



**Chandler · Arizona**  
Where Values Make The Difference

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All-America City  
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**MEMORANDUM                      Transportation & Development – Memo No. TDE16-005**

**DATE:**            DECEMBER 10, 2015

**TO:**                MAYOR AND COUNCIL

**THRU:**            MARSHA REED, ACTING CITY MANAGER *MR*  
NACHIE MARQUEZ, ASSISTANT CITY MANAGER *NM*  
R.J. ZEDER, TRANSPORTATION & DEVELOPMENT DIRECTOR *RJ*  
DANIEL W. COOK, CITY ENGINEER *DC*

**FROM:**            WARREN WHITE, PRINCIPAL ENGINEER *WW*

**SUBJECT:**        INTRODUCTION AND TENTATIVE ADOPTION OF ORDINANCE NO. 4676  
ADOPTING UPDATED PUBLIC WORKS DESIGN AND CONSTRUCTION  
STANDARDS AND AMENDING CHAPTER 43, SECTION 43-4.5,  
SUBSECTIONS 43-4.5.A, 43-4.5.B, 43-4.5.C, 43-4.5.D, 43-4.5.E, 43-4.5.G AND  
43-4.5.I, OF THE CODE OF THE CITY OF CHANDLER

RECOMMENDATION: Staff recommends introduction and tentative adoption of Ordinance No. 4676 adopting updated Public Works design and construction standards and amending Chapter 43, Section 43-5, Subsections 43-4.5.A, 43-4.5.B, 43-4.5.C, 43-4.5.D, 43-4.5.E, 43-4.5.G and 43-4.5.I, of the Code of the City of Chandler.

BACKGROUND/DISCUSSION: The City maintains and publishes Engineering Standard Details and Specifications, and Technical Design Manuals, which have been developed to guide developers and City staff on the design and construction of the City’s infrastructure. These documents are adopted by the City Council.

In addition to general revisions, this updated package includes changes to private reclaimed water system design requirements, new drainage design requirements for recessed loading docks, revisions to clarify taper length requirements for traffic barricading and continued updates for Americans with Disabilities Act (ADA) compliance.

The Engineering Design Standards Committee, with cross-departmental representation, reviews proposed changes to our design standards and makes recommendations for annual updates. This process also involves reviewing the Maricopa Association of Governments (MAG) Specifications and Standards and their annually-proposed revisions to determine if City standards could be removed in favor of MAG standards.

This Ordinance would amend the following design standards:

- July 2015 Standard Details and Specifications Manual
- July 2015 Technical Design Manual #1 & 2, Water & Wastewater System Design
- July 2015 Technical Design Manual #3, Drainage Policies and Standards
- July 2015 Technical Design Manual #4, Street Access and Design Control
- January 2014 Technical Design Manual #5, Traffic Signal Design
- February 2012 Technical Design Manual #7, Traffic Barricade Design
- In addition, this Ordinance would adopt the 2016 revisions to the MAG Uniform Standard Specifications and Details with certain modifications

The recommended revisions have been reviewed and approved by the Engineering Design Standards Committee consisting of Engineering, Offsite Inspection, Transportation, Water/Wastewater, and Planning divisions. The revisions were provided to members of the industry including the Homebuilders Association, Multi-housing Association, utility providers, and engineering design consultants. Comments received were incorporated into these revisions where appropriate.

The complete set of revised Standard Details and Specifications are on file with the City Clerk and available for review. A detailed summary of the changes is also attached.

FINANCIAL IMPLICATIONS: None.

PROPOSED MOTION: Move that Council introduce and tentatively adopt Ordinance No. 4676 adopting updated Public Works design and construction standards and amending Chapter 43, Section 43-5, Subsections 43-4.5.A, 43-4.5.B, 43-4.5.C, 43-4.5.D, 43-4.5.E, 43-4.5.G and 43-4.5.I, of the Code of the City of Chandler.

ATTACHMENTS:

Ordinance No. 4676 (redline)

Ordinance No. 4676 (clean copy)

