

TUCSON ARIZONA
FLOODPLAIN MANAGEMENT PLAN
5-YEAR UPDATE WORKSHOP #2 OF 2
M.E.O.W. – MAINTAIN & ENHANCE; OUTREACH FOR WATERCOURSES
(2025)

ELIZABETH LEIBOLD P.E., CPM, CFM, CIVIL ENGINEER / TUCSON FLOODPLAIN ADMINISTRATION



CITY OF
TUCSON

DEPARTMENT OF
TRANSPORTATION AND MOBILITY

Tucson TSMS 5-Year FMP Action Item Update M.E.O.W. – Maintain & Enhance; Outreach for Watercourses

Today's Agenda:

- **Introductions and sign-in sheet for free raffle drawing**
- **Review of Minutes**
- **Tasks from first workshop**
 - ✓ Other Messages needing Broadcasting
 - ✓ Slogans / Award Ideas
 - ✓ PIO Meeting
- **Brainstorm on other creative outreach ideas**
- **FMP exercises**
- **Free Raffle Drawing**

Tucson Floodplain Management Plan 5-year Action Item Update for TSMS Subtask - Working Groups:

- 1) Creating Online App / GUI for the Tucson Drainage Manual
- 2) Software Parameter Requirements for City of Tucson Drainage Submittals
- 3) Retrofitting Existing At-Risk Sanitary Lines
- 4) Human Access Controls for Stormdrain Systems
- 5) M.E.O.W. – Maintain & Enhance; Outreach for Watercourses**
- 6) Describing Scenarios for Flood & Erosion Emergency Response Exercises
- 7) Outreach Suggestions for Demystifying Tucson Drainage Regulations



Tucson TSMS 5-Year FMP Action Item Update M.E.O.W. – Maintain & Enhance; Outreach for Watercourses

Workshop 5) M.E.O.W. – Maintain & Enhance; Outreach for Watercourses

[TSMS Subtask: Phase V.b.v]

Purpose: to promote understanding of value of natural floodplain function and broadcast important flood and erosion hazard safety messages for natural watercourses.

City of Tucson will use the preliminary information that comes from the first workshop to meet with the various City of Tucson Public Information Office staff to help develop outreach.

DEPARTMENT OF TRANSPORTATION AND MOBILITY

City of Tucson Floodplain Management Plan Stakeholders met 24APR25 to work on action item for natural watercourse outreach (TSMS Phase V.b.v.)

Tasks from first workshop:

- ✓ Created internal and external stakeholders that would be an audience to the outreach efforts.
- ✓ Discussed types of natural hazards to add to outreach – Ember Hazards
- ✓ Discussed types of products that could be considered for outreach tools
- ✓ FPA staff to meet with PIO staff to review first workshop's results so far and provide recommendations or ideas.
- ✓ Discussed Floodplain Champion Acknowledgements and potential awards.
- ✓ Stakeholders to think of slogans for either a monthly or quarterly online flood newsletter or spot on social media.
 - ❖ Is There Water in the Wash?
 - ❖ Water for the Old Growth Desert
- ✓ FPA staff to research FEMA CRS points to see where most points could be achieved.



TUCSON STORMWATER MANAGEMENT STUDY

The Floodplain Management Plan is Phase V of TSMS

TSMS Subtask V.b.v: M.E.O.W. - Maintain,
Enhance, Outreach for Watercourses

Meeting Minutes 24APR25



FLOODPLAIN MANAGEMENT PLAN

TSMS Phase V(a)

December 8, 2020



Tucson TSMS 5-Year FMP Action Item Update 24APR25
M.E.O.W. – Maintain & Enhance: Outreach for Watercourses

Present:

- John Wise
- Irene Ogata
- David Marhefka
- Blue Baldwin (Note taker)
- Adam Call
- Elizabeth Leibold

Background Messages that need to be broadcasted

- City of Tucson Code/Ordinances/Guidance
- R2D2 (Retention is Restrictive; Do Detention) approach suggested given city's soil types C&D
- Hierarchy: Floodplain Ord / UDC Code / Technical Standards
- City Floodplain Ordinance, Ch. 26
 - 26-5.1&2
 - Any development cannot unnecessarily alter riparian habitats of watercourses
 - "Necessary access only" includes: crossings for access, utilities, or trails
- UDC-ERZ
 - encroachment allowed for utilities, roadway and trail improvements
 - MS&R Scenic corridor zone: 30 ft. natural wide buffer - natural drainage to be kept intact
- Tucson Code Ch. 29 Article VIII: Watercourse Amenities, Safety and Habitat (W.A.S.H.) Ordinance
- Technical Standards section 4:
 - 4-01 (rainwater harvesting requirements)
 - 4-02 (riparian floodplain regulations)
 - 4-03 (detention retention manual)
 - 4-04 (City of Tucson drainage manual)
- AzPDES MS4 Stormwater Quality regulations are under the City of Tucson Stormwater Ordinance and regulations through ADEQ
- Policies and APG's:
 - Green Streets Active Practice Guidelines
 - Other policies

Tucson TSMS 5-Year FMP Update Subtask V.b.v: M.E.O.W. - Maintain, Enhance, Outreach for Watercourses More Meeting Minutes 24APR25

Task: Improve Outreach for broadcasting Watercourses

- Improve the Flood Insurance Meeting (FIM) and other annual workshops and FMP outreach advertising
- Improve and increase the number of in-house/employee training courses to include riparian floodplain considerations
- Other Ideas...

Goal: NFIP CRS classes are distinguished by a difference in 500 points – City is just over 2,000 points and needs just under 500 points to attain Class 5.

