



Public Works Department

Stormwater Management Program (SWMP)

Program implementation contact: Public Works Director or designee¹

For compliance with permit AZG2021-002

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**Available online at buckeyeaz.gov and in-person at
Public Works, 23454 W MC 85, Buckeye, AZ 85326**

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Introduction

This Stormwater Management Program (SWMP) document is updated in compliance with Arizona Department of Environmental Quality (ADEQ) Permit No. AZG2021-002, Arizona Pollutant Discharge Elimination System (AZPDES) Small Municipal Separate Storm Sewer System (MS4) General Permit (the Permit) effective September 16, 2022. This document shall be retained current as required by the permit, shall be at the office or facility identified on the Notice of Intent (NOI)ⁱⁱ, and shall be available upon request by citizens, ADEQ or U.S. Environmental Protection Agency (EPA), or their authorized representatives. This document defines the processes and methods employed by the City of Buckeye to ensure compliance with the stormwater permit and Buckeye's NOI, submitted to ADEQ. This document, supported by 40 CFR 122.34(a), shall also be known as the Stormwater Quality Management Program (SWMP) and is a guide for the stormwater quality program of the City of Buckeye.

A copy of the SWMP is available for review during normal business hours at the Public Works office located at 945 N 215th Ave, Suite 137, Buckeye, AZ 85326 and is available posted online at www.buckeyeaz.gov/trashⁱⁱⁱ

Contents of the SWMP are defined in Part 4.0 of the permit as quoted below:

AZG2021-002 Permit Part 4

The permittee shall develop, implement, and enforce a Stormwater Management Program (SWMP) that is designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the federal Clean Water Act and A.R.S Title 49 Chapter 2, Article 3.1 *et seq.* The program shall be documented and available for review by ADEQ, U.S. EPA, or interested persons.

1. Existing permittees shall modify or update their existing SWMP to meet the terms and conditions of this permit within one (1) year of the effective date of this permit. Buckeye's due date: September 15, 2023.
2. New permittees shall develop a SWMP that meets the conditions of this permit within two (2) years of the effective date of their coverage. This is not applicable to the City of Buckeye as Buckeye is an existing MS4 permitted entity.
3. At a minimum, and at least annually, all permittees shall assess, evaluate, and update the SWMP and incorporate any revisions necessary to maintain permit compliance. The annual SWMP review shall occur in connection with preparing the annual report (see Parts 8.1 and 8.3). Buckeye's update schedule is located within this permit.

4.1 Contents of the Stormwater Management Program

At a minimum, the SWMP shall contain the following:

1. [Listing of all protected surface waters](#), their classification under the applicable state surface water quality standards (SWQS), any impairment(s) and associated pollutant(s) of concern, applicable TMDLs and WLAs, and number of outfalls from the MS4 that discharge to each waterbody;

2. The process and schedule for creating and maintaining an [up-to-date map](#) that includes, at a minimum, the storm sewer system, outfalls, and protected surface waters;
3. Illustrate any areas that are not subject to the MS4 and identify why there is no discharge within the MS4 boundaries;
4. Listing of all known, [ongoing discharges](#) that cause or contribute to the exceedance of an applicable surface water quality standard;
5. [Description of practices](#) to achieve compliance with the permit. For each permit condition identify:
 - a. The personnel, position or department responsible for implementing the measure; and
 - b. The BMPs for each control measure or permit requirement,
6. Description of practices to achieve compliance with applicable [TMDLs](#) or waste load allocation, including measurable goal(s) for each BMP and corresponding milestones and timeframes. Each goal shall have an associated measure of assessment;
7. Analytical monitoring program for impaired or not-attaining waters, and for Outstanding Arizona Waters to ensure compliance with permit limitations, waste-load allocation(s), and SWQS;
8. The analytical monitoring program shall include a Sampling and Analysis Plan ([SAP](#)) that includes the following minimum components: sample collection, equipment and containers, decontamination, calibration procedures, sample frequency (based on illicit discharge characteristics), document site conditions, field notes, sample preservation, tracking (chain-of-custody), and handling;
9. Protocol for [annual program evaluation](#) (Part 8.1). Update annually and maintain copies; and
10. [Identification of personnel](#) (department, position, etc.) responsible for program implementation.

4.2 Stormwater Management Plan Availability

The permittee shall retain a copy of the current SWMP required by this permit at the office or facility identified on the NOI and shall be available upon request by citizens, ADEQ or U.S. EPA, or their authorized representatives.

A copy of the most up-to-date SWMP shall be made available to the public during normal business hours (available at Public Works 23454 W MC 85, Buckeye, AZ 85326) and posted on the permittee's website (www.buckeyeaz.gov/stormwater).

###

End of ADEQ AZPDES General Permit for Stormwater discharges from Small MS4s to Protect Surface Waters permit section 4.0 "Stormwater Management Program"

Permit History

The Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), Section 402(p), issued by Congress, provides authority to the Federal government to enact rules and regulations regarding the control of stormwater pollution.

In response to this act, the U.S. EPA developed Federal Code 40, specifically 40 Code of Federal Regulations 40 (CFR) 122.30 – 122.37, detailing permit requirements for municipalities in a phased approach to regulate stormwater discharges under the National Pollutant Detection and Elimination System (NPDES) program.

In December 1999, the EPA finalized the Phase II rule that requires certain Small MS4s to participate in the NPDES program and obtain a stormwater permit. The intent of the rule is to reduce pollutants in stormwater runoff through actions implemented by the operators of MS4s.

In 2002, ADEQ was authorized to implement the NPDES program, retitled, Arizona Pollutant Discharge Elimination System (AZPDES) program in Arizona. Arizona law was amended to adopt federal stormwater management requirements (40 CFR 122.34) through the state-authorized AZPDES program managed by ADEQ, specifically under the regulations of A.A.C. Title 18, Chapter 9, Articles 9 and 10.

The Arizona Revised Statute (A.R.S.) references federal requirements of 40 CFR 122.34 (Permit requirements for regulated small MS4s) primarily in A.R.S. Title 49, Chapter 2, Article 3.1.

Key state references include:

- A.R.S. § 49-371: references 40 Code of Federal Regulations section 122.34 regarding county authority and regulation of activities.
- Arizona Administrative Code (A.A.C.) R18-9-A905: establishes the AZPDES program, incorporating federal standards, including 40 CFR 122.
- ADEQ Small MS4 General Permit: The Arizona Department of Environmental Quality (ADEQ) issues this permit under the authority of A.R.S. Title 49, Chapter 2, Article 3.1, enforcing the federal conditions of 40 CFR § 122.34.

Arizona issued their first five-year permit, AZG2002-002. The City of Buckeye population was too low to qualify for permit coverage at that time, as shown by the EPA Urbanized Area derived from the decennial census data.

ADEQ's second stormwater permit, AZG2016-002, was issued after the Buckeye led stakeholder feedback redressed permit concerns. The ADEQ retract and re-write permit was issued on September 30, 2016. The City provided a timely NOI in March, 2017, approved by ADEQ after the required public notice, on April 24, 2017. The next stormwater permit was issued by ADEQ in 2021. Upon issuance, the City of Buckeye, the Town of Queen Creek, and Pinal County, issued an appeal. ADEQ effected permit changes, and issued an amended permit, dated September 16, 2022. Buckeye applied for the updated permit with an NOI to ADEQ on October 26, 2022. This Stormwater Management Program (SWMP) represents the updated SWMP required in response to permit AZG2021-002, and consistent with 40 CFR 122.34(a)).

Key Terms and Compliance:

There are key terms/ideas necessary for proper understanding and implementation of the AZPDES MS4 Phase II Permit in Buckeye. These are Municipal Separate Storm Sewer (MS4), Best Management Practices (BMPs) Maximum Extent Practicable (MEP), Minimum Control Measure (MCM), Point Source (PS), State Protected Surface Waters List (PSWL) and Waters of the United States (WOTUS).

Practices to Achieve Permit Compliance^{iv}

Practices and BMPs to achieve permit compliance are outlined within MCMs #1-6, along with the city's inspection and mapping programs. Oversight for the stormwater program is provided by the Public Works department with assistance from Engineering, Planning, Development, Finance, and the City Manager's office.

As of the date of this document, there are no known MS4 discharges causing or contributing to the exceedance of an applicable surface water quality standard.

This Stormwater Management Plan shall be implemented within the MS4, Municipal Separate Storm Sewer System.

MS4 – Municipal Separate Storm Sewer System - 40 CFR 122.26(b)(8) (underlining added)

(8) Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

- (i) Owned or operated by a designated and approved management agency under section 208 of the CWA that discharge to WOTUS
- (ii) Designed or used for collecting or conveying stormwater;
- (iii) Which is not a combined sewer; and
- (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

MEP – Maximum Extent Practicable (MEP)

The MEP is a required level of achievement of pollution prevention by implementing an approved Stormwater Management Program, 40 CFR 122.34 (a) and 40 CFR 122.33. Implementation of BMPs consistent with the provisions of the SWMP required pursuant to this section and the provisions of the permit required pursuant to § 122.33 (*approved SWMP*) constitutes compliance with the standard of reducing pollutants to the "maximum extent practicable."

- For additional consideration: 40 CFR 230.3(q) The term practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.
- "Maximum" "extent" is the "greatest quantity" and "the scope of a thing" respectively, according to Merriam Webster; therefore, the city takes on the following definition for MEP:

Performing work to the maximum extent practicable is implementation of an approved stormwater management program, while acting to the greatest extent that is available and capable of being done after taking into consideration cost, available resources, and existing technology and logistics in light of overall purpose.

For the purpose of MS4 compliance the term includes a consideration of evaluation on an iterative process, as required by the annual review from the permit (Parts 8.1, 8.2, and 8.3) and the reissuance of the permit from the permitting authority every five years (40 CFR 122.41(b)) .