Change Summary 2016

<b><u>Document No.</u></b>	<b><u>Title</u></b>	<b><u>Revision Summary</u></b>
<b>Stancard Details</b>		
C-303 PG 1 of 2	FIRE HYDRANT	Revision to delete Note #6 left on detail by error from 2015 removal.
C-303 PG 2 of 2	FIRE HYDRANT COLOR CODE	Revise color code numbers from 1, 2, 3 to Type 1, Type 2, Type 3. Matching historical referencing.
C-315	REDUCED PRESSURE-PRINCIPLE ASSEMBLY INSTALLATION 3", 4", 6", 8", 10"	Revision to title "REDUCED PRESSURE-PRINCIPLE BACKFLOW PREVENTION INSTALLATION - 4" AND LARGER". C-311 is intended for 3" and under assemblies.
C-404 PG 1 of 12	RECLAIMED WATER SERVICE CONNECTIONS	Revision to service connection line size from 3" to 4" due to availability issues with 3" saddle connections.
C-404 PG 3 of 13	2" RECLAIMED WATER IRRIGATION SERVICE LINE INLINE PUMP TYPE	Revision to service connection line size from 3" to 4" due to availability issues with 3" saddle connections.
C-509	BACKFILL DETAIL CMP UNDERGROUND RETENTION STORAGE TANK	Revisions to notes pertaining updates to MAG Section 601. Compaction requirement is now 95%.
<b>Technical Design Manuals</b>		
TDM #1&2	Water & Wastewater System Design	Revision to valve spacing requirements on pg 14 adding spacing requirements for transmission mains at no greater than 1/2 mile.
TDM #1&2	Water & Wastewater System Design	Revisions to Chapter IV, Reclaimed Water Distribution System pertaining to spray irrigation restrictions, and private reclaimed system design considerations including available pressures and turnouts.
TDM #3	Drainage Policies and Standards	Revision on pg 11 inlet requirements since only allowing MAG 533 catch basin. Revision to pg 12 storm drain connections, clarifying allowances.
TDM #3	Drainage Policies and Standards	NEW section 6.11.5.4 stating requirements for recessed loading docks.
TDM #4	Street Design and Access Control	Revisions to pg 18 and 32, adding ADA upgrade requirements to existing bus stops and designated on-street parking spaces.
TDM #5	Traffic Signal Design	Revision to pg 4, Section 4 Signal Poles, referencing Figures TS-17A and TS-17B for Tenon locations and revision to typical pole placement requirements for ADA pushbutton access. Revisions to Figures TS-7, TS-12, TS-13 and TS17A. Deleting Figure TS-20, Sidewalk Extension Detail, in favor of revised Figure TS-13.
TDM #7	Traffic Barricade Design	Revisions to pgs 4, 28 and 29 to clarify use of police officers at barricade locations, revisions pgs 15,18 and 19 to clarify taper length requirements and added Striping as a Channelization Device on pg 23. Also, other revisions including ADA requirements for pedestrian facilities and general housekeeping items including formatting and table of contents.

## **ORDINANCE NO. 4676**

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CHANDLER, ARIZONA, ADOPTING UPDATED VERSIONS OF PREVIOUSLY ADOPTED PUBLIC WORKS DESIGN AND CONSTRUCTION STANDARDS AND AMENDING CHAPTER 43, SECTION 43-4.5, SUBSECTIONS 43-4.5.A, 43-4.5.B, 43-4.5.C, 43-4.5.D, 43-4.5.E, 43-4.5.G, AND 43-4.5.I OF THE CODE OF THE CITY OF CHANDLER, RELATING TO THE ADOPTION OF THESE UPDATED DESIGN AND CONSTRUCTION STANDARDS

**WHEREAS**, the City of Chandler has previously adopted certain documents establishing minimum public works design and construction standards and specifications and believes it to be prudent to adopt the updated versions of those documents; and

**WHEREAS**, Chapter 43, Code of the City of Chandler, needs to be amended to reflect adoption of those updated public works documents.

**NOW, THEREFORE**, BE IT ORDAINED by the City Council of the City of Chandler, Arizona, as follows:

**Section 1.** That those public works documents identified below, three copies of each to remain on file in the Office of the City Clerk, each are hereby adopted by reference, with the additions, insertions, deletions and changes set forth herein, and each are hereby declared to be a public record.

- A. City of Chandler Standard Details and Specifications, January 2016 edition.
- B. City of Chandler Technical Design Manual Numbers 1 and 2; Water and Wastewater System Design, January 2016 edition.
- C. City of Chandler Technical Design Manual Number 3, Drainage Policies and Standards, January 2016 edition.
- D. City of Chandler Technical Design Manual Number 4, Street Design and Access Control, January 2016 edition.
- E. City of Chandler Technical Design Manual Number 5, Traffic Signal Design, January 2016 edition.
- F. City of Chandler Technical Design Manual Number 7, Traffic Barricade Design, January 2016 edition.
- G. Uniform Standard Specifications and Details for Public Works Construction Sponsored and Distributed by the Maricopa Association of Governments, January 2016 Edition.