Tucson TSMS 5-Year FMP Update Subtask V.b.v: M.E.O.W. - Maintain, Enhance, Outreach for Watercourses

More Meeting Minutes 24APR25

Target Audience(s):

City Stakeholders

DTM Engineering reviewers
DTM Landscape
DTM Streets crews
PDSD Zoning code reviewers
PDSD Landscape
ES crews (wash clean ups)
M&C and staff
Landscape staff (PDSD & DTM)
TW CSR
TW ORCA & Maintenance
HCD admin
HCD Property Managers
Parks Mx
Parks PMs
TPD
TFD

Pima County

Wastewater (Kent McCrae)
RFCD
DEQ
Sheriff Dept.
Health Dept.
Parks & Conservation

Residents

Neighborhood Associations
HOAs
Tucson Water customers
Neighborhood advocates (ie Beryl Baker, Brad Lancaster)

Professionals

Stormwater Technical Advisory Committee (STAC)
Drainage Consultants
Society of Civil Engineers
CRS Coalition
List of stakeholders for the FMP

Developers

SAHBA
MPA
Construction Companies

Professional Associations (continuing ed. opps)

ASLA
APA
APLD
AIA

Schools

School Districts, etc.
STEM programs
UA Hydrology

Next Meeting:

- PIO representative present
- Review existing outreach materials
- Identify opportunities for maximum point gain



Master List of Community Rating System (CRS) Activities and Elements

300 Series: Public Information Activities

310 (Elevation Certificates)

- a CCMP Construction certificate management procedures 38 A-29
- b ECPO Elevation Certificate on post-FIRM buildings 48 310-13
- c ECPR Elevation Certificate on pre-FIRM buildings 30 310-15

320 (Map Information Service)

- a MI1 Providing insurance information from FIRM 30 320-8
- b MI2 LiMWA/floodway info/CBRS area 20 320-10
- c MI3 Other flood problems not shown on FIRM 20 320-11
- d MI4 Flood depth data 20 320-11
- e MI5 Special flood-related hazards 20 320-13
- f MI6 Historical/repetitive flood information 20 320-14
- g MI7 Natural floodplain functions 20 320-15

330 (Outreach Projects)

- a OP Outreach projects 200 330-6
- b FRP Flood response preparations 50 330-9
- c PPI Program for Public Information bonus N/A 330-14
- d STK Stakeholder bonus 50 330-20

340 (Hazard Disclosure)

- a DFH Real estate agent disclosure of SFHA 35 340-3
- b ODR Other disclosure requirements 25 340-5
- c REB Real estate brochure 12 340-7
- d DOH Disclosure of other hazards 8 340-10

350 (Flood Protection Information)

- a LIB Library 10 350-3
- b LPD Locally pertinent documents in the library 10 350-5
- c WEB Website 105 350-7

360 (Flood Protection Assistance)

- a PPA Property protection advice 40 360-4
- b PPV Advice after a site visit 45 360-6
- c FAA Financial assistance advice 15 360-7
- d TNG Training 10 360-10

370 (Flood Insurance Promotion)

- a FIA Flood insurance assessment 15 370-3
- b CP Coverage plan 15 370-6
- c CPI Plan implementation 60 370-9
- d TA Technical assistance 20 370-12
- e FIB Flood insurance brochures 25 A-37
- f FIM Flood insurance meeting 40 A-38
- g SCE State-required continuing education 15 A-39

Max Page*

400 Series: Mapping and Regulations

410 (Floodplain Mapping)

- a NS New study 350 410-8
- b LEV Leverage N/A 410-14
- c SR State review 60 410-16
- d HSS Higher study standards 200 410-18
- e FWS Floodway standard 140 410-21
- f MAPSH Special hazards mapping 100 410-24

420 (Open Space Preservation)

- a OSP Preserved open space 1,450 420-3
- b DR Deed restriction 50 420-12
- c NFOS Natural functions open space 350 420-14
- d SHOS Special hazards open space 150 420-19
- e CEOS Coastal erosion open space 750 420-20
- f OSI Open space incentives 250 420-21
- g LZ Low density zoning 600 420-28
- h NSP Natural shoreline protection 120 420-30

430 (Higher Regulatory Standards)

- a DL Development limitations 1,330 430-6
- b FRB Freeboard 500 430-11
- c FDN Foundation protection 80 430-16
- d CSI Cumulative substantial improvements 90 430-18
- e LSI Lower substantial improvements 20 430-19
- f PCF Protection of critical facilities 80 430-21
- g ENL Enclosure limits 240 430-23
- h BC Building code 100 430-26
- i LDP Local drainage protection 120 430-30
- j MHP Manufactured home park 15 430-31
- k CAZ Coastal A Zone regulations 500 430-32
- l SHR Special hazards regulations 100 430-38
- m TSR Tsunami hazard regulations 50 430-46
- n CER Coastal erosion regulations 370 430-48
- o OHS Other higher standards 100 430-52
- p RA Regulations administration 67 430-55



Master List of Community Rating System (CRS) Activities and Elements

400 Series: Mapping and Regulations

440 (Flood Data Maintenance)

- a AMD Additional map data
- b FM FIRM maintenance
- c BMM Benchmark maintenance
- d EDM Erosion data maintenance

450 (Stormwater Management)

- a SMR Stormwater management regulations
- b WMP Watershed master plan
- c ESC Erosion and sedimentation control
- d WQ Water quality regulations

500 Series: Flood Damage Reduction Activities

510 (Floodplain Management Planning)

- a FPM Floodplain management planning
- b RLAA Repetitive loss area analysis
- c NFP Natural floodplain functions plan
- d SDP Substantial damage management plan