MCM - Minimum Control Measure

- As required in Part 6.0 of the Permit, the MCMs are the minimum activities that must be performed, to the maximum extent practicable, to protect water quality and to satisfy water quality requirements of the Clean Water Act, including attainment of surface water quality standards.
- If it is found that the MCMs are insufficient and may cause an exceedance in applicable water quality standards, ADEQ may require more stringent MCMs. ADEQ will respond to the City in writing of requested changes to our stormwater program.

MCM(s) and its relation to MEP

If the minimum control measures are implemented as described in a SWMP (this document), and the SWMP contains the minimum provisions required in the permit, then the municipality will be in compliance with implementation of the permit to the maximum extent practicable. This is described in 40 CFR 122.34 (underline added for SWMP emphasis):

- *Your NPDES MS4 permit will require at a minimum that you develop, implement, and enforce a storm water management program designed to reduce the discharge of pollutants from your MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. Your storm water management program must include the minimum control measures described in paragraph (b) of this section unless you apply for a permit under §122.26(d). For purposes of this section, narrative effluent limitations requiring implementation of best management practices (BMPs) are generally the most appropriate form of effluent limitations when designed to satisfy technology requirements (including reductions of pollutants to the maximum extent practicable) and to protect water quality. Implementation of best management practices consistent with the provisions of the storm water management program required pursuant to this section and the provisions of the permit required pursuant to §122.33 constitutes compliance with the standard of reducing pollutants to the “maximum extent practicable.” Your NPDES permitting authority will specify a time period of up to 5 years from the date of permit issuance for you to develop and implement your program.*

Point Source

The stormwater permit is issued to address point discharges to surface waters. 40 CFR 122.1(b) *Scope of the NPDES permit requirement.*

Scope of the NPDES permit requirement. (1) The NPDES program requires permits for the discharge of “pollutants” from any “point source” into “waters of the United States.”

The terms “pollutant”, “point source” and “waters of the United States” are defined at §122.2. According to 40 CFR 122.2, *Point source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.*

Other Compliance: The state has issued *R18-9-D904.13 Article 9* which adopts the September 30, 2019, version of the federal regulations for the AZPDES programs.

State Protected Surface Waters List (PSWL)^v

The Protected Surface Waters List, or PSWL, is a list of waters regulated either under the Clean Water Act (CWA) or the Arizona Surface Water Protection Program (SWPP).

If a water meets the federal Clean Water Act definition of a Waters of the United States (WOTUS), it is automatically included on the PSWL and regulated as a federally protected water.

Waters deemed not to be a WOTUS under the current federal definition, may be regulated through SWPP if that water meets the definition of a state protected surface water in Arizona Revised Statutes (A.R.S) §49-221(G).

The PSWL is advisory only and does not constitute a final agency action or a jurisdictional determination for any water.

A list of waters regulated as WOTUS can be found in the Arizona Administrative Code Title 18, Chapter 11 (R18-11), Article 2 in Table B and Table C. A list of Non-WOTUS Protected Surface Waters can be found in R18-11, Article 2, Table A.

The PSWL is located at <https://azdeq.gov/PSWL> (Surface Water Protection, 2022)

Waters of the United States (WOTUS)

Pre-2015 Regulatory Definition and Practice

The agencies are interpreting “waters of the United States” consistent with the pre-2015 regulatory regime until further notice.

40 CFR 230.3(s) The term waters of the United States means:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
 - a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

- b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
- c. Which are used or could be used for industrial purposes by industries in interstate commerce;
- 4. All impoundments of waters otherwise defined as waters of the United States under this definition;
- 5. Tributaries of waters identified in paragraphs (s)(1) through (4) of this section;
- 6. The territorial sea;
- 7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA. (Agency, 2002)

Listed State Protected Surface Waters within City of Buckeye's corporate limits and/or City of Buckeye's Planning Region (may or may not be within the MS4 permitted coverage area), listed Waters of the United States (WOTUS), and Historical WOTUS, and Impaired Waters List.

Waters of the United States (WOTUS)

Per Arizona Administrative Code Title 18, Chapter 11 (R18-11), Article 2 in Table B

- Gila River - From the confluence with the Salt River to Gilespe Dam
- Hassayampa River – portions within city limits

Historical WOTUS that Need Confirmation (from ADEQ)

Per Arizona Administrative Code Title 18, Chapter 11 (R18-11), Article 2 in Table C

- Arlington Canal
- Hassayampa River – portions within city limits
- Wagner Wash – From the City of Buckeye WRF to 2km downstream

Impaired Waters List

Per [ARIZONA'S 2026 CLEAN WATER ACT ASSESSMENT](#)

- Gila River ((ADEQ), 22) – **The impaired portion does not receive flow from the Buckeye MS4**
 - SWQS Classifications: AGI, AWEDW
 - Impairments: Arsenic, arsenic dissolved, lead dissolved, selenium, mercury dissolved
 - Pollutants of Concern: Boron, Selenium
 - TMDL and WLA: YES

- # Outfalls from MS4 that directly discharge into this protected surface water: none
- Hassayampa River Below Buckeye Irrigation Company canal to the Gila River ((ADEQ), 22) – **The impaired portion does not receive flow from the Buckeye MS4**
 - SWQS Classifications: AGL, AWW, FBC, FC
 - Impairments: biocriteria (macroinvertebrate sampling), antimony dissolved, arsenic, arsenic dissolved, lead dissolved
 - Pollutants of Concern: E. coli, Selenium
 - TMDL and WLA: Yes. NOTE: this reach is addressed by the Middle Gila TMDL for Boron and Selenium (ADEQ OFR 15-03) approved by EPA December 2015
 - # Outfalls from MS4 that directly discharge into this protected surface water: none
- Hassayampa River Below unnamed tributary to the Buckeye Irrigation Company Canal ((ADEQ), 22) – **The impaired portion does not receive flow from the Buckeye MS4**
 - SWQS Classifications: AGL, AWW, FBC, FC
 - Impairments: biocriteria (macroinvertebrate sampling), antimony dissolved, arsenic, arsenic dissolved, lead dissolved
 - Pollutants of Concern: E. coli, Selenium
 - TMDL and WLA: Yes. NOTE: this reach is addressed by the Middle Gila TMDL for Boron and Selenium (ADEQ OFR 15-03) approved by EPA December 2015
 - # Outfalls from MS4 that directly discharge into this protected surface water: none

AZPDES MS4 Phase II Permit Requirements

The Phase II Regulations established requirements called Minimum Control Measures (MCMs) for MS4s. The MCMs are:

1. Public Education and Outreach
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Stormwater Management
6. Pollution Prevention/Good Housekeeping

ADEQ's Permit No. AZG2021-002 provides requirements for each of these MCMs. The City's plan demonstrates compliance with the permit requirements - see MCM sections 1-6.

City of Buckeye Stormwater Planning and Demographics

Buckeye has long held sustainability as a key value when looking at current activity and future planning, and firmly believes in maintaining infrastructure and the environment for the benefit of citizens. This stormwater quality permit naturally flows into the many city ordinances designed to protect Buckeye's infrastructure and environmental health. It also may be seen in the city slogan and ideal of "Live, work, and play in Buckeye."

Although program implementation is shared citywide, the coordination for the stormwater permit activity has been placed under the direction of the Public Works Department, Environmental Services Division. Public Works has participated in the stormwater planning process since 2012, when the city

recognized its population would require implementation of the permit and long before issuance of a stormwater permit. The City proactively participated with stakeholders, has been active in the Phoenix valley organization STORM, STormwater Outreach for Regional Municipalities, since 2013, AZ Water Stormwater Committee, and has pursued meetings with ADEQ since 2014 regarding permit compliance understanding and concerns. In mid-2015, the city took the lead role of facilitator of the Phase II Coalition to pursue cohesion and understanding in the MS4 community as ADEQ worked to complete the Phase II permit; the city continues in this role today. Additionally, the City created an internal Environmental Issues Task Force to encourage various City departments to become aware of the stormwater pollution prevention requirements that the City would face.

With approximately 640 square miles, the City of Buckeye has the largest planned land area in the state of Arizona. Based on 2022 population estimates, the population within the urbanized area is 61,450 with 19,200 homes. The EPA and the National Census Bureau have defined the urbanized area in Buckeye, based on the decennial census, as an extension of the Phoenix urbanized area, which is considered to cover portions of the southeastern part of the City.

Approximately 70% of home ownership in the City consists of first-time home buyers, most residents average a high school education with an annual income of under \$100,000, and there is an even spread of population among the following age groups: 0-19, adults, and senior citizens.

The 2020 Decennial census data is still under review. This data, by federal code, will set the urbanized area, and thereby the permit covered area. Once analyzed and released by the Federal Census Bureau and EPA, the City will update and adjust our permit coverage area.

Legal Authority

The City of Buckeye has authority over illicit discharges and potential illicit discharges to the MS4 through existing City Code including ordinances found in Chapters 7, 9, 10, 16, 19, and 20 as required under Arizona Revised Statute (ARS) §9-499. This combination of codes gives the City authority over any pollutant that enters, or might enter, the right of way and the MS4 - including any wastewater, solid waste, or other potential illegal dumping.

Specifically, the City prohibits encroachment onto public rights-of-way by any material in City Code §19-2-1-D., and authority over the right-of-way is reaffirmed in City Code §20-5-C. Additionally, the City prohibits discharges and requires treatment of wastewater of any kind in City Code §16-5-3 and -4; requires sanitary conditions for solid waste in: §9-1-11-K, §9-1-11-L, §9-2-6-A., §9-4-3-B.1., §9-4-3-B.9, and §9-4-3-B.10; and also has authority over any illegal dumping anywhere within the City as reaffirmed in §10-3-5 and §10-3-8.

Authority is shared between the following City departments: Public Works, Water Resources, City Management, Police/Code Enforcement, Engineering, Development Services, and Information Technology. The Public Works Department operates the City's stormwater program under authority from City Management.

Construction/Land Disturbance

Buckeye has authority over construction sites through existing City code: Chapters 7, 19, 20, and 23.

Specifically, the City prohibits any encroachment onto public right-of-way, and provides authority over any activity that is causing or may cause an encroachment in §19-2-1-D., the City's permitting authority is reaffirmed in §20-5-C, and the City's engineering standards, set in §23-2-1 and specifically in the Stormwater Drainage System Design Manual 500 (DM500), which contains drainage and design standards adopted by City Council in 2007.

Construction plan review and comments are performed using city codes and ordinances, [Waste Erosion and Sediment controls](#), and/or Maricopa County Flood Control District's DM500 *Drainage Design Manual, Erosion Control*.

City Engineering, Development Services, Construction and Contracting, and Public Works Departments have authority over construction site runoff enforcement, per City Code.

Post Construction

The City of Buckeye has authority over development through City code chapters 7, 19, 20, and 23.

Specifically, Chapter 19, prohibits any encroachment onto public right-of-way of any material, and provides authority over any activity that does or will cause an encroachment in §19-2-1-D., the City's permitting authority is reaffirmed in §20-5-C, additionally the City's engineering standards are set in §23-2-1, and specifically in the Stormwater Drainage System Design Manual 500 (DM500) which contains drainage and design standards adopted by City Council in 2007. All plan reviews are performed by City staff using DM500 as the guide. Additionally, development guidelines are listed in Chapter 7 of the City code.

City Engineering and Public Works Departments have authority over property design standards, and Public Works, Police, and Code Enforcement have authority over maintenance of property following development.

The design standards require development to store all stormwater that falls in a subdivision within its borders in retention basins owned by the Home Owners Association (HOA). These basins are designed with no overflow structures, and instead use dry wells and percolation to allow the water to flow into the ground. Similarly, stormwater flow from uphill areas is redirected to flow around development so that it may pass by developed areas. This system of development creates as small footprint as possible into the natural flow of stormwater through the City and also significantly decreases the possibility of true MS4 with discharges to surface waters.

As of October 5, 2022, mapping of the City's stormwater infrastructure (including curb, gutter, inlets, outlets, pipes, culverts, drains, etc.) has determined flow from one* area within the MS4-permitted area is channeled to one irrigation tailwater canal. This watershed area is noted as the City's MS4. All other stormwater structures with the City of Buckeye's non-permitted MS4 area discharge to private retention basins that have no flow to Waters of the United States or Protected State Surface Waters.

Receiving Waters - Impaired or Outstanding Arizona Waters (OAW)

There are no known impaired, non-attaining, or OAWs receiving stormwater discharges from the City of Buckeye within the MS4 permitted area.

In accordance with PERMIT NO. AZG2021-002, part 4.1.1 shall contain: *Listing of all protected surface waters, their classification under the applicable state surface water quality standards (SWQS), any impairment(s) and associated pollutant(s) of concern, applicable TMDLs and WLAs, and number of outfalls from the MS4 that discharge to each waterbody;* (NOTE: See Protected Surface Waters List section above)

Additionally, per Arizona Administrative Code (AAC) R18-11-101 and AAC R18-11-105, all associated tributaries to waters that may be Waters of the United States must also be considered. This applies to tributaries of waters listed in Appendix B – Surface Waters and Designated Uses of R18-11.

https://apps.azsos.gov/public_services/Title_18/18-11.pdf

The City recognizes many un-named washes and historically named washes and works diligently to determine which, if any, of these washes may be tributaries to named surface waters. Named and unnamed washes will be added to maps as they storm system mapping occurs and determination of connectivity to surface water, and thereby defining washes as tributaries and adding them to this list of receiving waters will occur concurrent with the system mapping and will be updated as needed.

* This point is recognized as a Field Screening Point per definition part 10.0 of the permit. This discharge point empties into an irrigation tailwater canal. This canal is intersected by multiple other tailwater irrigation inputs which eventually flow to Arlington Canal (approximately 5 miles from the outlet). As of October 5, 2022, there are no other locations where municipal stormwater leaves city owned stormwater systems in the permitted area that discharge directly or indirectly to a Water of the United States. Additionally, there is no “Outfall” as defined per permit Part 10.0 and 40 CFR 122.2, where a municipal separate storm sewer system discharges to a Water of the United States or a Protected State Surface Water.

Mapping^{vi}

In accordance with permit part 4.1 and 40 CFR 122.34(b)(3), the city has the following process and schedule for creating and maintaining an [up-to-date map](#) that includes, at a minimum, the storm sewer system and receiving waters.

The City is required to complete the storm system mapping, by 33% per year, within the urbanized area (as defined by the decennial census), for completion by the end of Permit Year 3, June 2025. The Storm system mapping has been completed prior to June 2020. All known receiving waters listed as Waters of the United States in AAC R18-11 Article 1, Appendix B, and as defined by R18-11-101, have been identified. As the City grows, Public Works and GIS will continue to review surface water connections and related stormwater infrastructure, including outside of the urbanized area, and outside of the MS4 permit area for inclusion as part of our mapping program.

Mapping activities include field investigation of all applicable stormwater structures such as curb and gutter, inlets, pipes, basins, drywells, outlets, outfalls, and/or receiving waters (may include state and/or federally protected surface waters), etc. These stormwater structures are identified and input into Buckeye’s GIS mapping platform.

- Unless specified under the [TMDL, Waste Load Allocations, and Outstanding Arizona Waters](#) section of this SWMP, there are no impaired waters receiving flow from the MS4 area.
- As of June, 2020, all stormwater structures in the MS4 permitted area have been mapped.

The following items may or may not be included in the mapping program: non-stormwater structures including irrigation canals, bridges and culverts for surface waters, and private storm structures that do not discharge to the city's stormwater system(s).

Exceedances of Surface Water Standards^{vii}

In accordance with Permit Part 5.0 the city is required to list all discharges that cause or contribute to the exceedance of surface water quality standards.

- As of October 5, 2022, there are no known exceedances.

Areas not Subject to Permit Coverage^{viii}

Buckeye's design codes and standards require development to contain stormwater runoff on site based on a minimum of the 2-hour 100-year storm event. Areas within Buckeye's corporate city limits and planning areas do not discharge into the MS4 permitted area.

Additional Practices

In accordance with Permit Part 6.0, Buckeye is to report any other practices to achieve compliance with required control measures. The City recognizes Part 6.0 of the permit requiring the six (6) Minimum Control Measures, and will implement measures to apply these programs.

- As of October 5, 2022, there are no known discharges that cause or contribute to an exceedance to surface water quality, the City has no other practices implemented other than the six (6) Minimum Control Measures. The City does not partner with another entity to complete these six minimum measures.

Water Quality Based Effluent Limitations, Surface Water Quality Standards, and Requirements to Reduce the Discharge of Pollutants – the Permit Part 5.0

According to the CWA 402(p)(3)(B)(iii) and ARS 49-255.04, the Permit includes provisions to ensure discharges from the MS4 do not cause or contribute to an exceedance of surface water quality standards.

This is in addition to requirements to reduce the discharge of pollutants to the maximum extent practicable. If surface water quality standards are not met, actions to expand the BMPs to achieve progress toward attainment of surface water quality standards may be needed or required. As there are no impaired waters, no known contributions of pollutants in violation of surface water quality standards, and in accordance with the Permit Parts 5.0 and 6.0, the City provides the following information under Part 6.0 for actions and activities as the MCMs to be performed to satisfy the requirements of the Clean Water Act (CWA):

Minimum Control Measures – AZG2021-002 Permit Part 6.0^{ix}

The following sections, as described in the City's NOI, submitted to ADEQ on October 25, 2022, let for public comment, (*and finally accepted without comment on () pending acceptance date with or without public comment*); contain the MCMs the City of Buckeye shall perform to remain in compliance with

Permit AZG2021-002 and ARS 49-255.04 and 40 CFR 122.35(a). Per the Permit, the City provides the personnel, position or department responsible for the measure, the BMPs for each control measure or permit requirement, and the measurable goal(s) for each BMP, including milestones and timeframes for its implementation and a quantity and/or quality associated with its endpoint along with a measure of assessment.

MCM 1 – Public Education and Outreach

40 CFR 122.34(b)(1) / ADEQ Permit section 6.1.1 “Public Education and Outreach”

The City continues to develop and implement an awareness campaign of the issues and problems created because of careless pollution, including improper disposal and handling of hazardous and non-hazardous materials. Targeted materials are developed and utilized to address specific audiences based on the City’s demographics. Targeted Groups may include the general public, residential communities, homeowners, schools and topics may include post-construction ordinances and/or long-term maintenance requirements for permanent stormwater controls, stormwater runoff issues, residential stormwater management practices, herbicides/pesticides/fertilizer management, animal waste, illicit discharges and illegal dumping, spill reporting, spill prevention, household hazardous waste, storm drain stenciling, used oil disposal, community engagement activities.

Methods of implementation include in-person meetings and presentations, printed materials, and/or online/electronic media distribution.

Buckeye is required to provide public education and outreach to at least one (1) targeted group using one (1) or more of the topics listed below. Based on an efficiency matrix, the City evaluates the program on an annual basis to see where improvements, if any, may be incorporated.

Permit Citation	BMP	BMP Description/Action	Measurable Goals (include milestones, timeframes and frequencies)	Department / Division responsible and Documentation method
6.1.1	Demographics Determination	The Department shall determine the demographics to gain an understanding of the population that is to be educated to answer the question “Who is our audience?”	Measurable goal will be to understand target audiences based on age groups, language types, education boundaries/concerns, geographic patterns, and other demographics as available. Timeframe: Review annually or as needed	Public Works Department, Environmental Services / Community Development/City Management. Documentation: Census Report www.census.gov
6.1.1	Program Resources	Fund and support the outreach program.	Measurable goal shall be a funded and staffed program, with a budget, equipment and resources to reach target audiences. Timeframe: This activity is completed annually.	Public Works Department, Environmental Services. Documentation: Approved City budget https://www.buckeyeaz.gov/home/showpublisheddocument/11630/637902809419070000
6.1.1	Targeted Outreach	Planned and Targeted Outreach	Planned outreach based on permit requirements for targeted audiences and topics (listed below). Permit	Public Works, Environmental Services/Community Services.

Permit Citation	BMP	BMP Description/Action	Measurable Goals (include milestones, timeframes and frequencies)	Department / Division responsible and Documentation method
			<p>requires a minimum of one group and one message from the lists below:</p> <p>Measurable goals will be number of targeted groups/audiences addressed from the list below, the number of people reached.</p> <ol style="list-style-type: none"> 1. General public 2. Residential community 3. Homeowners 4. Schools <p>Topics (select a minimum of one):</p> <ol style="list-style-type: none"> 1. Post-construction/long-term maintenance 2. Residential stormwater management 3. Impacts of pesticides, herbicides, fertilizer 4. Impacts of animal waste 5. IDDE/illegal dumping/spill reporting 6. Spill prevention, disposal of hazardous materials 7. Drain stenciling 8. Used oil disposal 9. Community activities (monitoring program, environmental organization activities, etc.) <p>Timeframe: This is an on-going activity.</p>	<p>Documentation: Summary report generated by City documenting event(s) which took place showing # people, # of promotional items, messaging topic(s), and type of audience(s) targeted.</p>
6.1.1	General Educational Activity and Materials	General Stormwater Pollution Prevention Education and Outreach	<p>Topics are based on permit requirements.</p> <p>Activities may include social media, email, utility billing inserts, and other avenues as found and determined effective, as well as activities performed by STORM, the STormwater Outreach of Regional Municipalities, and AZ Water’s Stormwater Committee.</p> <p>Measurable goals: type of outreach method used, and the number of people reached. Notice reduction in IDDE.</p>	<p>Public Works Department, Environmental Services/Utility Billing/Community Services.</p> <p>Documentation Method: summary report generated by City documenting event(s) which took place showing # people, # of promotional items, messaging topic(s), and type of audience(s) targeted.</p> <p>And, STORM’s annual report: www.AZSTORM.org</p>

Permit Citation	BMP	BMP Description/Action	Measurable Goals (include milestones, timeframes and frequencies)	Department / Division responsible and Documentation method
				Examples of print media/promo items
6.1.2	Business Sector Education	Education to businesses and development community	<p>Planned outreach based on permit requirements for targeted audiences and topics (listed below). Permit requires a minimum of one group and one message from the lists below:</p> <p>Measurable goals will be number of targeted groups/audiences addressed from the list below, the number of people reached.</p> <ul style="list-style-type: none"> a. Development b. Home Owner’s Associations c. Construction Site Operators d. Industrial or Commercial Businesses <p>Topics (select a minimum of one):</p> <ul style="list-style-type: none"> a. Ordinances and grading and drainage design standards b. Post-construction/long-term maintenance requirements c. Municipal requirement for stormwater management on construction sites d. Management of non-stormwater discharges e. Spill prevention, waste handling f. Used oil/hazardous waste disposal g. Pollution prevention plans/facility maintenance h. Water quality impacts due to land development <p>Timeframe: This is an on-going activity.</p>	<p>Public Works Department Environmental Services, Development Services, Engineering</p> <p>Documentation method: meeting topic and # of people in attendance (from start of application to city to develop land through post-construction inspection and maintenance)</p>
6.1.4 8.1	Annual Evaluation, 40 CFR 122.34(g)	Modification of ineffective messages and techniques.	<p>An annual review of the outreach programs.</p> <p>Measurable goal: Annual program evaluation</p>	<p>Public Works, Environmental Services/Community Services</p> <p>Documentation: summary report and/or update of procedures.</p>

MCM 2 – Public Involvement and Participation

40 CFR 122.34(b)(2) / ADEQ Permit section 6.4.2 “Public Involvement and Participation”

The City has created volunteer opportunities for citizens to participate in throughout the year to help keep Buckeye clean, and actively promotes communication methods for feedback to city officials regarding pollution prevention and implementation of programs.

Participation in the City’s events such as: residential bulk trash pick-ups, Household Hazardous Waste (HHW) collection events, and clean-up events such as Public Works’ *Adopt-A-Road* and/or *Adopt-A-Neighborhood* programs allow citizens to properly dispose of waste in a clean, organized, and convenient manner while preventing items from polluting our community and waterways. Citizens and businesses can volunteer for the *Adopt-A-Road* and *Adopt-A-Neighborhood* program. Citizens have the opportunity to contact the City to report concerns and issues with illegal dumping, spills onto roadways, etc. through various avenues of communication such as electronic, phone, or in-person.

Permit Citation	BMP	BMP Description/Action	Measurable Goals (include milestones, timeframes and frequencies)	Department / Division responsible and Documentation method
6.2	Public Participation through volunteerism	Volunteer events and activities are performed such as proper bulky trash disposal, improper disposal cleanup events, household hazardous waste drop-off, <i>Adopt-A-Road/Adopt-A-Neighborhood</i>	The Department invites the public to assist in cleanup events of improper disposal problem areas within the city including but not limited to opportunities for individual cleanup activities and <i>Adopt-A-Road</i> or <i>Adopt-A-Neighborhood</i> . Buckeye hosts monthly and as-needed (based on staff availability) household hazardous waste collection. Buckeye hosts/facilitates/contributes to workshops and educational opportunities open to the public. Measurable goals: amount of material collected and the number of volunteers who participated	Public Works Department, Environmental Services. Documentation method: summary report
6.2	Public Involvement through reporting	Reporting methods shall be made available for the general community	Measurable goals shall be: Maintain methods for citizens to issue complaints; record the number received.	Public Works Department, Environmental Services.

		to communicate concerns and opinion to the City.	Make available (in-person viewing or online) the posting of annual MS4 reports and the Stormwater Management Plan (SWMP); record the number of responses and comments received.	Documentation method: complaint records and/or summary reports
6.2	Public Involvement through posting of public notices	Providing the public the opportunity to view Buckeye's stormwater documents.	Annually before October 31st post the annual report and the Stormwater Management Plan (as it's updated and/or annually) and, as made available, other stormwater-related documents to the City's website and make available at Public Works during normal business hours. Measurable goal: number of citizen responses/comments	Public Works Environmental Services. Documentation method: samples of printed or web material.
6.1.4 8.1	Annual Evaluation, 40 CFR 122.34(g)	Modification of ineffective messages and techniques.	An annual review of the outreach programs will be performed to determine the effectiveness of the activities using an efficiency matrix of the resources expended compared to the number of people reached. Measurable goal shall be annual results of the efficiency matrixes and program evaluation. Adjusting the program based on these results, if needed.	Public Works, Environmental Services/Community Services Documentation: summary report and/or update of procedures.

MCM 3 – Illicit Discharge Detection and Elimination

40 CFR 122.34(b)(3) / ADEQ Permit section 6.3 “Illicit Discharge Detection and Elimination (IDDE) Program”

Per the Permit Part 6.3.2 Enforcement Procedures, Part 6.3.3 Statement of IDDE Program Responsibilities, and Part 6.3.4 Illicit Discharge Prevention and Reporting, the City has created a Stormwater Quality Program to address the required items, also including:

- Enforcement Procedures, 6.3.2 – see Attachment – Enforcement Response Plan
- Statement of IDDE Program Responsibilities, 6.3.3 (below)
- Illicit Discharge Prevention and Reporting, 6.3.4
- Eliminating Illicit Discharges, 6.3.5
- Non-Stormwater Discharges, 6.3.6
- Visual Monitoring, 6.3.7
 - Visual Dry and Wet Weather Outfall Monitoring
 - Visual Stormwater Discharge Monitoring
 - Follow-up Screening, 6.3.7.c
 - Minimum Outfall or Field Screening Points to Monitor, 6.3.7.d
- Indicators of IDDE Program Progress, 6.3.8
- Staff Training, 6.3.9
- AZPDES Non-Filers, 6.3.10

Statement of IDDE Program Responsibilities:

All staff shall follow the city code. Each department is given authority and responsibility to implement a portion of city code, and shall control matters related to their section(s). The Public Works Department shall take the lead in implementing illicit discharge detection and elimination programs, and coordination with public reporting. Wastewater matters will be administratively handed to the Water Resources Department. Construction matters will be administratively handed to the Engineering Division(s). Spill response and hazardous materials will be coordinated with and led by the Fire Department, with collaboration and support from Public Works. Vehicular related matters will be handed to the Police Department. Solid Waste issues and matters regarding direct discharge of pollutants to the right-of-way will be handled by the Environmental Services Division of Public Works.

Mapping of the stormwater system inventory is a critical part of the detection and elimination program (Permit requirement 6.3.1). The inventory includes curb and gutter, inlets, culverts and pipes, and outfalls to Waters of the US or tributaries of Waters of the US. As of October 5, 2022, upon completion of this updated document, stormwater infrastructure mapping in the MS4 permitted area is complete. Should the MS4 permitted area change due to an increase in the Urbanized Area (UA) based on the most recent census, stormwater infrastructure mapping will be updated within three (3) years from the effective date of the UA change. At a minimum, during permit years one (1) through three (3),

mapping of the stormwater infrastructure within the MS4 permitted area will be updated 33% each year and updates to be included within the annual report. The Permit requires mapping within the MS4 permitted area to be complete by June 30, 2025.

The mapping program identifies storm drainage system discharge points (drainage leaving the MS4 system and entering another stormwater runoff conveyance or private infrastructure entering the MS4 at a designated point) and provides opportunities for educational discussions with citizens and property owners about the importance of clean stormwater runoff.

Staff incorporates illicit discharge inspections into regular inspection duties and note IDDE sightings and citizen complaints and respond accordingly.

Public Works will continue operation of its *Adopt-A-Road* and *Adopt-A-Neighborhood* programs, bulky trash collection, regional area clean-ups, residential Household Hazardous Waste collection, and/or public education on the hazards of improper waste handling to engage citizens in collection and disposal of larger, hazardous, and/or bulkier items to prevent those items from being illegally dumped into a wash or the stormwater system. This plan follows the EPA's guidelines of educating and assisting residents with the 'pollution prevention' messaging.

Summer and Winter Wet Weather screenings of identified outfalls take place throughout the year. When discovered, identification of IDDE is documented and appropriate action is taken based on severity of the situation. As of October 5, 2022, there are no defined outfalls within Buckeye's MS4 system. Instead, there is a defined field screening point which is visually monitored. See Discharge Monitoring Report (DMR) for additional monitoring information. (NOTE: Summer Wet period is June 1 – October 31, Winter Wet period is November 1 – May 31)

The City provides annual stormwater training for staff about the proper identification of IDDE, prevention and reporting of IDDE, and good housekeeping activities to prevent pollution.

The City has a website dedicated to stormwater and provides routine newsletters to citizens educating them on the importance of clean stormwater and pollution prevention. Citizens are provided the opportunity to report IDDE concerns through the City's website, via email, phone/voicemail, or in person during normal business hours. The City has a full-time Environmental Compliance Officer working with residents to advise of illegal dumping, improper waste disposal, etc. to help educate and eliminate IDDE.

An *Enforcement Response Plan* provides guidance and outlines the City's policies and procedures for inspection and prosecution of IDDE.

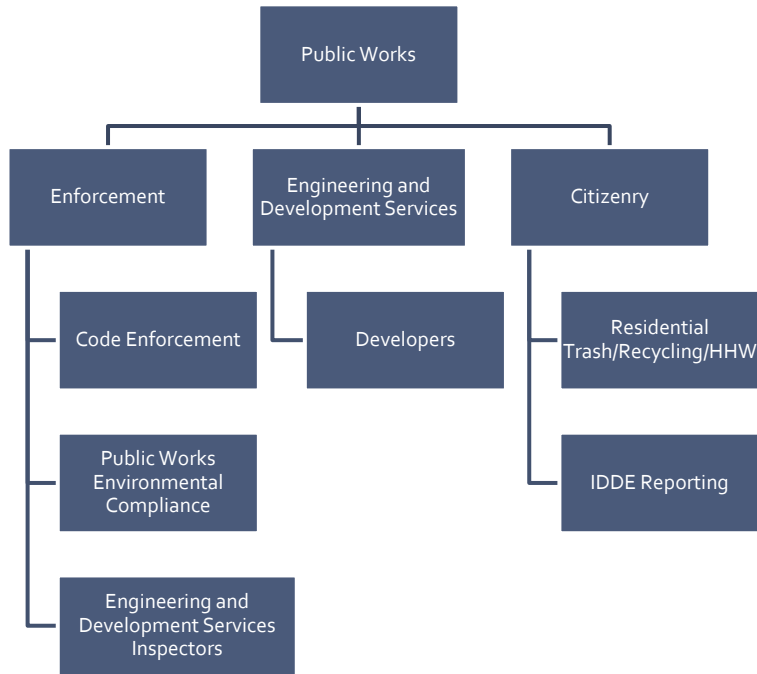
The City Public Works Department, Environmental Division, through City Code Chapter 9 establishes procedures through which the City seeks to ensure compliance with the provisions of the Development Code and obtain corrections for violations. This Article sets forth remedies and penalties that apply to violations of the Development Code. The purpose of Chapter 9 is also to (1) protect the health and safety of the citizens

of the City, and (2) protect the environment by establishing minimum standards for the safe and sanitary inspection, collection, storage, treatment, transportation, processing, and disposal of solid waste and recyclables generated within the City.

Permit Citation	BMP	BMP Description/Action	Measurable Goals (include milestones, timeframes and frequencies)	Department / Division responsible and Documentation method
6.3.1	Storm Sewer Mapping	MS4 Mapping	<p>Information entered into GIS or other usable mapping format. Measurable goal shall include 33% of the developed areas to have the stormwater infrastructure mapped during each of the first three years of the permit with the goal of having the entire stormwater system mapped within the MS4 permitted area by June 30, 2025.</p> <p>Measurable goal: completion of stormwater infrastructure mapping within MS4 area from year-to-year to show progress until 100% complete.</p>	<p>Public Works</p> <p>Documentation: GIS maps https://www.buckeyeaz.gov/services/gis-and-maps</p>
6.3.2	Enforcement Procedures	Prohibit non-stormwater discharges into the stormwater system.	<p>Review and update as needed, City codes and ordinances related to inspection and enforcement activities.</p> <p>Continue implementation of enforcement procedures based on City codes and ordinances.</p> <p>Create and maintain a written IDDE Program as defined in permit section 6.3.3</p> <p>Measureable goal: review and update ERP and IDDE program annually; update as needed</p>	<p>Public Works, Engineering, Development Services, Police and Code Enforcement</p> <p>Documentation: SWMP review date</p>
6.3.3	IDDE Program Responsibilities	Program to eliminate illicit discharges	<p>Create and maintain a written IDDE program. Review and update as needed.</p> <p>Measureable goal: review and update ERP and IDDE program annually; update as needed</p>	<p>Public Works with assistance from Engineering, Police and Code Enforcement</p> <p>Documentation: SWMP review date</p>
6.3.4	Illicit Discharge Detection and	Document IDDE activities occurring	Creation and maintenance of a spreadsheet to track IDDE.	Public Works

Permit Citation	BMP	BMP Description/Action	Measurable Goals (include milestones, timeframes and frequencies)	Department / Division responsible and Documentation method
	Elimination (IDDE)	within the MS4 permitted area.	Measurable goal: review and update ERP and IDDE program annually; update as needed	Documentation: spreadsheet and/or Workforce or SWMP review date
6.3.5 6.3.6	Eliminating Illicit Discharges and non-stormwater discharges	Fully implement permit requirements regarding illicit discharge elimination within this Stormwater Management Plan (SWMP)	When IDDE is made known Public Works staff responds. The response time varies based on the impact materials have to the environment. Staff inspections generally occur within 24 hours of notice. Measurable goal: # of reports vs. # of inspections/clean-ups	Public Works Documentation: spreadsheet and/or Workforce
6.3.7	Visual Monitoring	Visual inspection of stormwater outfalls or outlets.	Conduct visual inspection of outfalls from the MS4 during dry and wet weather at a ratio determined by the City. Measurable goals: Monitoring of 20% of outfalls each year. Discharge Monitoring Report data Monitoring of a minimum of 5 outfalls or outlets or a combination thereof. Goals include # of outfalls, # of inspections, # of findings and their clean-up	Public Works Documentation: DMR Report
6.3.8	Indicators of IDDE Program Success	Track and review response to IDDE complaints	Response time to an inspection: within 24 hours of receipt by Public Works staff Measurable goals: Increase in public awareness/reporting. Evaluate program annually or as needed	Public Works Documentation: tracking spreadsheet
6.3.9	Staff Training	Train staff to recognize IDDE	Create and implement staff training. Measurable goals: # of staff who've completed training	Public Works Documentation: report

Permit Citation	BMP	BMP Description/Action	Measurable Goals (include milestones, timeframes and frequencies)	Department / Division responsible and Documentation method
6.3.10	AZPDES Non-Filer	Report suspected non-filers to ADEQ	<p>Within 30 days of discovery, report to ADEQ any suspected non-filer (azpdes@azdeq.gov)</p> <p>Measurable goal: # of reports provided to ADEQ</p>	<p>Public Works</p> <p>Documentation: Email</p>
8.1	40 CFR 122.34(g) BMP - Annual Evaluation	Evaluate and modify ineffective methods and techniques.	<p>Annually review the activities performed, compare the violations observed.</p> <p>Measurable goal: # of BMPs updated.</p>	<p>City Engineer, Development Services, Construction and Procurement, Public Works</p> <p>Documentation method: documented BMP updates</p>



6.3.7 Visual Monitoring Program

Visual monitoring of stormwater infrastructure includes monitoring during dry and wet weather events. During dry weather events illicit discharges are easily seen and may be able to be traced back to their source to mitigate the pollution. During wet weather events where there is flow in response to a rain event, visual documentation can determine foam, trash/floatingables, odors, or color variations in an effort to determine if flow is not completely comprised of stormwater. Visual monitoring documentation includes location identification number or name, personnel conducting the inspection, date and time, weather conditions, flow rate/indication of flow, odor, color/clarity of flow, debris and/or floatingables present.

Date	Time	Inspector
Location		<input type="checkbox"/> Rain event <input type="checkbox"/> Non-rain event
<input type="checkbox"/> Flow <input type="checkbox"/> No flow	Weather conditions	<input type="checkbox"/> Summer Wet (June 1 – October 31) <input type="checkbox"/> Winter Wet (November 1 – May 31)
<input type="checkbox"/> Foam <input type="checkbox"/> Trash/Floatables <input type="checkbox"/> Odor <input type="checkbox"/> Color Variation		<input type="checkbox"/> No issues noted
Notes:		

Visual monitoring locations as of October 5, 2022, include:

1. 7th Street at Beloit (southbound)
2. Irwin at 7th Street (curb cut on north side)
3. Irwin at 7th Street (eastbound)

See Discharge Monitoring Report (DMR) for further information. These locations are recognized as Field Screening Points, as they discharge to an irrigation canal.

MCM 4 – Construction Activity Stormwater Runoff Control

40 CFR 122.34(b)(4) / ADEQ Permit section 6.4.4 “Construction Activity Stormwater Runoff Control”

The City Engineer, Development Services, Construction and Contracting, and Public Works Department all work together to achieve pollution prevention of the MS4.

The City operates a website, phone system, and email system for citizens to report construction site concerns. The City offers educational opportunities to the contract/development community through the permit review process and site plan review processes in addition to workshops and the City’s website.

Site Plan Review – refer to Construction Plan Review Standard Operating Procedures

The City requires all development applicants follow a site plan review process. All applicants follow a Pre-Application Conference (PAC) and for sites that are an acre or larger, a comment is issued alerting the applicant to follow AZPDES Construction General Permit requirements and copy their approved application to the City. All submitted plans that are within the MS4 must include an approval of a Waste, Erosion, and Sediment Control Plan of BMPs. BMPs are inspected as a part of land development and building construction inspections in the MS4. Failure to maintain WES control BMPs are noted on plan inspection notes, and significant failure of BMPs is forwarded from the City Engineer and/or Development Services Departments to the Public Works Department for follow-up inspections and enforcement.

The City Plan Review process:

- a) The City determines if the land disturbance activities will occur within the MS4,
- b) If the construction site is in the MS4, the developer is to create and submit a waste, erosion, and sediment control plan in addition to other City-required documents
- c) If the construction site is not in the MS4, then the developer assumes responsibility to protect any adjacent ROW from encroachment, and is responsible to implement BMPs. If encroachment occurs, the contractor may be subject to enforcement by Public Works and/or Code Enforcement.

The City maintains a digital inventory of issued permits and active construction sites within the City’s planning region (includes areas in and outside of the [MS4 permitted jurisdiction](#)).

Contractors/developers are offered stormwater program and pollution prevention information and/or training throughout the application, site plan review, and permitting processes, via printed materials, and at City-sponsored construction operator training workshops.

Permit Citation	BMP	BMP Description/Action	Measurable Goals (include milestones, timeframes and frequencies)	Department / Division responsible and Documentation method
6.4.1, 6.4.2a	Legal Authority	Adopt and implement codes and ordinances giving Buckeye the ability to ensure compliance concerning construction activity runoff (per parts 3.1 and 3.2 of the MS4 permit 40 CFR 122.34(b)(3)(B))	Utilize existing codes and ordinances. Measurable goal: # of changes/updates made to codes/ordinances.	Public Works, Engineering, Development Services, Police and/or Code Enforcement Documentation: City Code https://library.municode.com/az/buckeye/codes/code_of_ordinances?nodeId=COORBUAR
6.4.2.b	Inventory	Maintain a list of all land disturbances underway in the City.	Measurable goal: shall be the number of sites under development/disturbed soil for land disturbance that is an acre or larger, or part of a common plan of development that is one acre or larger within MS4.	City Engineer, Development Services, Construction and Procurement Documentation method: report
6.4.2c	Site Plan Review	Maintain and perform a process of plan review for erosion, sedimentation, and waste control for all sites that are an acre or larger or part of a common plan of development that are an acre or larger.	Measurable goal shall be the number of plans reviewed for development within the MS4 that include erosion, sediment, and waste controls.	City Engineer, Development Services, Construction and Procurement, Public Works – Environmental Services Documentation method: plan review requests
6.4.2.d, 6.4.2.e,	Inspection Process	Perform construction site inspections ensuring erosion, sedimentation, and waste controls on land development sites.	Measurable goals shall include written procedures for site inspections and enforcement for land disturbance that is an acre or larger, or part of a common plan of development that is one acre or larger. All such plans that include discharges to the MS4 shall follow a Standard Operating Procedure for BMP inspections, and documentation and enforcement for significant failure to follow BMPs.	City Engineer, Development Services, Construction and Procurement Documentation method: Standard Operating Procedure for inspections, and complaint report, and/or NOV.
6.4.2.f	Frequency of Inspections	Perform inspections following a planned frequency based on size of land disturbance, location of impaired waters, history of	Measurable goal shall be number of inspections completed and of those, how many were in compliance and how many were NOCs/NOVs that required follow-up.	City Engineer, Development Services, Construction and Procurement, Public Works – Environmental Services

Permit Citation	BMP	BMP Description/Action	Measurable Goals (include milestones, timeframes and frequencies)	Department / Division responsible and Documentation method
		noncompliance of a developer, and the phase of construction.	Minimum inspection schedule is defined within MS4 permit	Documentation method: inspection report, written documentation procedure
6.4.2.g	Enforcement	Maintain a method of increasing enforcement on land development that refuses to follow erosion, sedimentation, and waste controls per development plan and inspection requirements.	Measurable goals shall be the number of inspections, scheduled re-inspections, and follow-up compliance inspections performed, number of Notices of Violation issued, stop work orders issued, or other enforcement actions performed to stop encroachment of pollutants into the MS4.	City Engineer, Development Services, Construction and Procurement, Public Works – Environmental Services Documentation method: inspection form, NOV, and/or complaint report
6.4.2.h	Erosion, Sedimentation, and Waste BMP controls	Require construction site operators to maintain erosion, sedimentation and waste controls on their construction sites.	Measurable goals shall be the code authority to require erosion, sedimentation, and waste control on land disturbance sites.	City Engineer, Development Services, Construction and Procurement, Public Works – Environmental Services Documentation method: City Code document.
6.4.3	Personnel Qualifications	Staff implementing this portion of the permit to have knowledge, skills, and abilities (KSAs) to carry out assigned duties	Measurable goal: # of staff knowledgeable of and inspecting stormwater infrastructure	Public Works, Engineering, Development Services, Construction and Contracting, Permitting, Procurement, Finance, Codes Documentation: staff training
6.4.4	Public Involvement	Maintain a method for residents to issue complaints about encroachment of pollutants on the ROW from construction sites.	Measurable goal shall be number of complaints received.	City Engineer, Development Services, Public Works Documentation method: complaint report
6.4.2.i	Education	Provide education to applicants and permittees on stormwater pollution prevention	Measurable goals shall be the number of applicants or potential applicants (contractors/developers) who have received educational information on construction	City Engineer, Development Services, Construction and Procurement

Permit Citation	BMP	BMP Description/Action	Measurable Goals (include milestones, timeframes and frequencies)	Department / Division responsible and Documentation method
		requirements for construction practices.	Stormwater BMPs, number of web pages with construction Stormwater BMPs, and the number of hits those pages receive annually as well as participation in City-offered workshops. Information distributed at Pre-Application Conference (PAC) meetings.	Documentation method: report, website analytics
8.1	40 CFR 122.34(g) BMP - Annual Evaluation	Evaluate and modify ineffective methods and techniques.	Annually review the activities performed, compare the violations observed. Measurable goal: # of BMPs updated.	City Engineer, Development Services, Construction and Procurement, Public Works Documentation method: summary report

MCM 5 – Post-Construction Stormwater Management

40 CFR 122.34(b)(5) / ADEQ Permit section 6.4.5 “Post-Construction Stormwater Management in New Development and Redevelopment”

During the site plan review process, City staff reviews design criteria ensuring protection of stormwater infrastructure and waste controls. The City ensures the post-construction design and runoff controls meet local, state, and/or federal design guidelines. In addition to City Code, the City references Design Manual DM500.

The City is developing a process to inventory and inspect sites that discharge to the MS4 for post-construction maintenance, and reviews the processes and procedures annually at the conclusion of each fiscal year to make updates as needed.

- As of October 5, 2022, there is one watershed recognized as MS4, with three recognized Field Screening Point structures, that receive unmixed stormwater that discharges to an irrigation tail channel that eventually flows to the Arlington Canal. The Arlington Canal finally discharges to the Gila River at the Gillespie Dam.
- New development (~2000 and newer) requires all stormwater runoff to be received from the right-of-way to private parcels before being discharged. Discharge must be engineered to, at a minimum, greater than 100-year 2-hour events, and is normally to ephemeral washes that may or may not be connected to recognized Waters of the State or Waters of the United States.

Permit Citation	BMP	BMP Description/Action	Measurable Goals (include milestones, timeframes and frequencies)	Department / Division responsible and Documentation method
6.5 6.5.1 6.5.2	Runoff Control Authority	All new and re-development is required to follow existing development requirements. All new construction is to receive runoff from 1/2 of the ROW and hold the 100-year 2 hour event. This rule is currently in place, and active for all construction. As such, all development with the exception of residential properties will receive stormwater from the ROW, and not discharge to it. In residential areas, the Home Owners Association will operate the receiving area for stormwater generated in the subdivision.	Measurable goal, review the Storm Water Drainage System Design Manual, DM500-1.3 and update as necessary. City currently has Code in place to address stormwater runoff controls and design criteria.	City Engineer, Development Services, Construction and Procurement, Public Works Documentation: City Code https://library.municode.com/az/buckeye/codes/code_of_ordinances?nodeId=COORBUAR

Permit Citation	BMP	BMP Description/Action	Measurable Goals (include milestones, timeframes and frequencies)	Department / Division responsible and Documentation method
6.5.3	Site Plan Reviews	Implement and maintain a site plan review process. City Engineer/Development Services Department/ Construction and Procurement.	Measurable goals will include maintaining a plan review process for all public and private construction occurring within the City, and the number of applications received and reviewed.	City Engineer, Development Services, Construction and Procurement, Public Works Documentation method: summary report
6.5.4	Inventory	An inventory of post construction stormwater control measures.	An inventory of post-construction structural stormwater control measures will be maintained. Measurable goal will be a map of post-construction controls	City Engineer, Development Services, Construction and Procurement, Public Works Documentation method: summary report
6.5.5	Inspections	Perform inspections on post-construction stormwater structural controls that discharge into the MS4.	Measurable goal will be the number of structures and the number of inspections performed.	Public Works Documentation method: inspection report
8.1	40 CFR 122.34(g) BMP - Annual Evaluation	Evaluate and modify ineffective methods and techniques.	Annually review the activities performed, compare the violations observed. Measurable goal: # of BMPs updated.	City Engineer, Development Services, Construction and Procurement, Public Works Documentation method: summary report

MCM 6 – Pollution Prevention/Good Housekeeping for Municipal Operations

40 CFR 122.34(b)(6) / ADEQ Permit section 6.4.6 “Pollution Prevention and Good Housekeeping for Municipal Operations”

The City has developed operations and maintenance procedures to inventory, prioritize, and inspect City facilities on a routine basis. SWPPPs for each facility will be developed and maintained. These items will be reviewed annually, or as needed, at the conclusion of the fiscal year.

Staff are trained on good housekeeping procedures to help eliminate and remove pollutants from entering the City’s right-of-way storm sewer system.

Permit Citation	BMP	BMP Description/Action	Measurable Goals (include milestones, time-frames, and frequencies)	Department / Division responsible and Documentation method
6.6.2.a	Inventory	Maintain a list of all facilities owned or operated by the City that discharge to a protected state surface water or WOTUS	Generate list of municipal facilities and a list of municipal facilities that discharge into a protected state surface water or WOTUS. Measurable goal: # of municipal facilities that discharge to a protected surface water	Public Works Documentation method: GIS map or report
6.6.2.b	Facility Prioritization	Determine activities performed at each facility, the existence of potential pollutants at each facility, and steps necessary to contain pollutants or BMPS necessary to maintain pollution prevention.	Measurable goal will be a prioritization of the municipal facilities including the reason for the prioritization, and the frequency of inspections. Measurable goal: # of facilities to be inspected	Public Works Department, Environmental Services. Documentation method: report
6.6.2.c	Inspections	Perform stormwater pollution prevention inspections of each facility owned or operated by the municipality	Measurable goal will be to perform inspections of 20% of all facilities each permit year, to be completed in Permit Year 5 before June 30, 2026. Measurable goal: # of inspections and # of facilities to be inspected	Public Works Department, Environmental Services. Documentation method: GIS map or report

Permit Citation	BMP	BMP Description/Action	Measurable Goals (include milestones, time-frames, and frequencies)	Department / Division responsible and Documentation method
6.6.1, 6.6.2b 6.6.2.d	Municipal Facility BMPs	Perform inspections on high priority facilities owned or operated by the municipality.	Measurable goal will be to perform inspections on all high priority facilities annually, and to implement recommended best management practices to control pollution from municipal operations. Measurable goal: # of inspections, # of facilities that require inspections	Public Works Documentation method: GIS map or report
6.6.1, 6.6.2.e, 6.6.2.g	O&M Procedures	MS4 maintenance activities.	Measurable goals shall include a schedule for inspections, maintenance procedures and schedules. Number of stormwater structures inspected, number maintained, miles of streets swept, number of structures maintained/cleaned. Measurable goal: Develop inventory of city-owned facilities that discharge into the MS4 and prioritize inspection schedule (if needed). # of inspections performed at # of facilities	Public Works Documentation method: report
6.6.2.f	Training	Staff training on stormwater pollution prevention and good housekeeping techniques.	Measurable goals shall include the number of staff trained on stormwater pollution prevention and good housekeeping annually. Measurable goal: # of staff trained	Human Resources, Public Works Documentation method: report
8.1	40 CFR 122.34(g) BMP - Annual Evaluation	Evaluate and modify ineffective methods and techniques.	Annually review the activities performed, compare the violations observed. Measurable goal: # of BMPs updated.	Public Works, Environmental Services. Documentation method: report

Surface Water Pollution, TMDLs, Monitoring, and Characterization

TMDL, Waste Load Allocations, and Outstanding Arizona Waters^x

The City must maintain practices to achieve compliance with applicable TMDLs or waste load allocation, including measurable goal(s) for each BMP and corresponding milestones and timeframes. Each goal must have an associated measure of assessment.

- The City has no recorded impaired waters receiving flow from the permitted MS4 jurisdiction.

Appendix C:

“Total Maximum Daily Load (TMDL) Requirements state the Town of Buckeye and Maricopa County have a TMDL for the Gila River based on TMDL requirements in accordance with Part 1.3(5), 7.4-7.8 (analytical monitoring requirements).

<i>Name of TMDL</i>	<i>Gila River – Centennial Wash to Gillespie Dam</i>
<i>Documents for TMDL</i>	<i>Middlegila_centennial_tmdl_final.pdf downloaded from www.azdeq.gov (search Middle Gila Watershed)</i>
<i>Location of original 303(d) listings</i>	<i>15070101-008</i>
<i>Area where TMDL requirements apply</i>	<i>TMDL coverage includes areas served by an MS4 draining to the Gila River</i>
<i>Parameters</i>	<i>Total Boron and Total Selenium</i>
<i>EPA approval date</i>	<i>November 2015</i>
<i>MS4 Permittees</i>	<i>Town of Buckeye and Maricopa County</i>

The Town of Buckeye and Maricopa County shall analytically monitor stormwater discharges from MS4 outfalls to the Gila River from Centennial Wash to Gillespie Dam. Analytical monitoring shall be submitted per Permit part 7.0. Concentration-based waste load allocations (WLAs) for this TMDL are 1,000 g/L Total Boron and 2.0 g/L Total Selenium.

If the WLA are exceeded, the permittee shall propose to ADEQ an action plan, including a schedule for implementation, and submit it to ADEQ at AZPDES@azdeq.gov within 60 calendar days of becoming aware of the WLA exceedance. ADEQ shall provide a review and approval within 30 calendar days. The permittee shall then incorporate the action plan into their SWMP. Repeat exceedances for the same parameter of the WLA does not require submittal of another action plan.”

Analytical Monitoring^{xi}

The City must maintain an analytical monitoring program for impaired, not-attaining waters, or Outstanding Arizona Waters to ensure compliance with permit limitations, waste load allocation(s) (WLAs), and surface water quality standards using approved test methods in accordance with AAC R18-9-A905(B).

The analytical monitoring program shall include a comprehensive monitoring and assessment program that includes Sampling and Analysis Plan (SAP):

- Names and titles of persons performing monitoring,
- Location,
- Map showing the segments or portions of the protected surface water that is most likely to be impacted by the pollutant discharges,
- Water quality parameters and pollutants to be sampled,
- Description of sampling protocols, and
- Identification of the analytical methods and related method detection limits for each parameter required using analytical methods with a Limit of Quantitation (LOQ) that is lower than the effluent limitations, Assessment Levels, Action Levels or other water quality criteria specified in the permit.

If all methods have LOWs higher than the applicable water quality criteria, the permittee shall use the approved analytical method with the lowest LOQ. As of October 5, 2022, the City maintains the ability to hire a contractor to perform analytical monitoring.

The City does not have impacts to impaired, non-attaining, or Outstanding Arizona Waters (OAWs) as there are no outfalls leaving the MS4 and entering into one of these waterbody types. There are no stormwater discharges to characterize nor sources of elevated pollutant loads, therefore, the City is unable to complete an assessment of the overall health and long-term trends in water quality of impaired, not-attaining, or OAWs via analytical monitoring. As of the effective date of the Permit, the City is not required to conduct analytical monitoring.

Stormwater Characterization Monitoring Requirements

The City is required to conduct stormwater characterization monitoring of discharges from the MS4 to protected surface waters at the outfalls identified in permit Part 7.2(4) and within all parameters listed in Appendix B: Stormwater Characterization Monitoring Requirements. There shall be three locations chosen for sampling that are representative of stormwater pollution that leaves the MS4 and outfalls into a protected surface water. The goal is to have stormwater runoff samples from an industrial area, commercial area, and residential area. This provides discharge characterization data of stormwater discharges from the MS4. This sampling must be completed one time within the first 3 ½ years from the effective date of the permit. Sampling must occur during a qualified storm event. A qualifying storm event is rainfall in the amount of .1 inches or more and results in a discharge within the first 24 hours of the rain event. The City will, to the maximum extent practicable, attempt to capture the sample within the first 30 minutes of a storm event discharge. Sampling information will be recorded within the DMR within 30 days following receipt of the lab results.

Sampling and Analysis Plan (SAP) (also referenced within the Attachments section below)

SAP for analytical monitoring includes the following information:

- Name(s) and title(s) of person(s) performing monitoring
- Monitoring site location(s)
- Map of protected surface water most likely to be impacted by the pollutant discharge(s)
- Water quality parameter(s) and pollutant(s) to be sampled
- Collection equipment and containers used
 - Decontamination process
 - Calibration procedure(s)
- Frequency of sampling is one time before September 16, 2024

- Documented site conditions at time of collection/field notes
- Samples are preserved in enclosed bottles provided by the lab which are set in ice within a cooler. Samples are received by the lab and processed within 72 hours of collection.
- Chain-of-custody form
- Analytical method(s) and method detection limit(s) for each parameter with a Limit of quantitation (LOQ) lower than the effluent limitations/assessments levels/action levels/or other criteria
- If the discharge is to an impaired or not-attaining water, a monitoring program for all pollutants for which the water is listed for shall be analyzed
- If the discharge is to an OAW, monitoring shall include biochemical oxygen demand (BOD), total suspended solids (TSS), pH, fecal coliform, and oils and greases and any pollutants for which has caused the OAW impairment
- If the discharge is to a lake, a site-specific sampling proposal must be implemented

Monitoring Frequencies and Deadlines

Regarding discharges to impaired, not-attaining, or OAWs, analytical monitoring must occur at these frequencies and deadlines:

- One time per wet season throughout the course of the permit cycle #AZG2021-002 when there is enough flow to conduct sampling.
 - Summer Wet Season – June 1 through October 31
 - Winter Wet Season – November 1 – May 31
- The minimum number of samples to collect are as follows:
 - Number of outfalls 1 to 4: collect all
 - Number of outfalls 5 to 20: collect 5
 - Number of outfalls 21 and up: collect 10

All monitoring equipment shall be calibrated and maintained according to the manufacturer's instruction. All lab analyses shall be conducted according to test procedures specified in 40 CFR Part 136. Samples are to be analyzed by a lab that is licensed by the Arizona Department of Health Service (ADHS) Office of Laboratory Licensure and Certification with the exception of on-site tests for flow, dissolved oxygen, pH, temperature, and total residual chlorine. Buckeye is allowed to self-collect turbidity and e.coli samples but these parameters are not mandatory.

