

CITY OF NORMAN, OK CITY COUNCIL STUDY SESSION

Municipal Building, Executive Conference Room, 201 West Gray, Norman, OK 73069

Tuesday, November 29, 2022 at 5:30 PM

AGENDA

It is the policy of the City of Norman that no person or groups of persons shall on the grounds of race, color, religion, ancestry, national origin, age, place of birth, sex, sexual orientation, gender identity or expression, familial status, marital status, including marriage to a person of the same sex, disability, retaliation, or genetic information, be excluded from participation in, be denied the benefits of, or otherwise subjected to discrimination in employment activities or in all programs, services, or activities administered by the City, its recipients, sub-recipients, and contractors. In the event of any comments, complaints, modifications, accommodations, alternative formats, and auxiliary aids and services regarding accessibility or inclusion, please contact the ADA Technician at 405-366-5424, Relay Service: 711. To better serve you, five (5) business days' advance notice is preferred.

CALL TO ORDER

AGENDA ITEMS

1. DISCUSSION REGARDING MODIFICATIONS TO THE ENGINEERING DESIGN CRITERIA.

ADJOURNMENT

EDC Update Project

City Council Study Session – November 29, 2022 CITY OF NORMAN, OK



AGENDA

- Background
- Project Approach
- EDC Highlights
- Discussion
- Next Steps

Background



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BACKGROUND

CITY OF NORMAN Norman, Oklahoma

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ENGINEERING DESIGN CRITERIA

for Streets Storm Drainage Water Lines Sanitary Sewers

Adopted: September 24, 1996 Amendment No. 1: April 28, 1998 Amendment No. 2: March 28, 2000 Amendment No. 3: May 8, 2001 Amendment No. 4: July 24, 2001 Amendment No. 6: September 9, 2002 Amendment No. 6: September 9, 2003 Amendment No. 8a: June 13, 2006 Amendment No. 8b: July 11, 2006

Discussing two documents

September 1996 –
Originally adopted by Council

July 2006 – Last of 9 amendments adopted by Council

CITY OF NORMAN Norman, Oklahoma



Standard Specifications
And
Construction Drawings

for Streets Storm Drainage Water Lines Sanitary Sewers

Adopted: September 24, 1996
Amendment No. 1: April 28, 1998
Amendment No. 2: March 28, 2000
Amendment No. 3: May 8, 2001
Amendment No. 4: July 24, 2001
Amendment No. 5: February 26, 2002
Amendment No. 6: September 9, 2003
Amendment No. 6: September 11, 2005
Amendment No. 8a: June 13, 2006
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BACKGROUND

What is an EDC?

Provides guidance to developers and design professionals regarding the design of all public infrastructure including:

- roadways,
- storm sewer systems,
- drainage,
- erosion control,
- waterlines and
- sanitary sewer lines.

5006.3 HYDRAULIC EVALUATION

- A. Curb and Gutter Capacity:
- The allowable storm capacity of each street section with curb and gutter shall be calculated using the modified Manning's formula:

 $Q = 0.56(Z/N)S^{1/2}Y_T^{8/3}$

Where Q = discharge in cfs

Z = reciprocal of the street cross slope (S_x, ft/ft)

- Y_T = depth of flow at the gutter (feet)
- S = longitudinal grade of street (ft/ft)
- S = longitudinal grade of street (ft/ft)
 N = Manning's roughness coefficient
- Manning's roughness coefficient, N, shall be used according to the applicable construction condition from Table 5006.1.
- When the street cross section has different cross slopes, capacity computation shall take into account the various cross slopes.
- B. Roadside Ditch Capacity: The capacity of a roadside ditch shall be computed using Manning's equation. The allowable flow over the paved portion of the street is computed according to Section 5006.3 A. This capacity of the roadside ditch and street capacity are combined to determine the entire street section capacity. The paved street portion contributes to the total capacity only when the depth of flow in the roadside ditch as exceeded for the design storm. As in streets with curb and gutter, the maximum allowable depth at the pavement edge shall not exceed the limits set in Section 506.6.1.C.

TABLE 5006.1 MANNING'S N-VALUES FOR

Construction Type	N
Concrete gutter troweled finish	0.012
Asphalt Pavement	
Smooth texture	0.013
Rough Texture	0.016
Concrete gutter with asphalt pavement	
Smooth	0.013
Rough	0.015
Concrete pavement	
Float finish	0.014
Broom finish	0.016
Brick	0.016

increase all above values of N by 0.002.