520 (Acquisition and Relocation)

- All All Acquisition and relocation of buildings

530 (Flood Protection)

- PB(R) Retrofitted buildings
- PB(S) Structural flood control & drainage projects

540 (Drainage System Maintenance)

- a CDR Channel debris removal
- b PSM Problem site maintenance
- c CIP Capital improvements program
- d SDR Stream dumping regulations
- e SBM Storage basin maintenance

Max

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20 450-20

382 510-4

140 510-29

100 510-35^

140 A-54

2,250 520-4

1,600 530-2

1,000 530-2

200 540-5

50 540-11

70 540-13

30 540-16

120 540-18

600 Series: Warning and Response

610 (Flood Warning and Response)

- a FTR Flood threat recognition system
- b EWD Emergency warning dissemination
- c FRO Flood response operations plan
- d CFP Critical facilities planning
- e SRC StormReady community
- f TRC TsunamiReady community

620 (Levees)

- a LM Levee maintenance
- b LFR Levee failure threat recognition
- c LFW Levee failure warning
- d LFO Levee failure response operations
- e LCF Levee failure critical facilities

630 (Dams)

- a SDS State dam safety program
- b DFR Dam failure threat recognition
- c DFW Dam failure warning
- d DFO Dam failure response operations
- e DCF Dam failure critical facilities

Max

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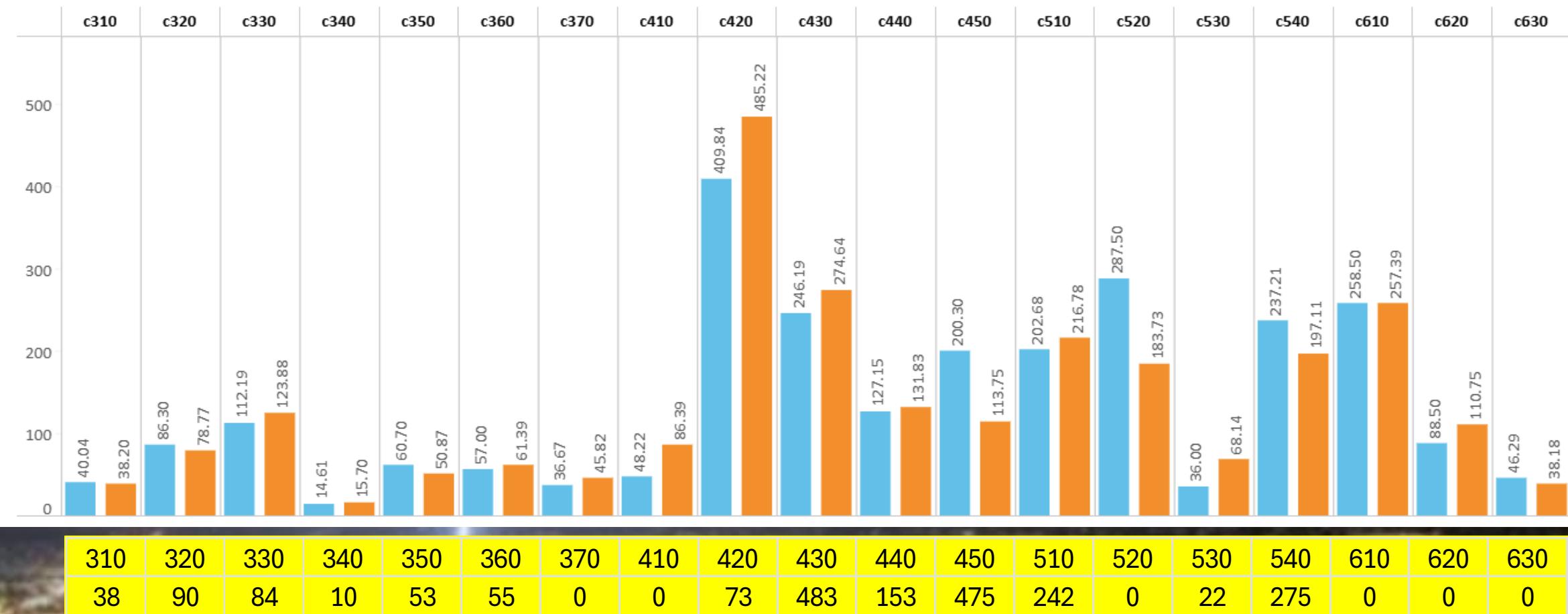


