



MEMORANDUM UPDATE

October 5, 2026

Subject: Engineering & Design Standards Manual - Chapter 3 – Storm Drainage System Design

The City of Chandler Engineering & Design Standards Manual (January 2025 Edition) has been updated for the following Sections in Chapter 3 – Storm Drainage System Design:

- 3.1.1 Disclaimer
- 3.1.2 Definitions
- 3.3.7 Floodplain Management
- 3.5.2 City Code Section 45 – Storm Drainage Requirements
- 3.5.3 City Code Section 43-5 – Floodplain Regulation

These updates apply only to the referenced sections and supersede the January 2025 edition requirements for these sections.

An updated document identifying the revised sections is attached for reference.

The updated sections and standard details shall be considered the governing criteria for the applicable work and shall supersede any conflicting requirements contained within previously published City of Chandler technical documents, specifications, standard details, or design guidance.

Please contact Rachel Marx at (480) 782-3354 for any further questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jeremy Abbott', is written over the printed name.

Jeremy Abbott, PE
Public Works & Utilities Director\City Engineer

Attachment: Revised Sections

3.1.1 Disclaimer

City's role in reviewing and permitting projects is limited to verifying general conformance to City requirements. The City does not assume liability for unsuitable design or improper construction. Review and acceptance does not absolve the owner, developer, engineer, or contractor of liability. Additionally, the engineer has the responsibility to design drainage facilities that meet the standards of practice for the profession and public interest. Compliance with the regulatory elements, policies, and design standards does not guarantee that property will be free from flooding or flood damage. The City assumes no liability for information, data, or conclusions prepared by private engineers and make no warranty whether expressed or implied in its review or approval of drainage projects.

3.1.2 Definitions

ADEQ: means Arizona Department of Environmental Quality.

AZPDES: means Arizona Pollutant Discharge Elimination System.

BFE or Base Flood Elevation: means the predicted height of floodwaters during a base flood, which has a 1% annual chance of occurring. BFEs are essential for flood plain management and determining flood insurance requirements.

BMP's or Best Management Practices: means any methods, techniques, procedures, or practices that may prevent or reduce the discharge of pollutants to City right-of-way or a stormwater collection system. Best management practices may include but are not limited to; employee training, public outreach, recordkeeping, waste management, schedules of activities, prohibited practices, maintenance practices, good housekeeping practices, sediment and erosion control, structural practices, chemical storage, disposal practices, and any other processes that may control runoff, leaks, spills, or waste that may be discharged.

City Right-of-Way: means property either owned or maintained by the City of Chandler or an easement that is intended for traffic movements, utilities, drainage, and other public uses.

CLOMR or Certified Letter of Map Revision: means a letter issued by FEMA that states whether a proposed project, if constructed as planned, would meet the minimum standards of the National Flood Insurance Program (NFIP). A CLOMR evaluates the project's potential impact on the hydrologic or hydraulic characteristics of a flooding source and may result in modifications to flood maps, including changes to Base Flood Elevations (BFEs) and Special Flood Hazard Areas (SFHAs). A CLOMR does not authorize construction or revise effective flood maps, it is a preliminary evaluation. Once the project grading is complete, a formal Letter of Map Revision (LOMR) is required to officially revise the floodplain and update the Flood Insurance Rate Map.

Construction Activity: means activity that involves land development including, but not limited to clearing, grading, excavating, disturbing of land and any activities associated with the construction of both commercial and residential structures.

Detention: means runoff temporarily detained in a storage facility with delayed and controlled flow.

Direct Connection: means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, or concentrated animal feeding operation that may connect to City right-of-way or a stormwater collection system.

Discharge: means any release, addition, or introduction of pollutants into stormwater, or into any conveyance or flow that could reasonably be expected to enter a City right-of-way or stormwater collection system.

EPA: means United States Environmental Protection Agency.

ESCP or Erosion and Sediment Control Plan: means an area site plan or map included in the SWPPP satisfying the provisions of the AZPDES Construction General Permit (CGP) and identifying, among other things, the direction of stormwater flow on the site where construction activity will occur, the area that will be graded or otherwise disturbed during construction activity, site slopes after completion of grading, storage areas, the location of any onsite or nearby water bodies or stormwater collection systems and areas where soil stabilization will occur.

Illicit Connection: means any direct or indirect connection or conveyance, whether on the surface or subsurface, which, may cause or allow a non-stormwater discharge.

FEMA or Federal Emergency Management Agency: means the United States federal agency is responsible for coordinating disaster response, recovery, and planning efforts to assist individuals, communities, and governments before, during, and after emergencies.

FBFM or Flood Boundary and Floodway Map: means an official map prepared by FEMA that outlines areas within a community at risk for flooding, mudslides, or erosion. The FBFM, often used in conjunction with the Flood Insurance Rate Map, designates flood zones and floodways to assist in assessing flood risk as well as in making decisions regarding property insurance and safety measures.

