

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



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 Landcaster)

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)

			Max	Page*
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

400 Series: Mapping and Regulations

410 (Floodplain Mapping)

			Max	Page*
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)

			Max	Page
a	AMD	Additional map data	160	440-3
b	FM	FIRM maintenance	15	440-8
c	BMM	Benchmark maintenance	27	440-9
d	EDM	Erosion data maintenance	20	440-13

450 (Stormwater Management)

a	SMR	Stormwater management regulations	380	450-4
b	WMP	Watershed master plan	315	450-14
c	ESC	Erosion and sedimentation control	40	450-19
d	WQ	Water quality regulations	20	450-20

500 Series: Flood Damage Reduction Activities

510 (Floodplain Management Planning)

a	FPM	Floodplain management planning	382	510-4
b	RLAA	Repetitive loss area analysis	140	510-29
c	NFP	Natural floodplain functions plan	100	510-35^
d	SDP	Substantial damage management plan	140	A-54

520 (Acquisition and Relocation)

All	All	Acquisition and relocation of buildings	2,250	520-4
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530 (Flood Protection)

PB(R)		Retrofitted buildings	1,600	530-2
PB(S)		Structural flood control & drainage projects	1,000	530-2

540 (Drainage System Maintenance)

a	CDR	Channel debris removal	200	540-5
b	PSM	Problem site maintenance	50	540-11
c	CIP	Capital improvements program	70	540-13
d	SDR	Stream dumping regulations	30	540-16
e	SBM	Storage basin maintenance	120	540-18

600 Series: Warning and Response

610 (Flood Warning and Response)

			Max	Page
a	FTR	Flood threat recognition system	75	610-8
b	EWD	Emergency warning dissemination	75	610-11
c	FRO	Flood response operations plan	115	610-15
d	CFP	Critical facilities planning	75	610-19
e	SRC	StormReady community	25	610-21
f	TRC	TsunamiReady community	30	610-22

620 (Levees)

a	LM	Levee maintenance	95	620-7
b	LFR	Levee failure threat recognition	30	620-10
c	LFW	Levee failure warning	50	620-12
d	LFO	Levee failure response operations	30	620-14
e	LCF	Levee failure critical facilities	30	620-17

630 (Dams)

a	SDS	State dam safety program	45	630-5
b	DFR	Dam failure threat recognition	30	630-6^
c	DFW	Dam failure warning	35	630-8
d	DFO	Dam failure response operations	30	630-11^
e	DCF	Dam failure critical facilities	20	630-12