Arizona vs. National

Average Credit

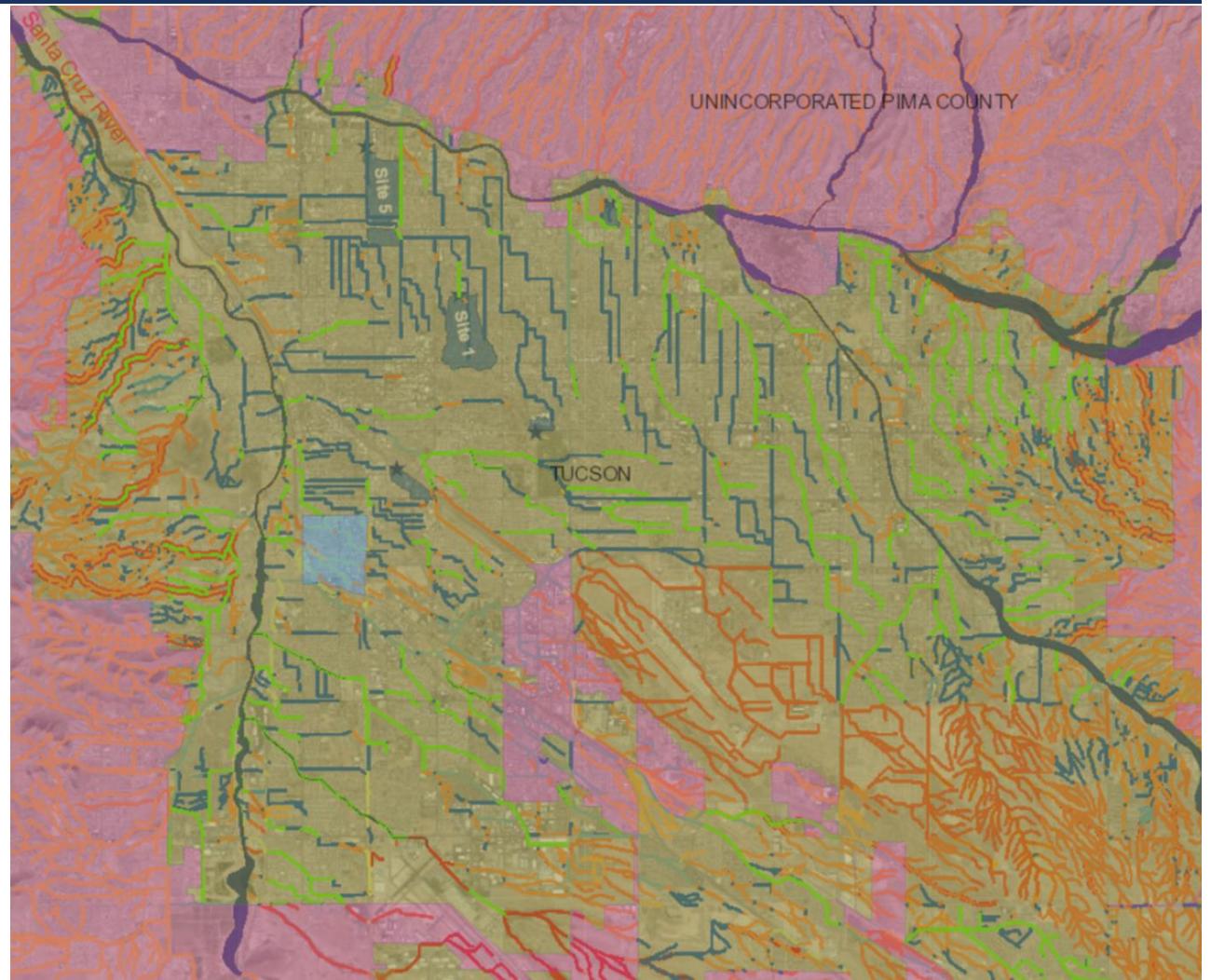


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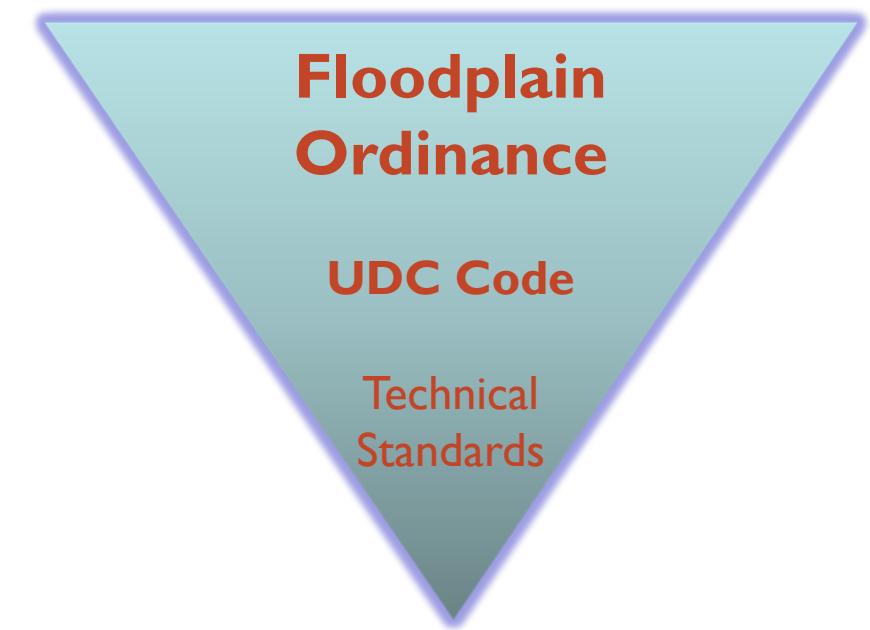


Tucson TSMS 5-Year FMP Action Item Update M.E.O.W. – Maintain & Enhance; Outreach for Watercourses Messages for Broadcasting

- Flow pattern – generally SE to NW
- Soils types are different than other areas in So Az – hydrologic soil groups C & D and caliche are harder soils so percolation can be slower.
- Sustainable approach: Detention Design (R2D2)



Tucson TSMS 5-Year FMP Action Item Update
M.E.O.W. – Maintain & Enhance; Outreach for Watercourses
Messages for Broadcasting





City of Tucson's highest
floodplain code is the
City's Floodplain
Ordinance.

Sec. 26-5.2. Floodway fringe de... + ...

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2024 S-144 (current) AZ > Tu... > Tucson, AZ Code of... > Chapter 26 FLOODPLAIN, STORMWATER, AND EROSION... Print ... Copy ... Download ... Bookmarks ... Print ...