Source: Drainage Design Manual, ODOT, February, 1988

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CITY OF NORMAN Norman, Oklahoma



ENGINEERING DESIGN CRITERIA

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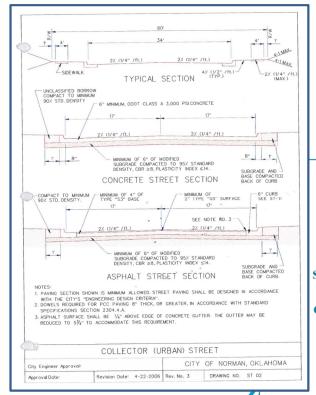
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BACKGROUND

What is a Standard Specifications and Construction Drawings?

The Standard Specifications provide the guidance for contractual agreements and the construction of all public infrastructure.

Construction Drawings provide standard details for the construction and repair of public infrastructure.



CITY OF NORMAN Norman, Oklahoma



Standard Specifications

And

Construction Drawings

for Streets Storm Drainage Water Lines Sanitary Sewers

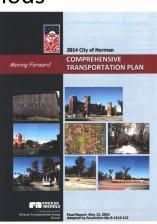
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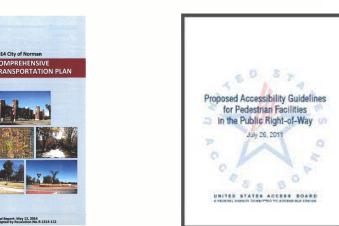
BACKGROUND

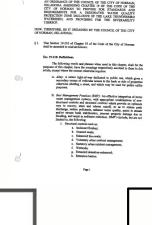
Since the 2006 amendment the following items have changed or been added

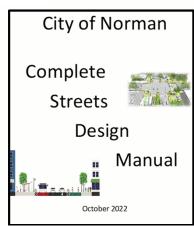
- Water Quality Protection Zone (WQPZ) with Low Impact Development Manual
- Public Rights of Way Accessibility Guidelines (PROWAG)
- Comprehensive Transportation Plan (CTP)
- **Complete Streets Manual**
- Updates to stormwater modeling technology
- New construction materials
- Revised construction methods
- **Updated State permits**











BACKGROUND

- Comprehensive Transportation Plan (2014) recommendations:
 - Update Engineering Design Criteria (EDC) and Construction Standard Specifications and Construction Drawings
- City Council goal (2017) incentivize "green building codes"
- Council Community Planning and Transportation Committee (CPTC) (2017-2019)
 - Exploring incentive programs
 - Green building practices
 - Green infrastructure / Low impact development (GI/LID)
 - Parking for new developments
- Private sector expressed interest
 - Incentives to use Sustainable Design Techniques (LID)
- July 1, 2019 Funding for EDC Update included in the FYE 2020 Capital Improvements
 Program (CIP) budget
- February 20, 2020 Contract with Freese and Nichols approved by Council

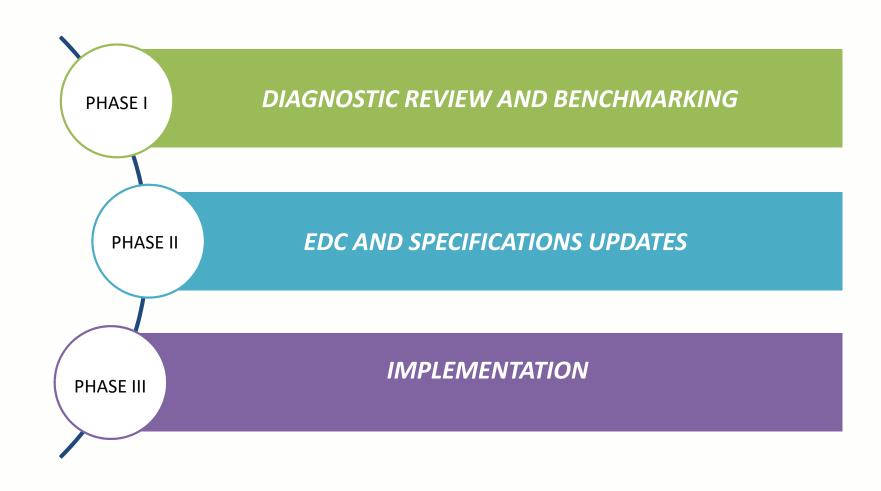
PROJECT OBJECTIVES

- Comprehensive update of the 25-year-old EDC, Standard Specifications and Construction Drawings
- Consolidation of multiple, disconnected manuals into one easilyaccessible, modern manual
- Addition of Norman Green Stormwater Infrastructure (GSI) manual to EDC
- Incorporation of Complete Streets Policy in EDC
- Update Traffic Impact Analysis (TIA) guidelines
- Incorporation of PROWAG in EDC
- Incorporation of WQPZ policy and practices in EDC
- Correlation of EDC with CTP