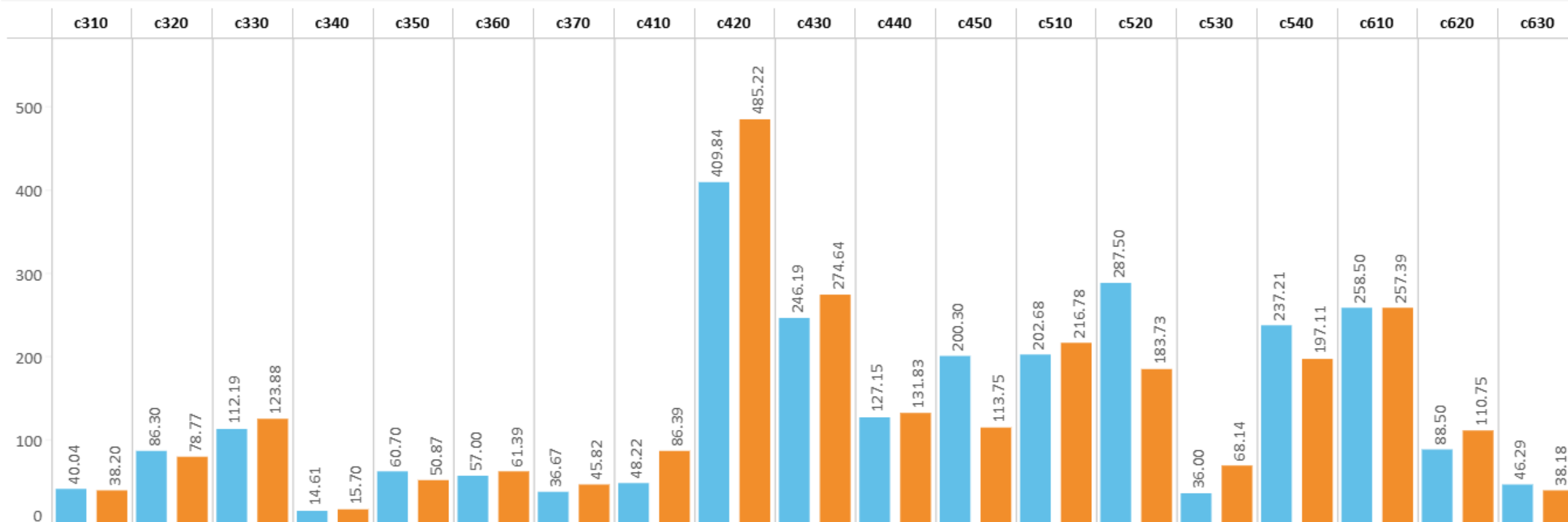


Arizona vs. National

Average Credit



Hover for CRS Activity Glossary



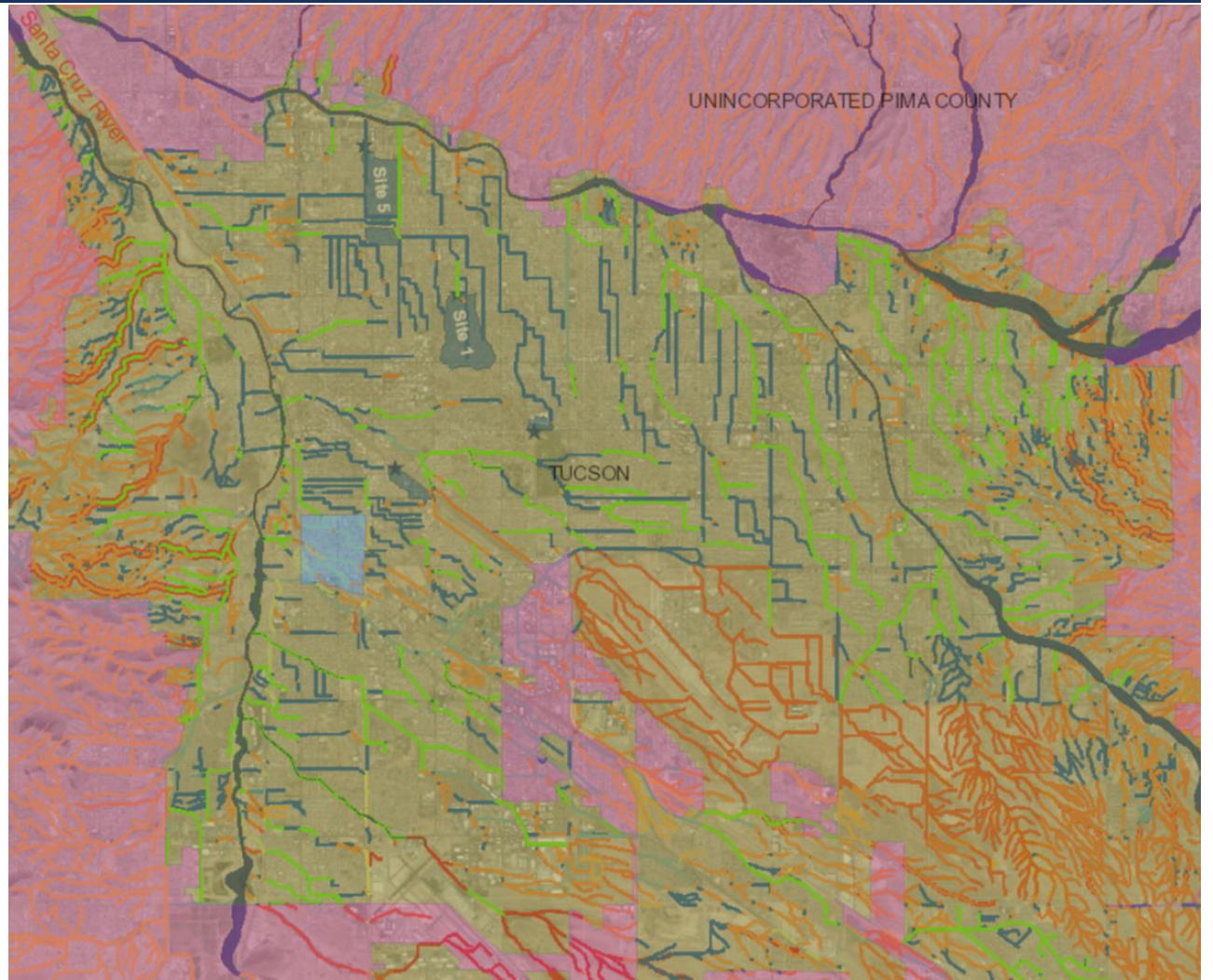
310	320	330	340	350	360	370	410	420	430	440	450	510	520	530	540	610	620	630
38	90	84	10	53	55	0	0	73	483	153	475	242	0	22	275	0	0	0

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



**Floodplain
Ordinance**

UDC Code

Technical
Standards



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

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

code library.amlegal.com/codes/tucson/latest/tucson_az/0-0-0-19333

American Legal Publishing eCodeALP

2024 S-144 (current)

Chapter 26 FLOODPLAIN, STORMWATER, AND EROSION HAZARD MANAGEMENT*

ARTICLE I. IN GENERAL

DIVISION 1. FLOODPLAIN AND EROSION HAZARD AREA REGULATIONS

Sec. 26-1. Purpose.