Chapter 26
FLOODPLAIN, STORMWATER, AND EROSION HAZARD MANAGEMENT*

* Editors Note: Ord. No. 5777, § 1, adopted May 23, 1983, repealed ch. 26, pertaining to swimming pools, bath houses and bathing places, in its entirety. Former ch. 26 was derived from Ord. No. 3002, § 2, adopted June 26, 1967, as amended by Ord. No. 5722, §§ 1, 3, adopted Feb. 28, 1983. Ord. No. 5802, § 1, adopted July 5, 1983, specifically repealed Ord. No. 5722, §§ 1, 3, from which §§ 26-70 and 26-72 had been derived. For a complete sectional disposition, see the Code Comparative Table at the back of this volume.

Subsequently, Ord. No. 7407, § 5, adopted June 25, 1990, added a new ch. [26](#).

Note: Ord. No. 10209, § 1, adopted Oct. 18, 2005, amended the title of ch. [26](#) to read as herein set out. Prior to inclusion of said ordinance, ch. [26](#) was entitled, "Floodplain and Erosion Hazard Management."

Cross References: Spa/pool code, § [6-181](#) et seq.

Art. I. In General, §§ 26-1-26-19

Div. 1. Floodplain and Erosion Hazard Area Regulations, §§ 26-1-26-19

Art. II. Stormwater Management, §§ 26-20-26-48

Div. 1. Purpose and Definitions, §§ 26-20-26-29

Div. 2. Powers and Duties, §§ 26-30-26-39

Div. 3. Prohibitions, Non-Prohibited Discharges, and Requirements, §§ 26-40-26-46

Div. 4. Enforcement, §§ 26-47, 26-48

Article I. In General

Division 1. Floodplain and Erosion Hazard Area Regulations

Sec. [26-1](#). Purpose.

Sec. [26-1.1](#). Authority.

Chapter 26 FLOODPLAIN, STORMWATER, AND EROSION HAZARD MANAGEMENT*

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Article I. In General

Division 1. Floodplain and Erosion Hazard Area Regulations

Sec. [26-1](#). Purpose.

Sec. [26-1.1](#). Authority.



Disturbing riparian
floodplain is approved
for necessary
improvements that
address safe
conveyance of
floodwaters.

Tucson TSMS 5-Year FMP Action Item Update

M.E.O.W. – Maintain & Enhance; Outreach for Watercourses

Messages for Broadcasting

Sec. 26-5.2. Floodway fringe development.

No development, storage of materials or equipment, or other uses shall be permitted which, acting alone or in combination with exist danger or hazard to life or property. Development in the floodway fringe shall:

- (1) Conform to adopted city land use plans for the design of public and private development in the floodplain.
- (2) Not result in damage to public facilities as a result of erosion or flooding events.
- (3) Not generate adverse impacts, including but not limited to erosion, upstream or downstream.
- (4) **Not unnecessarily alter riparian habitats of watercourse and adjacent bank areas.**
- (5) Not increase the base flood elevation more than one-tenth of a foot, as measured from the property boundary.
- (6) Not result in higher floodwater velocities which significantly increase the potential for flood or erosion damage.
- (7) Not significantly increase channel or bank erosion.
- (8) Use, where appropriate, native and/or adaptive landscaping to enhance the open space character of the floodway fringe.
- (9) Place the lowest (including basement) floor one (1) foot above the base flood elevation. In an AO Zone, residential constructio
renairs or improvements shall have the lowest floor, including basement, elevated to or above the regulatory flood elevation. Prior to t



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Messages for Broadcasting

Tucson Code – Floodplain Ordinance

UDC Overlay Code – ERZ Overlay

Tucson Code Chapter 29 Article 8 – W.A.S.H. Ordinance

Technical Standards – 4-03



Tucson TSMS 5-Year FMP Action Item Update

M.E.O.W. – Maintain & Enhance; Outreach for Watercourses

Messages for Broadcasting

- Besides the Floodplain, Stormwater, and Erosion Hazard Management Code, other Mayor and Council approved regulations impact riparian floodplain such as: various chapters in the Tucson Code (**W.A.S.H. Ordinance**), Plan Tucson, Unified Development Code (UDC), UDC Overlays (**ERZ**), Technical Standards (Grading, Hydrology) and other Tucson regulations
- Technical regulations such as: City of Tucson Drainage Manual, Detention / Retention Manual, and other Technical Standards
- NOI Authorization for grading issued by Arizona Department of Environmental Quality (Arizona Pollutant Discharge Elimination System (AZPDES MS4, Deminimus, Pesticide Permit, Construction General Permit)
- Policies and Active Practice Guidelines such as Green Streets Active Practice Guidelines (APG) requires all road projects to incorporate performance goals wherever possible.

Tucson TSMS 5-Year FMP Action Item Update M.E.O.W. – Maintain & Enhance; Outreach for Watercourses Messages for Broadcasting

One of the prominent features of suburban and metropolitan Tucson is the network of coalescing urban watercourses and drainageways extending throughout the basin. In fact, these urban watercourses and drainage systems are just as significant a part of the total fabric of our community as are the roadways, linear parks, and the residential and non-residential neighborhoods which serve as vital, interconnected components of the overall urban environment of the City of Tucson. Unfortunately, the overall importance of an urban watercourse is often overlooked, and the full potential for utilizing this important land resource is often not fully realized by land planners and civil engineers.

Urban watercourses serve numerous complementary purposes, such as providing a primary pathway for the conveyance of stormwater runoff; reducing downstream flood peaks by temporarily detaining floodwaters in the shallow flood plains or overbank storage areas naturally found along the unchannelized and/or underfit portions of watercourses; providing open space within the otherwise possibly congested urban environment; providing areas for the either the preservation or the re-establishment of natural, riparian vegetation, thereby preserving wildlife habitat and movement corridors for native and introduced animal species; and providing a suitable location to accommodate future trail systems adjoining the watercourses for the enjoyment of pedestrians and bicyclists.