Project Approach



PROJECT APPROACH



STAFF AND COMMUNITY ENGAGEMENT

Considered vital to success of project

Staff Advisory Committee

- 10 staff members representing
 - Parks and Recreation
 - Planning
 - Public Works
 - Utilities

Stakeholder Committee

- 25 members representing
 - Developers,
 - Home builders
 - Consultants
 - Community members
 - Contractors
- Expanded to 33 members in Phase II



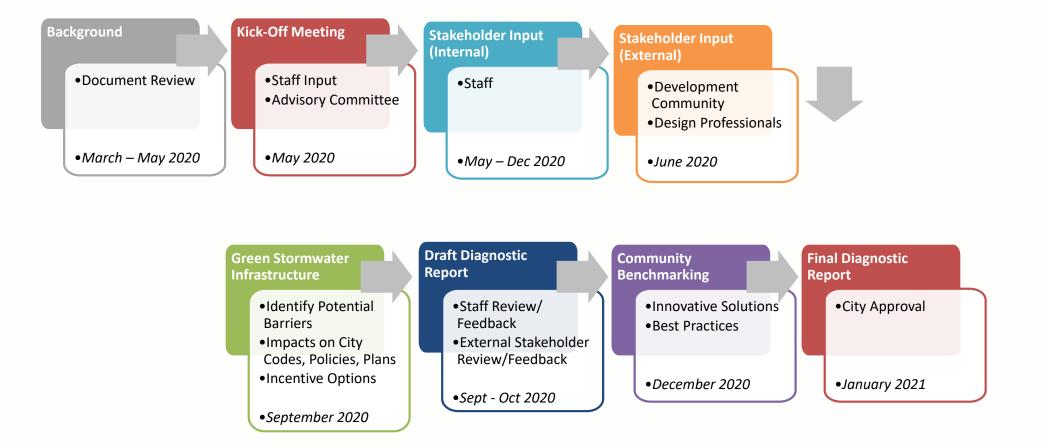
PROJECT APPROACH

PHASE I

DIAGNOSTIC REVIEW AND BENCHMARKING

- Document Review
- Community Benchmarking
- Stakeholder Interviews
- Diagnostic Report

PHASE I MILESTONES



PHASE I ENGAGEMENT

June 22, 2020 Meeting with Stakeholders

- Introduce the project
- Overview of the draft Diagnostic Report
- Questions and answers
- Opportunity for open discussion.

Draft Diagnostic Report – Stakeholder Review

• December 9, 2020 - December 21, 2020

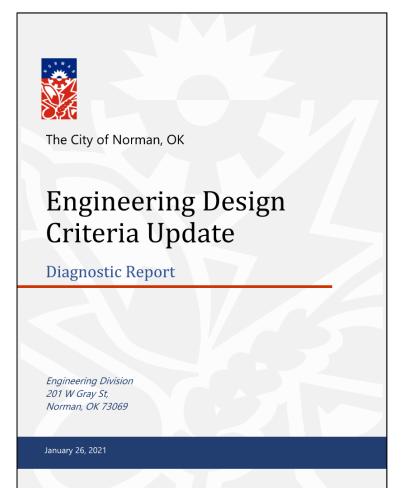


Diagnostic Report

66 page document that:

- Identified issues to be updated in the EDC, Standard Specifications and Construction Drawings
- Recommended solutions for items identified
- Benchmarking related to Sustainable Stormwater Development programs

Every section was reviewed



PROJECT APPROACH

PHASE II

EDC, Specifications, Construction Details and Code Recommendations

- Technical Documents
- Advisory Committee Review
- Stakeholder Engagement

Code Recommendations

PHASE II MILESTONES



PHASE II ENGAGEMENT

Phase II Kick-off Meeting (in-person)

- May 6, 2021
- 19 stakeholders attended
- Stakeholder list expanded to 33
- Subcommittees focused on specific topics

Subcommittee Meetings

- Sustainable Development 7 meetings
- Drainage (Stormwater) 3 meetings
- Streets 4 meetings
- Utilities 2 meetings



Additional consultation with City staff representing each topic throughout the EDC development process