Sec. 26-1.1. Authority.

Sec. 26-1.2. Applicability.

Sec. 26-1.3. Basis for establishing areas of special flood hazard.

Sec. 26-1.4. Methods of reducing flood losses.

Sec. 26-2. Definitions.

Sec. 26-3. Floodplain boundaries, elevations.

Sec. 26-3.1. Floodplain boundary and flood elevation revisions.

Sec. 26-4. Statutory exceptions.

Sec. 26-4.1. Nonconforming development.

Sec. 26-5. Floodplain and erosion hazard area development.

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.



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.

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 construction repairs or improvements shall have the lowest floor, including basement, elevated to or above the regulatory flood elevation. Prior to fl



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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

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

Messages for Broadcasting

Sec. 26-5.2. Floodway fringe development.

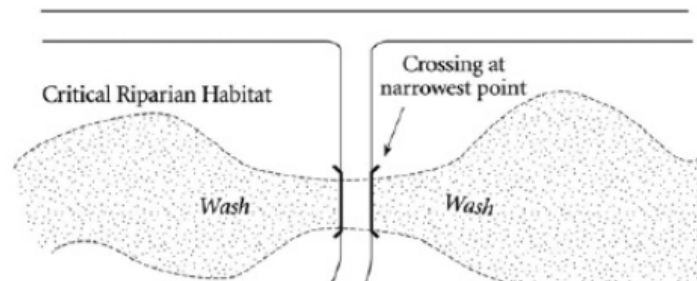
No development, storage of materials or equipment, or other uses shall be permitted which, acting alone or in combination with existing or future uses, create a danger or hazard to life or property. Development in the floodway fringe shall:

- (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.





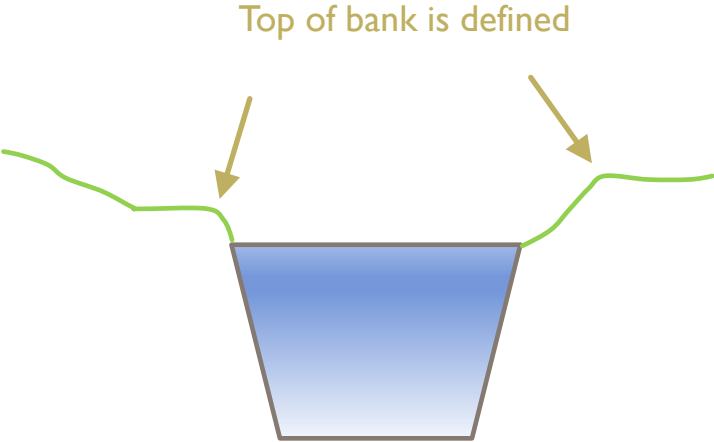
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ARTICLE VIII.
WATERCOURSE AMENITIES, SAFETY AND HABITAT

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.”

Tucson TSMS 5-Year FMP Action Item Update

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

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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Messages for Broadcasting

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.

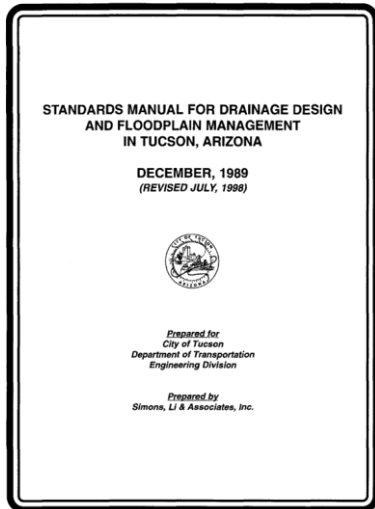
(2) In areas where fill is to be used to raise the elevation of the building site, the building line shall be located not less than twenty-five (25) feet landward from any edge of the fill, unless a study prepared by a state-registered professional civil engineer and approved by the city engineer shows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

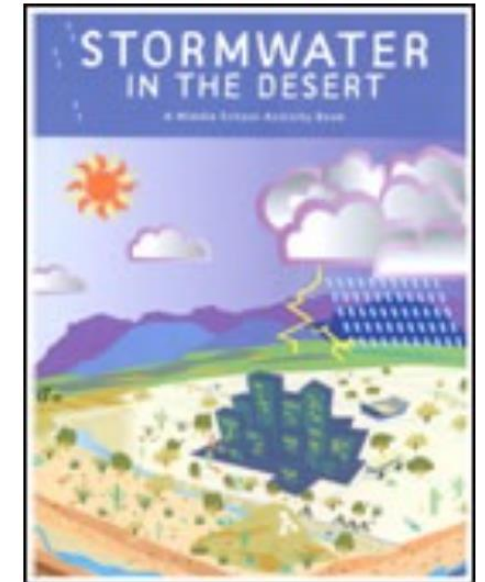
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Messages that Need to be Broadcasted



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.



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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

Tucson TSMS 5-Year FMP Action Item Update

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

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