In an effort to improve the appearance and to encourage multi-purpose uses of important urban watercourses in our community, the design of drainageways and channels should be done in the context of the entire urban environment, and not just as a single-purpose project.

**STANDARDS MANUAL FOR DRAINAGE DESIGN
AND FLOODPLAIN MANAGEMENT
IN TUCSON, ARIZONA**

**DECEMBER, 1989
(REVISED JULY, 1998)**



*Prepared for
City of Tucson
Department of Transportation
Engineering Division*

*Prepared by
Simons, Li & Associates, Inc.*

Tucson TSMS 5-Year FMP Action Item Update
M.E.O.W. – Maintain & Enhance; Outreach for Watercourses
Messages for Broadcasting

Disturbing riparian floodplain is approved for necessary improvements that address safe conveyance of floodwaters.

In some cases, the City will require that the existing riparian vegetation be preserved or enhanced. Therefore, it may not be possible to alter a wash or to provide certain types of bank protection, because doing so would result in the loss of significant riparian vegetation. However if, as with most small washes, the riparian vegetation exists only along the banks of the wash, it may be possible to construct erosion protection of some type outside of this vegetation zone. The width of this zone shall be determined on a case-by-case basis, as reviewed and approved by the City Engineer.

Tucson TSMS 5-Year FMP Action Item Update
M.E.O.W. – Maintain & Enhance; Outreach for Watercourses
Messages for Broadcasting

Sec. 26-5.1. Floodway development.

Development in the floodway shall:

- (1) Conform to adopted city land use plans for the design of public and private development in the floodplain.
- (2) Not result in damage to public facilities as a result of erosion or flooding events.
- (3) Not generate adverse impacts (including but not limited to erosion) upstream or downstream.
- (4) Not unnecessarily alter riparian habitats of watercourses and adjacent bank areas.
- (5) Not increase the base flood elevations. Certification by a registered professional civil engineer shall be provided that demonstrates that the encroachment shall not result in any increase in flood levels during the occurrence of the base flood

Tucson TSMS 5-Year FMP Action Item Update

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Sec. 26-5.2. Floodway fringe development.

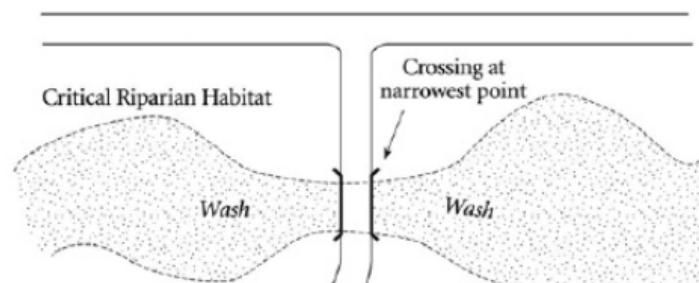
No development, storage of materials or equipment, or other uses shall be permitted which, acting alone or in combination with existing or future uses, create a danger or hazard to life or property. Development in the floodway fringe shall:

- (1) Conform to adopted city land use plans for the design of public and private development in the floodplain.
- (2) Not result in damage to public facilities as a result of erosion or flooding events.
- (3) Not generate adverse impacts, including but not limited to erosion, upstream or downstream.
- (4) Not unnecessarily alter riparian habitats of watercourse and adjacent bank areas.
- (5) Not increase the base flood elevation more than one-tenth of a foot, as measured from the property boundary.
- (6) Not result in higher floodwater velocities which significantly increase the potential for flood or erosion damage.
- (7) Not significantly increase channel or bank erosion.
- (8) Use, where appropriate, native and/or adaptive landscaping to enhance the open space character of the floodway fringe.
- (9) Place the lowest (including basement) floor one (1) foot above the base flood elevation. In an AO Zone, residential construction new or substantial damage repairs or improvements shall have the lowest floor including basement elevated to or

A. Standards

The following standards are required as part of the [mitigation](#) plan, when applicable. They are also required for any allowed encroachment into [critical riparian habitat areas](#). Encroachment that may be allowed is limited to [utilities](#), [roadway improvements](#), walkways, or bike paths.

1. [Roadway](#), bike path, and walkway [improvements](#) and utility encroachments into [critical riparian habitat areas](#) are limited and approved only if there are no other alternatives in the design of the [project](#). Where allowed, [roadway](#), bike path, and walkway [improvements](#) and utility encroachments shall cross [critical riparian habitat areas](#) and not run parallel to the [critical riparian habitat](#).
2. Where [roadway](#), bike path, and walkway [improvements](#) are allowed to encroach into [critical riparian habitat areas](#), they are allowed only at the narrowest point of the [critical riparian habitat](#). (See [Figure 5.7-C](#).)