FIRM or Flood Insurance Rate Map: means an official map created by FEMA that identifies areas at risk of flooding and is used to determine flood insurance requirements and premiums for properties within those areas.

Indirect Connection: means using, leaking, storing, spilling, dumping, allowing, or disposing of pollutants, which may reasonably come into contact with stormwater or other surface flows and enter City right-of-way or a stormwater collection system.

LOMR or Letter of Map Revision: means an official document issued by FEMA to modify an existing Flood Insurance Rate Map (FIRM) or Flood Boundary and Floodway Map (FBFM) for a specific area, reflecting updated flood hazard information. A LOMR is typically requested when physical changes to the land or new flood studies reveal different flood risks, or when corrections to previous flood maps are necessary.

Low Outfall: means lowest lot, sub-area, and/or regional elevation outfall for ultimate design of the street/development. May be located within the roadway network.

NFIP or National Flood Insurance Program: means the federal program that provides flood insurance to property owners and requires communities to adopt flood plain management regulations to reduce overall flood risk.

Non-stormwater Discharge: means any discharge to City right-of-way or a stormwater collection system that is not composed entirely of stormwater.

NOI: means the Notice of Intent form to be submitted to the EPA or ADEQ prior to the start of certain construction activities.

NPDES: means National Pollutant Discharge Elimination System.

Off-Site Flows: means stormwater runoff that enters the site originating outside the boundaries of the development, including, but not limited to sheet flow from vacant lands, flow along roadways, and overflows from canals and retention basins.

Person: means any human being, any governmental or political subdivision or public agency, any public or private corporation, any partnership, any firm, association or other organization, any receiver, trustee, assignee, agent, or other legal representative of any of the foregoing or any other legal entity.

Pollutant: means any solid, liquid, or gaseous substances that may adversely affect human health or the environment; alter the chemical, physical or biological properties of water; or contribute to a violation of any federal, state or local water quality standard or a condition of any permit issued to the City. Pollutants include, but are not limited to solid waste, sewage, petroleum based products, pesticides, herbicides, fertilizers, sediment (dirt, sand, mud, rock, etc.), paints, solvents, household or industrial cleaners, biological materials, radioactive materials, chemical wastes, abandoned or discarded objects, toxic wastes, pathogens, litter, incinerator residue, industrial, municipal and agricultural wastes, acids, bases, swimming pool water, pet waste, green waste, construction waste, automotive fluids and any other substance that may pose an imminent and substantial danger to public health and welfare or to the environment.

Retention: means the capture and on-site storage of stormwater runoff for the purpose of allowing infiltration into the ground, evaporation or other means of preventing discharge from the site following a storm event.

SFHA or Special Flood Hazard Area: means a designated zone identified by FEMA as having a high risk of flooding, typically with a 1% or greater annual chance of flood occurrence.

Significant Materials or Sediment: means any solid, liquid or gaseous substance other than stormwater that causes or may cause or contribute to the violation of a water quality standard pursuant to Article 2, Title 49, Arizona Revised Statutes or the provisions of any permit issued to the City of Chandler.

SWPPP or Stormwater Pollution Prevention Plan (SWPPP): means a written plan that meets the requirements of the AZPDES Construction General Permit (CGP) and identifies and describes potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges from construction activity and identifies and describes best management practices that will be implemented and maintained to prevent and/or reduce discharges of pollutants to City right-of-way or stormwater collection systems.

Stormwater: means runoff, surface flow and drainage resulting from precipitation, including rain, snow, sleet or hail.

Stormwater Collection System: means all or any part of any publicly or privately owned system or structure designed or utilized to receive, collect, detain, retain, or convey stormwater and any direct connection to such system or structure. Such a system may include, but is not limited to swales, curbs, gutters, ditches, channels, parks, pipes, watercourses, drywells, culverts, storm drains, catch basins, retention or detention areas, spillways, scuppers, pump stations and common areas.

WOTUS or Waters of the United States: means waters as defined under the federal Clean Water Act and applicable implementing regulations, including waters currently used, formerly used or susceptible to use in interstate or foreign commerce; interstate waters; all impoundments of such waters; tributaries; and adjacent wetlands, as further defined by federal law. Such waters include, but are not limited to, navigable waters, interstate waters, wetlands, lakes, rivers, intermittent and ephemeral streams and tributaries of the waters identified above.