**Section 2.** Subsection 43-4.5.A. of Section 43-4 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

43-4.5.A *City of Chandler Standard Details and Specifications*. That certain document on file with the City Clerk marked, known and designated as "City of Chandler Standard Details and Specifications", ~~July 2015~~ January 2016 edition, is hereby adopted by reference and made a part hereof as if set forth at length herein.

**Section 3.** Subsection 43-4.5.B. of Section 43-4 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

43-4.5.B. *City of Chandler Technical Design Manual, Numbers 1 and 2: Water and Wastewater System Design*. That certain document on file with the City Clerk marked, known and designated as "City of Chandler Technical Design Manual, Numbers 1 and 2: Water and Wastewater System Design", ~~July 2015~~ January 2016 edition, is hereby adopted by reference and made a part hereof as though set forth at length herein.

**Section 4.** Subsection 43-4.5.C. of Section 43-4 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

43-4.5.C. *City of Chandler Technical Design Manual, Numbers 3: Drainage Policies and Standards*. That certain document on file with the City Clerk marked, known and designated as "City of Chandler Technical Design Manual, Numbers 3: Drainage Policies and Standards", ~~July 2015~~ January 2016 edition, is hereby adopted by reference and made a part hereof as though set forth at length herein.

**Section 5.** Subsection 43-4.5.D. of Section 43-4 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

43-4.5.C. *City of Chandler Technical Design Manual, Number 4: Street Design and Access Control*. That certain document on file with the City Clerk marked, known and designated as "City of Chandler Technical Design Manual, Number 4: Street Design and Access Control", ~~July 2015~~ January 2016 edition, is hereby adopted by reference and made a part hereof as though set forth at length herein.

**Section 6.** Subsection 43-4.5.E. of Section 43-4 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

43-4.5.E. *City of Chandler Technical Design Manual, Number 5: Traffic Signal Design*. That certain document on file with the City Clerk marked, known and designated as "City of Chandler Technical Design Manual, Number 5: Traffic Signal Design", ~~January 2014~~ January 2016 edition, is hereby adopted by reference and made a part hereof as though set forth at length herein.

**Section 7.** Subsection 43-4.5.G. of Section 43-4 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

43-4.5.G. *City of Chandler Technical Design Manual, Number 7: Traffic Barricade Design*. That certain document on file with the City Clerk marked, known and designated as "City of Chandler Technical Design Manual, Number 7: Traffic Barricade

Design", ~~February 2012~~ January 2016 edition, is hereby adopted by reference and made a part hereof as though set forth at length herein.

**Section 8.** Subsection 43-4.5.I. of Section 43-4 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

43-4.5.I. *MAG Uniform Standard Specifications and Details.* That certain document on file with the City Clerk marked, known and designated as Uniform Standard Specifications and Details for Public Works Construction, Sponsored and Distributed by the Maricopa Association of Governments, ~~2015~~ 2016 Edition, is hereby adopted by reference and made a part hereof as though set forth at length herein with the additions, insertions, deletions and changes set forth below.

1. The ~~Public-Works~~ Transportation and Development Director/designee is authorized to increase standard street cross sections, both pavement and right-of-way widths, as necessary to maintain required traffic service levels when a traffic analysis indicates the need for additional lanes of traffic.
2. Where MAG refers to corrective actions for deviations from standards and provides options for "When the contracting agency is the owner" or "When the contracting agency is not the owner (i.e. permits)", the ~~Public-Works~~ Transportation and Development Director/designee is authorized to utilize any of the corrective actions listed regardless of whether the City is the contracting agency or not.

INTRODUCED AND TENTATIVELY ADOPTED by the City Council this 10th day of December 2015.

ATTEST:

\_\_\_\_\_  
CITY CLERK

\_\_\_\_\_  
MAYOR

PASSED AND ADOPTED by the City Council of the City of Chandler, Arizona this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

ATTEST:

\_\_\_\_\_  
CITY CLERK

\_\_\_\_\_  
MAYOR

## ORDINANCE NO. 4676

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CHANDLER, ARIZONA, ADOPTING UPDATED VERSIONS OF PREVIOUSLY ADOPTED PUBLIC WORKS DESIGN AND CONSTRUCTION STANDARDS AND AMENDING CHAPTER 43, SECTION 43-4.5, SUBSECTIONS 43-4.5.A, 43-4.5.B, 43-4.5.C, 43-4.5.D, 43-4.5.E, 43-4.5.G, AND 43-4.5.I OF THE CODE OF THE CITY OF CHANDLER, RELATING TO THE ADOPTION OF THESE UPDATED DESIGN AND CONSTRUCTION STANDARDS

**WHEREAS**, the City of Chandler has previously adopted certain documents establishing minimum public works design and construction standards and specifications and believes it to be prudent to adopt the updated versions of those documents; and

**WHEREAS**, Chapter 43, Code of the City of Chandler, needs to be amended to reflect adoption of those updated public works documents.