PHASE II ENGAGEMENT

Committee meetings and EDC Drafting

May 2021 through June 2022

Staff review

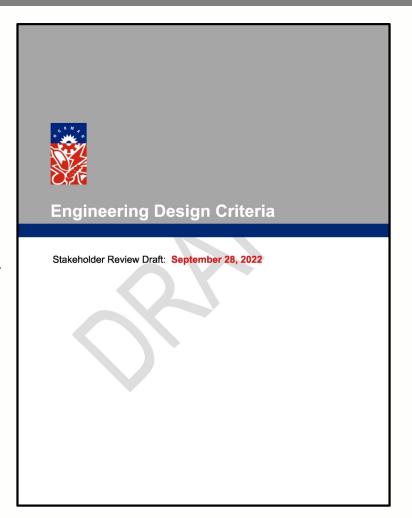
• June – September 2022

Distribution to Stakeholders – September 29, 2022

Stakeholder Meeting – October 6, 2022

Project Website (open comment period)

October 6 - present







Section 1000 GENERAL

- General formatting and punctuation updates
- Consolidated Definitions section (EDC)
- Updated references to adopted codes, plans, and studies



Utilities

Section 2000 WATER LINES



- Updated to reflect current practices and materials
- Revised installation of lines in subdivisions



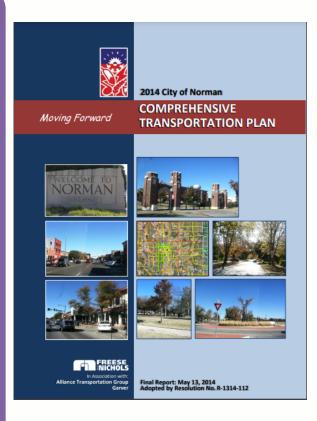
Section 3000 SANITARY SEWER

- Updated to reflect current practices and materials
- Revised location of lines in subdivisions





Section 4000 STREETS



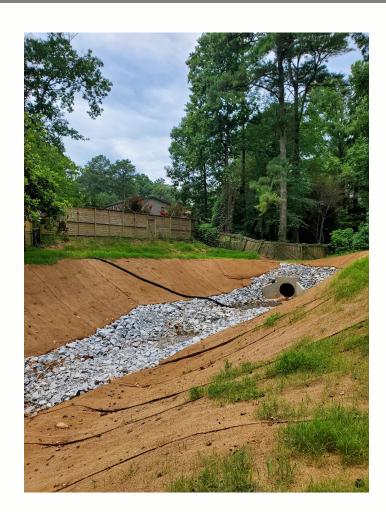
- Align with the Comprehensive Transportation Plan
- Includes Traffic Study Guidelines
- Incorporates Complete Streets
- Identified PROWAG as best practices



Stormwater

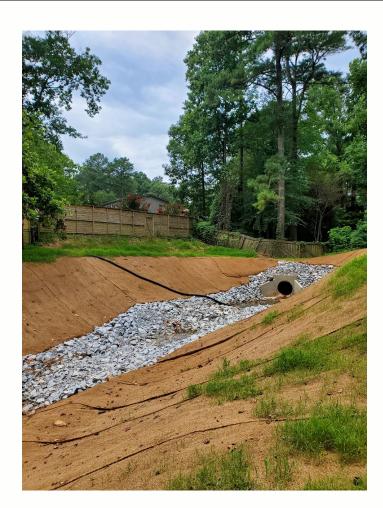
Section 5000 STORMWATER QUALITY

- Updated modelling programs
- Revised appropriate use of drainage equations
- Included new pipe materials





Section 6000 STORMWATER QUALITY Updated requirements for latest State Permits





Sustainable Development

Section 7000 SUSTAINABLE STORMWATER DEVELOPMENT

- New Section to the EDC
- Replaces the outdated Wichita Stormwater Manual for GSI design
- Voluntary Green Stormwater Infrastructure (GSI) design manual
- Considers modernized designs
- Future consideration to incentivize GSI
- Includes construction and maintenance requirements



Sustainable Development

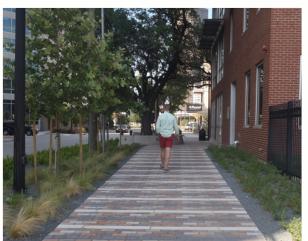
Section 7000 SUSTAINABLE STORMWATER DEVELOPMENT