**FLOODPLAIN ENCROACHMENT THAT MAY BE ALLOWED
IS LIMITED TO UTILITIES, ROADWAY IMPROVEMENTS,
WALKWAYS, OR BIKE PATHS.**





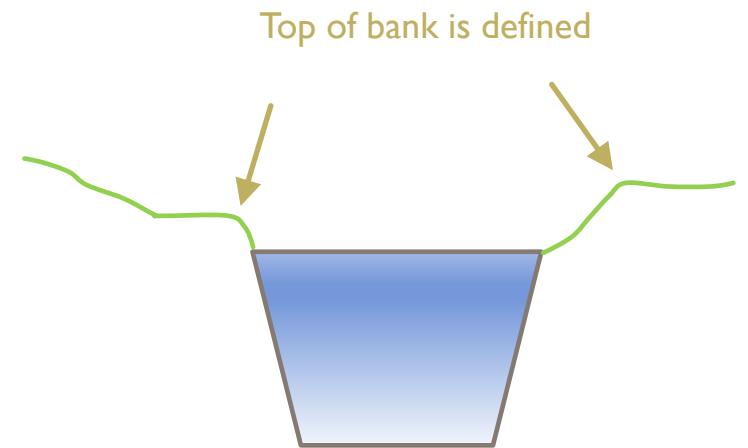
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ARTICLE VIII. WATERCOURSE AMENITIES, SAFETY AND HABITAT

Sec. 29-12. Purpose and intent.

Washes within the urbanized areas of the city in which existing vegetation is maintained are valuable nature resources that contribute to the health and well-being of the residents of the city. Such washes assist in groundwater recharge, support wildlife habitat, and provide natural open space areas. These regulations are specifically intended to accomplish the following:

- (a) Maximize opportunities for groundwater recharge through the preservation of specific washes with earthen channels and banks.
- (b) Protect existing vegetation found within and near specific washes.
- (c) Provide for the restoration of vegetation disturbed as a result of development in and adjacent to specific washes.
- (d) Assist in the reduction of the urban heat island effect by retaining existing vegetation and minimizing structural improvement of urban washes.



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5.3.4. SCENIC ROUTE BUFFER AREA

A. Requirement

1. A buffer area 30 feet wide, adjacent to the MS&R future right-of-way line , is required and shall be preserved and maintained in its natural state;

C. Drainageways shall be maintained in their natural states when possible, and the discretionary authority shall be exercised only under unusual circumstances. In situations where the discretionary authority is exercised by the City Engineer or designee, modifications shall be in accordance with the “Floodplain, Stormwater, and Erosion Hazard Management Regulations.”

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M.E.O.W. – Maintain & Enhance; Outreach for Watercourses

Messages for Broadcasting

TS Sec.2-01.2.2 Grading Standards

2.2 Exceptions



A [grading](#) permit is not required for the following:

- A. When approved by PDSD, [grading](#) in an isolated, self-contained area if there is no danger to private or public property;
- B. An [excavation](#) below finished [grade](#) for basements and footings of a building, retaining wall or other structure authorized by a valid building permit. This shall not exempt any [fill](#) made with the material from such [excavation](#) or exempt any [excavation](#) having an unsupported height greater than five feet (1,524 mm) after the completion of such structure;
- C. Cemetery graves;
- D. Refuse disposal [sites](#) controlled by other regulations;
- E. [Excavations](#) for wells or tunnels or utilities;
- F. Mining quarrying, [excavation](#), processing stockpiling of rock, sand, gravel, aggregate or clay where established and provided for by law, provided such operations do not affect the lateral support or increase the stresses in or pressure upon any adjacent or contiguous property, "except as such activities are regulated by code or other regulations of this jurisdiction";
- G. Exploratory [excavations](#) under the direction of soil engineers or engineering geologists;
- H. An [excavation](#) which (1) is less than two feet (610 mm) in depth, or (2) which does not create a cut [slope](#) greater than five feet (1,524 mm) in height and steeper than one unit vertical in one and one-half units horizontal (66.7% [slope](#)); and,
 - I. A [fill](#) less than one foot (305 mm) in depth and placed on natural terrain with a [slope](#) flatter than one unit vertical in five units horizontal (20% [slope](#)), or less than three feet (914 mm) in depth, not intended to support structures, which does not exceed 50 cubic yards (38.3 m³) on any one lot and [does not obstruct a drainage course](#).

NOTE: Exemption from the permit requirements of this chapter shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this chapter or any other laws or ordinances of this jurisdiction.

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Messages for Broadcasting

TC Sec.26-8(b)(4)

(b) *Delineation of Areas Subject to Flooding on Plats and Development Plans:*

- (1) All tentative plats and development plans submitted shall show the location, by survey or photographic methods, of streams, watercourses, canals, irrigation laterals, private ditches, culverts, lakes and other water features, including those areas subject to flooding and/or erosion. The location shall also include the direction and magnitude of any flow, water surface elevations, and the limits of inundation from the base flood.
- (2) Identify on the final plans the elevation(s) of the proposed structure(s) and pads. If the site is filled above the BFE, the final lowest floor and grade elevations shall be certified by a registered professional engineer or surveyor and provided to the floodplain administrator.
- (3) All tentative plats and development projects in floodprone areas shall be accompanied by conceptual grading plans and conceptual drainage improvement plans included in a drainage statement or a drainage report prepared by a state-registered professional civil engineer, for approval by the city engineer, unless exempted by the city engineer. These reports or statements should include the following:
 - a. The methods for mitigation of increased urban peak and/or volumetric flood-water runoff or discharge created by the development on-site and to upstream and downstream properties, up to a reasonable location as determined by the approved hydrologic and hydraulic study.
 - b. The demonstration that the improvements are compatible with the existing upstream and downstream drainage conditions and that any proposed grading and/or grade change will not have an adverse impact on adjacent property.
 - c. The methods for adequate erosion and sediment control, as approved by the city engineer.
 - d. The proposed floodplain management methods for floodproofing (existing nonresidential structure only) drainage control, detention, retention, and/or delineating and setting aside floodprone areas which result in mitigating a flood or erosion hazard on the proposed finished pads (elevations determined) and drainage slopes constructed to protect building foundations from runoff waters.
- (4) All tentative plats and development plans in floodprone areas shall show proposed grading and improvement for areas which are subject to flooding or erosion or which have poor drainage. Also included will be a description and location of all facilities proposed to be used to alleviate flooding, erosion or other drainage problems, both in the proposed subdivision or development, and downstream and upstream of any watercourse affected by the subdivision or development, whether they are within or outside the project boundaries.