3.3.7 Floodplain Management

Off-site flows entering the development as a result of the 100-year, 2-hour storm must be accounted for in the conceptual storm water collection and retention plan but are not required to be included in the retention volume requirements. The point of entry and exit for off-site flows from the 100-year storm must not be altered by the site development from the existing condition. In the case where off-site flows are directed to a retention basin, or

the basin watershed is located within the 100-year flood plain, the basin water depth must not exceed 4 feet for the 100-year, 2-hour storm. If these standards are not able to be met, the city may choose to approve a design modification, provided the drainage design is still in compliance with the Flood Control District of Maricopa County (FCDMC) standards.

If a residential or commercial development is located in part or in whole within a Federal Emergency Management Authority (FEMA) 100-year flood zone, the city will evaluate and determine if a CLOMR/LOMR is necessary. If necessary, a CLOMR package must be approved by the FCDMC prior to city approval and sent to FEMA after city approval. No construction permits are to be issued until the CLOMR is approved by FEMA. When site grading is complete, the final LOMR package will be prepared by the engineer of record and sent to FEMA for final approval. The city will not issue vertical building permits until the approved LOMR is published by FEMA. The city will not issue Certificate of Occupancy until the LOMR has been approved by FEMA and all the city drainage requirements have been fully accepted by the city engineer.

If a CLOMR/LOMR is not appropriate for the site, as determined by the city, a floodplain use permit from the FCDMC will be required before any construction or building permits will be issued by the city.

FCDMC requires building final floor elevations to be a minimum of 12 inches above the 100-year flood level. In no case may any finished floor elevation be less than 14 inches above the flood plain low outfall elevation.

3.5.2 City Code Section 45 – Storm Drainage Requirements

City Code Section 45 includes requirements on conceptual drainage plans, basin configurations, retention, disposal, maintenance of basins, and non-storm water discharges.

As set forth in City Code Section 45-6, and subject only to the exceptions set forth in Section 45-6 thereof, no person will cause or allow a non-stormwater discharge to City right-of-way or a stormwater collection system. This prohibition includes, without limitation, non-stormwater discharges caused by illicit connections, including direct connections and indirect connections.

As soon as any person has actual or constructive knowledge of any non-stormwater discharge from his or her property, he or she must promptly undertake all necessary steps to discover the source and the extent of discharge and proceed with the appropriate cleanup.

In addition to any other regulatory notice requirements that may apply, any person who has actual or constructive knowledge of any non-stormwater discharge from his or her property, which may result in significant materials or sediment entering into a City right-of-way,

stormwater collection system or other property owned by the City, must report such discharge as follows:

- a. If an imminent and substantial danger to public health and welfare or to the environment exists, immediately contact emergency assistance (911). If assistance is needed for the removal of hazardous waste, contact the City of Chandler Environmental Management office; and
- b. For discharges of significant materials or sediment to City right-of-way, City stormwater collection systems or other property owned by the City not involving an imminent and substantial danger to public health and welfare or to the environment, contact the City of Chandler Streets Division of the Public Works & Utilities Department by telephone within 24 hours.

If requested by the City, a follow-up written report must be provided to the City of Chandler Environmental Management Division of the Management Services Department, and to the City of Chandler Streets Division of the Public Works & Utilities Department, within 3 business days of the discharge. The written report may be submitted via mail, email, or in person and must identify the location, source of discharge and pollutant(s), extent of discharge, pollutant(s) discharged and all measures taken to mitigate the discharge. Additionally, if the discharge includes hazardous waste, the report must detail the method of disposal and disposal facility receiving the waste material. The report must also identify all practices that were implemented to prevent similar discharges in the future.

Fugitive dust and sediment generated from construction activities through erosion, wind, and vehicle trackout also have the potential to combine with stormwater to create non-stormwater discharges. Implementation of dust control measures that minimize fugitive dust and sediment generated from construction activities will reduce the amount of sediment deposited into stormwater collection systems.

3.5.3 City Code Section 43-5 – Floodplain Regulation

City Code Section 43-5 Delegation of Responsibility for Floodplain Management vests the authority for floodplain management with the Flood Control District of Maricopa County (FCDMC). Development within areas designated as flood hazard zones will be subject to the rules and regulations established by the FCDMC in conformance with the National Flood Insurance Program and State requirements as well as all City requirements.

The City Engineer and City Floodplain Administrator will receive requests for permits for floodplain development and will review them prior to forwarding them to the Flood Control District. The city regulates development within flood zones by means of a CLOMR/LOMR process. New structures will not be permitted within a floodplain until the LOMR has been approved by FEMA re-delineating the floodplain boundary away from structures and confining the flood zone boundary within retention basins. The city will not issue a

building permit or certificate of occupancy until the floodplain has been re-delineated by an approved LOMR. If the city determines the improvements do not require a CLOMR/LOMR, no permits will be issued until a valid floodplain use permit has been obtained from the FCDMC by the applicant. Final City acceptance of the building construction will not be issued until the Elevation Certificate has been accepted by the FCDMC and provided to the City.