Bioretention

Porous Pavement



Technical Memo
CODE ALIGNMENT
INCENTIVES
CREDIT PROGRAM

Guidance for aligning updated EDC with Development Regulations

- Remove Barriers
- Incentivize Sustainable Stormwater Development

Credit-Based System – tools and examples

Next Steps



PUBLIC REVIEW

Council Study Session – November 29, 2022

Stakeholder input - ongoing

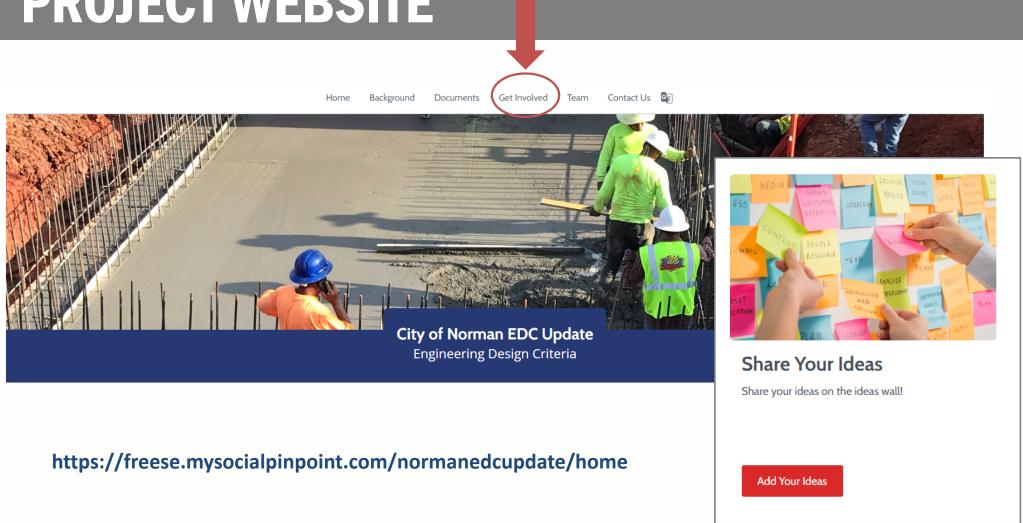
Community Open House

- November 30 December 15 (Virtual)
- December 7, 2022 (Hybrid / virtual with call-in option)
- December 7, 2022 (In-person)

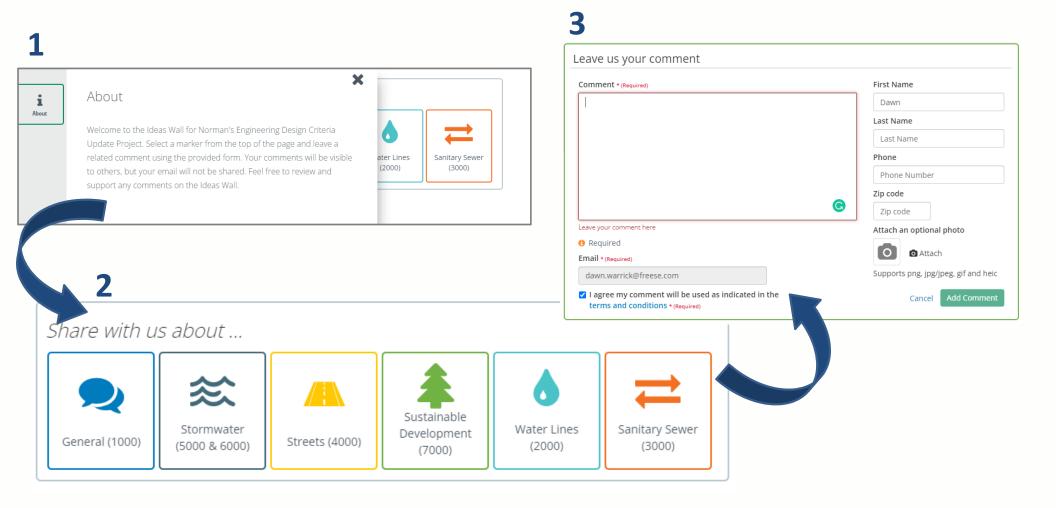
City Council review and adoption

January 10, 2023

PROJECT WEBSITE



PROJECT WEBSITE



PROJECT APPROACH

PHASE III

IMPLEMENTATION

- Training resources
- Workshops
- Checklists

- Design Guides
- Brochures or other publications

Follows adoption of the updated EDC

Support roll out of new technical resources and programs

Educational materials for review, inspection, design and construction activities

Materials to inform and educate the public

Final scope must be determined and authorized prior to initiating any Phase III work

Discussion & Questions