Prior to commencement of any site improvements or grading, a grading plan shall be submitted to the city engineer for review and approval. Detailed improvement plans of storm drains or channel improvements shall also be submitted to the city engineer for review and approval.

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TC Sec.26-8(d)

(d) *Building Sites*: Land which contains area within a floodplain shall not be divided or platted for residential occupancy or building sites unless each lot contains a building site, either natural or manmade, which is not subject to flood-related erosion or to flooding by the base flood, provides all weather access to the building pad, and is certified for compaction of fill for pad by an engineer.

(1) In areas subject to flooding where no fill is proposed to be used, the building line shall be located no closer to the floodplain than the edge of the area subject to flooding by the base flood.

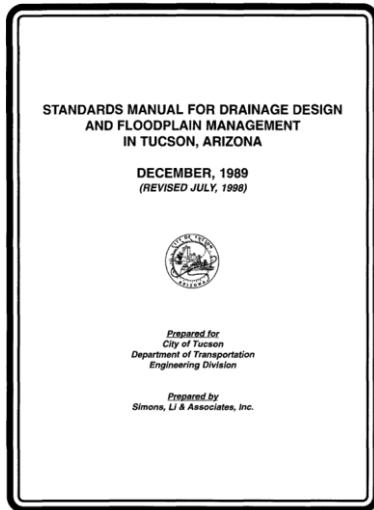
(2) In areas where fill is to be used to raise the elevation of the building site, the building line shall be located not less than twenty-five (25) feet landward from any edge of the fill, unless a study prepared by a state-registered professional civil engineer and approved by the city engineer shows that a lesser distance is acceptable.

(3) No fill shall be placed in any floodway; nor shall any fill be placed where it diverts, retards or obstructs the flow of water to such an extent that it creates a danger or hazard to life or property in the area.

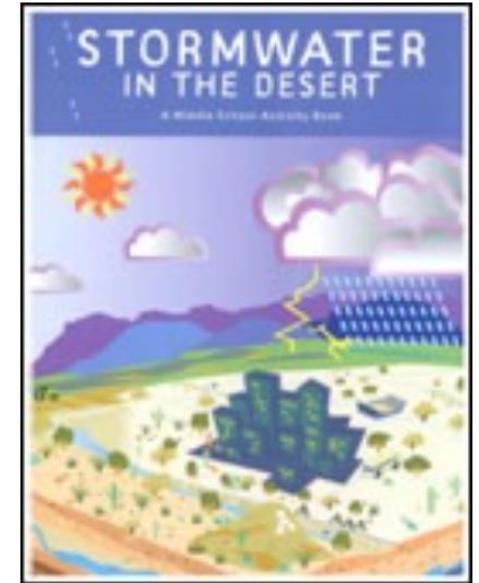
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Messages that Need to be Broadcasted



City of Tucson Floodplain Administration is looking for ways to improve our outreach efforts to encourage the understanding of these safety regulations and to increase awareness of riparian washes and the understanding of natural floodplain function.



Tucson TSMS 5-Year FMP Action Item Update M.E.O.W. – Maintain & Enhance; Outreach for Watercourses PIO Ideas

- Improve the FIM and other annual workshops and Floodplain Management Plan Meeting outreach advertising
- Improve and increase the number of in-house / employee trainings to include riparian floodplain considerations
- Other ideas...
- Mayor's Proclamation
- Territorial Newspaper
- NA & HOA emails
- NextDoor
- Instagram
- FaceBook
- Twitter
- Virtual FIM Outreach events
- Public Open House
- Reach Out to New Stations
- Govdelivery (press releases)
- External Outreach Events
- Internal Operation Splash

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GIS Staff Support

Floodplain Management Hub Site - A website that will contain surveys, applications, stories, narrative, and more.

- 1) Survey for stakeholders to identify who they are, where they live and what type of stakeholder they are.
- 2) Survey for reporting flooding incidents - Spanish and English
- 3) Application for identifying what floodplain you are in and giving floodplain information via clicking on the map.
- 4) Floodplain Report Dashboard
 - a. Dashboard for seeing reported flooding incidents in each watershed with levels of urgency assigned based on a variety of factors including:
 - i. High number of high-risk incidents
 - ii. Soil type
 - iii. Equity (incorporating the Equity Priority Index).
 - b. Watershed updates – explain drainage improvement project underway in that watershed
- 5) Story Map explaining floodplains and Tucson floodplain regulations
- 6) Content library - a PDF repository for TSMS reports and other smaller drainage master plans, drainage reports, floodplain maps, elevation certificates, and other documents for the public to be able to search through documents.

When: Likely start Late Fall (November 2025), Estimated Completion Date: (May 2027)

Tucson TSMS 5-Year FMP Action Item Update FMP Stakeholder Surveys

- Please fill out Goal survey (updated verbiage).
- Please fill out FMP other surveys
- Turn in survey data

ADDITIONAL THOUGHTS AND IDEAS?

Thank you for attending the second part (2 of 2) City of Tucson Floodplain Management Plan Working Group Meetings (TSMS Phase Vbv) for follow-up on M.E.O.W. and further discussion of FMP.

Open House Meeting:
Public Works Building
Basement
Thursday
July 17, 2025
3:30-6:30 PM