**NOW, THEREFORE**, BE IT ORDAINED by the City Council of the City of Chandler, Arizona, as follows:

**Section 1.** That those public works documents identified below, three copies of each to remain on file in the Office of the City Clerk, each are hereby adopted by reference, with the additions, insertions, deletions and changes set forth herein, and each are hereby declared to be a public record.

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- E. City of Chandler Technical Design Manual Number 5, Traffic Signal Design, January 2016 edition.
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**Section 2.** Subsection 43-4.5.A. of Section 43-4 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

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**Section 3.** Subsection 43-4.5.B. of Section 43-4 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

43-4.5.B. *City of Chandler Technical Design Manual, Numbers 1 and 2: Water and Wastewater System Design*. That certain document on file with the City Clerk marked, known and designated as "City of Chandler Technical Design Manual, Numbers 1 and 2: Water and Wastewater System Design", January 2016 edition, is hereby adopted by reference and made a part hereof as though set forth at length herein.

**Section 4.** Subsection 43-4.5.C. of Section 43-4 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

43-4.5.C. *City of Chandler Technical Design Manual, Numbers 3: Drainage Policies and Standards*. That certain document on file with the City Clerk marked, known and designated as "City of Chandler Technical Design Manual, Numbers 3: Drainage Policies and Standards", January 2016 edition, is hereby adopted by reference and made a part hereof as though set forth at length herein.

**Section 5.** Subsection 43-4.5.D. of Section 43-4 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

43-4.5.C. *City of Chandler Technical Design Manual, Number 4: Street Design and Access Control*. That certain document on file with the City Clerk marked, known and designated as "City of Chandler Technical Design Manual, Number 4: Street Design and Access Control", January 2016 edition, is hereby adopted by reference and made a part hereof as though set forth at length herein.

**Section 6.** Subsection 43-4.5.E. of Section 43-4 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

43-4.5.E. *City of Chandler Technical Design Manual, Number 5: Traffic Signal Design*. That certain document on file with the City Clerk marked, known and designated as "City of Chandler Technical Design Manual, Number 5: Traffic Signal Design", January 2016 edition, is hereby adopted by reference and made a part hereof as though set forth at length herein.

**Section 7.** Subsection 43-4.5.G. of Section 43-4 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

43-4.5.G. *City of Chandler Technical Design Manual, Number 7: Traffic Barricade Design*. That certain document on file with the City Clerk marked, known and

designated as "City of Chandler Technical Design Manual, Number 7: Traffic Barricade Design", January 2016 edition, is hereby adopted by reference and made a part hereof as though set forth at length herein.

**Section 8.** Subsection 43-4.5.I. of Section 43-4 of Chapter 43, Code of the City of Chandler, is hereby amended to read as follows:

43-4.5.I. *MAG Uniform Standard Specifications and Details.* That certain document on file with the City Clerk marked, known and designated as Uniform Standard Specifications and Details for Public Works Construction, Sponsored and Distributed by the Maricopa Association of Governments, 2016 Edition, is hereby adopted by reference and made a part hereof as though set forth at length herein with the additions, insertions, deletions and changes set forth below.

1. The Transportation and Development Director/designee is authorized to increase standard street cross sections, both pavement and right-of-way widths, as necessary to maintain required traffic service levels when a traffic analysis indicates the need for additional lanes of traffic.
2. Where MAG refers to corrective actions for deviations from standards and provides options for "When the contracting agency is the owner" or "When the contracting agency is not the owner (i.e. permits)", the Transportation and Development Director/designee is authorized to utilize any of the corrective actions listed regardless of whether the City is the contracting agency or not.

INTRODUCED AND TENTATIVELY ADOPTED by the City Council this 10th day of December 2015.

ATTEST:

\_\_\_\_\_  
CITY CLERK

\_\_\_\_\_  
MAYOR

PASSED AND ADOPTED by the City Council of the City of Chandler, Arizona this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

ATTEST:

\_\_\_\_\_  
CITY CLERK

\_\_\_\_\_  
MAYOR

CERTIFICATION

I HEREBY CERTIFY that the above and foregoing Ordinance No. 4676 was duly passed and adopted by the City Council of the City of Chandler, Arizona, at a regular meeting held on the \_\_\_\_\_ day of \_\_\_\_\_, 2015 and that a quorum was present thereat.

\_\_\_\_\_  
CITY CLERK

APPROVED AS TO FORM:

\_\_\_\_\_  
CITY ATTORNEY *dkw*

PUBLISHED: