted report shall show a map of the site area upon which the WQv is based.</p>
Recharge Volume (Rev).	<p>Infiltrate a fraction of the WQv based on the annual recharge rate of the hydrologic soil group existing on the site. The Rev shall be calculated in accordance with Chapter 2 of the Iowa Stormwater Management Manual.</p>
Channel Protection Storage Volume (Cpv)	<p>Provide extended detention for the post-development runoff generated in a 1-year, 24-hour storm per NOAA Atlas 14 such that the volume is released over 24 hours. The Cpv shall be calculated in accordance with Chapter 2 of the Iowa Stormwater Management Manual.</p>
Overbank Flood Protection: (Qp)	<p>Provide peak discharge control of the runoff generated in 2-year through 5-year, 24-hour storm per NOAA Atlas 14 such that the post-development discharge does not exceed pre-development discharge rates.</p>
Extreme Flood Protection (Qf)	<p>Provide peak discharge control for runoff generated from all storms larger than the 5-year, 24-hour storm up to the 100-year, 24-hour storm such that post-development discharge does not exceed the peak discharge rate for the 5-year, 24-hour storm.</p>

Chapter 4 – Water Mains

4C-1 Facility Design

B. Water Mains:

Delete Item 5 and replace with the following:

“5. Water mains should be designed with a minimum cover of 5.5 feet for 8-inch diameter mains and 5.0 feet for 12-inch diameter and larger mains. Greater depth of cover, surface loading conditions, or unusual trench conditions may require a stronger class of pipe according to the AWWA Standard regarding the type of pipe being installed. Where a dip must be placed in a main in order to pass under another utility, the length of the deeper main should be kept to a minimum, and bends should be considered to affect the desired offset.”

Chapter 5 – Roadway Design

5C-1 Geometric Design Tables

C. Roadway Design Tables:

Revise Table 5C-1.01: Preferred Roadway Elements as follows:

Design Element	25	30	35	40	45	50	55	60
	Minimum gradient (percent)	0.75	0.75	0.75	0.75	0.75	0.75	0.75

Revise Table 5C-1.02 Footnotes as follows:

18. All grades less than the preferred values noted in Table 5C-1.01 require approval from the City Engineer. Typically, grades less than the preferred minimum will only be allowed on rehabilitation projects and locations that might otherwise result in significant adverse property impacts. On rehabilitation projects where some gutter ponding would not be expected to cause adverse traffic impacts, the City Engineer may allow for grades down to 0.4%.

5C-2 Geometric Design Elements

D. Vertical Alignment

1. Minimum Grades:

Replace the third sentence with the following:

“A typical minimum grade is 0.75%, but a grade of 0.4% may be used with the approval of the City Engineer in isolated areas where the pavement is accurately crowned and supported on firm subgrade.”

5F-1 Pavement Thickness Design

D. Determining Pavement Thickness:

Add the following:

“All new pavements shall be PCC pavement with a minimum thickness of 7 inches and include a minimum of 6-inch thick granular (or modified) subbase and subbase preparation per SUDAS Standard Specifications Section 2010.”

5N-1 Traffic Impact Studies

A. General

Add the following:

“In general, a traffic impact study will be required if any of the following apply:

1. The proposed development is expected to generate 100 or more vehicle trips (combination of entering and exiting trips) during any hour of a typical day.
2. The development includes a new or modified access to a collector or arterial street.
3. The City Engineer requests a study based on potential concerns regarding sight distance, traffic control devices, safety, or other elements related to the proposed development.

In many cases, a complete traffic study may not be required and the specific traffic concerns associated with a development may be summarized in a technical memorandum.

Chapter 12 – Sidewalks and Bicycle Facilities

12A-1 General Sidewalk Requirements

B. Sidewalk Classes

Add the following footnote to Figure 12A-1.01:

“The minimum width for Class B and Class C sidewalks shall typically be 5’, unless otherwise permitted within an isolated area connecting to 4’ wide sidewalks on both sides.”

C. Construction Requirements

Add the following to paragraph 1, Sidewalk Thickness:

“Sidewalks and pedestrian paths 6’-8’ wide shall be constructed to a minimum thickness of 5 inches. Sidewalks and pedestrian paths greater than 8’ wide shall be constructed to a minimum thickness of 6 inches.”

End of Section

Adopted 09/14/2021

City of Urbana, Iowa Resolution No. 2021-27