Test results are reported on the electronic DMR available at the City's account on myDEQ. If there were no samples taken, a report in the DMR needs to be made indicating the appropriate No Discharge Code Information (NODI) by June 30th (for winter sampling) and November 30th (for summer sampling).

As of September 2022, the City of Buckeye does not have an MS4-outfall draining to an impaired protected surface waterbody.

Annual Evaluation^{xii}

The City performs annual program evaluations per Part 8.0 of the Permit. Following completion of the fiscal year, Public Works will spearhead review of the past fiscal year's program and make changes as needed to remain in compliance with the AZG2021-002 Permit. Additionally, ADEQ may require the City to add, modify, repair, replace, or change BMPs to address impacts to receiving waters, to satisfy conditions of Permit AZG2021-002, or add additional requirements to comply with state or federal law. Any changes requested by ADEQ will be in writing to the City.

All annual changes to BMPs shall be recorded in Stormwater Management Program Review and/or Revision Dates section of this SWMP.

Program Implementation

The City must identify the personnel responsible for program implementation (department, position, etc.)

Departments, and/or divisions within those departments responsible for implementation of various requirements throughout the City of Buckeye's stormwater program are noted within each MCM section. Each department or division head will assign tasks as they arise.

The City operates an Environmental Task Force headed up by the Public Works Department's Environmental Manager to discuss creation and implementation of pollution prevention opportunities on all levels of City activities. This group also reviews the City's stormwater program procedures to provide suggested input on program improvement.

Department, Division and Personnel for each MCM may be found in each MCM table.

See Organizational Charts in attachments for additional information on departmental coverage.

Dry and Wet Weather Visual Screenings – Monitoring and Assessment

Dry Weather Visual Screenings

The City will document discharges to an agriculture tail water ditch at the intersection of Beloat Road and 7th Street. This area receives runoff from some portions of historic downtown Buckeye as well as private irrigation tailwater. This is noted as a Field Screening Point, an area where the MS4 discharges to a private conveyance. This is the only discharge point from the city MS4, and is the only applicable location to record a discharge, there being no other Field Screening Point, and no outfall exists.

Monitoring information is recorded on the Discharge Monitoring Report (DMR).

Discharge Monitoring Assessment

It is not always practical or necessary to track discharges that are a non-significant source of pollutants to their source, therefore the inspector may utilize professional judgment in determining level of priority of resources. Inspectors track flows to potential discharges and conduct above-ground inspections to look for abnormal water flows. Should a source of the flow be established, the City will work with a property owner to eliminate illicit discharges. Should the discharge not be stopped, the city will address analytical monitoring.

The summer wet season is June 1 – October 31 and the winter wet season is November 1 – May 31. Minimum inspection schedule: two times per season at each location and/or within 72 hours of a significant rainfall resulting in a discharge from the location via a stormwater system.

Annual Report

The City of Buckeye submits an annual report each year of the permit term to ADEQ via their online submission portal. The reporting period is from July 1 through June 30 each year, which coincides with State and City fiscal years. The annual report is due to ADEQ on or before September 30 each year for the prior fiscal year reporting period. Appendix A of the AZG2021-002 Permit contains the annual report questionnaire.

While assembling documentation and creation of the annual report, the City will also review this Stormwater Management Program to ensure it is up-to-date with the most current and effective pollution prevention measures and permit requirements. The Public Works Department is the main point of contact for these documents.

Federal and State Legal Authority

Federal and State Authority over the program are paramount to the purposes and requirements found in the Permit. The Federal authority is derived from the Clean Water Act and subsequent regulations from this act. The State was granted authority to implement the program through state regulatory update and approval by the Federal government. This system of responsibility and required responsiveness of the municipality to the state and federal governments are clearly defined in the regulations of each entity. The various codes and their relation to the permit are listed and discussed below.

State Authority

The state of Arizona has the Arizona Administrative Code (AAC 49) and Arizona Revised Statute (ARS 18), and has adopted federal rules by reference necessary to implement the stormwater program. These state rules require program requirements to be equal to the federal rules – not more stringent, and not less stringent.

The permit and all activities required by it are specifically performed to afford pollution prevention protection to the Municipal Separate Storm Sewer System (MS4). The MS4 is specifically defined, and must include a discharge to a Water of the State or a tributary to a Water of the State.

Limitations to legal authority

The following is recorded to designate the authority and limitations of the state to implement the AZPDES permit requirements:

Permit requirements to be consistent with the clean water act - AAC 49-255.01

B. The director shall adopt rules to establish an AZPDES permit program for discharges to WOTUS consistent with the requirements of sections 402(b) and 402(p) of the clean water act. This program shall include requirements to ensure compliance with section 307 and

requirements for the control of discharges consistent with sections 318 and 405(a) of the clean water act. The director shall not adopt any requirement for WOTUS that is more stringent than any requirement of the clean water act. The director shall not adopt any requirement that conflicts with any requirement of the clean water act. The director may adopt federal rules pursuant to section 41-1028 or may adopt rules to reflect local environmental conditions to the extent that the rules are consistent with and not more stringent than the clean water act and this article.

Stringency authorized by Arizona law - AAC 49-203 A.2

Adopt, by rule, a permit program for WOTUS that is consistent with but not more stringent than the requirements of the clean water act for the point source discharge of any pollutant or combination of pollutants into WOTUS. The program and the rules shall be sufficient to enable this state to administer the permit program identified in section 402(b) of the clean water act, including the sewage sludge requirements of section 405 of the clean water act and as prescribed by article 3.1 of this chapter.

AZPDES Program Standards follow 40 CFR of July 1, 2003

R18-9-A905. AZPDES Program Standards follow 40 CFR.

A. Except for subsection (A)(11), the following 40 CFR sections and appendices, July 1, 2003 edition, as they apply to the NPDES program, are incorporated by reference, do not include any later amendments or editions of the incorporated matter, and are on file with the Department:

1. General program requirements.
 - a. 40 CFR 122.7;
 - b. 40 CFR 122.21, except 40 CFR 122.21(a) through (e) and (l);
 - c. 40 CFR 122.22;
 - d. 40 CFR 122.26, except 40 CFR 122.26(c)(2), and 40 CFR 122.26(e)(2);
 - e. 40 CFR 122.29;
 - f. 40 CFR 122.32;
 - g. 40 CFR 122.33;
 - h. 40 CFR 122.34;
 - i. 40 CFR 122.35;
 - j. 40 CFR 122.62(a) and (b)

Federal Regulation

The following is a bulleted summary of requirements of the CFR for small MS4s (Phase II MS4s). The guidance listed in the CFR is not addressed herein as guidance is not enforceable.

At a minimum, municipalities must perform the following activities and requirements:

122.30

- Phase II regulations are comprised of 122.30 – 122.37
- Phase II regulations include guidance, but guidance is not legally binding
- Watershed approaches are strongly encouraged

122.32

- Permit jurisdiction is in urbanized area only (defined by federal decennial census)

122.33

- 122.33(b)(1) [= 122.34(d)] For the general permit, applicants must submit an NOI that includes the [SWMP] BMPs for each minimum control measure with measurable goals, time frame for implementation, milestones, frequencies of action, person responsible for coordinating the management program.

122.34(a)

- Develop implement and enforce a SWMP to reduce pollutants to the MS4 to the MEP – to protect water quality and follow CWA-Implementation of BMPs consistent with the SWMP when impaired waters are not present constitutes compliance to the MEP
- Phase I [122.26(d)] is different from phase II
- Narrative effluent limitations of BMP implementation are appropriate for protecting water quality (as opposed to numeric)
- Implement in 5 years

122.34(b)(1)

- Implement program to distribute education

122.34(b)(2)

- Involve the public in the program

122.34(b)(3)

- Sewer system map
- Include Outfalls with locations of Waters of the United States
- Prohibit illicit discharges to the MS4
- Develop a plan to detect and address non stormwater discharges to your system
- Inform public employees, business, and general public of hazards of pollution
- Applicant identifies “allowable” discharges if they believe they are pollutants

122.34(b)(4)

- Develop implement and enforce a construction program to reduce pollutants to the MS4
- Have E&S enforcement ability, and require E&S BMPs, waste control, site plan review, and public input

122.34(b)(5)

- New and redevelopment that discharge to the MS4
- Develop implement and enforce a program to protect the MS4
- Require controls to be in place to prevent water quality impacts
- Have a BMP Strategy, have a regulatory mechanism, Ensure long term operation and maintenance

122.34(b)(6)

- Have an Operations and Maintenance program for pollutant reduction from municipal facilities
- Training to “staff” on O&M
- (no MS4 mentioned!)
- Include: Park and open space, fleet, facilities (building maintenance), construction, MS4 maintenance

122.34(d)

- See 122.33
- EPA or state will provide a menu of BMPs (EPA Menu came out in 2000)
- Applicant may choose from the menu or select others that satisfy the MCMs
- If there is an approved TMDL or equivalent, the applicant must comply with more stringent requirements of permit
- General permit conditions must meet 122.41 – 49 (standard for all permit requirements)

122.34(g)

- Applicant must annually evaluate compliance and appropriateness of BMPS, and progress to meet

measurable goals

- Keep records for 3 years
- Follow state regulations for reporting or report in year 2 and 4
- Report must have:
 - Status of compliance
 - Assessment of appropriateness of BMPs
 - Progress to achieve measurable goals
 - Results of information collected
 - Summary of activities to be performed in next reporting cycle
 - Changes in BMPs or measurable goals
 - Notice if relying on other agencies for permit obligation

Acronyms and Abbreviations

ACRONYM/ABBREVIATION	DEFINITION
A&Wc	Aquatic and Wildlife cold-water
AAC	Arizona Administrative Code
A&Wedw	Aquatic and Wildlife effluent dependent water
ADEQ	Arizona Department of Environmental Quality
AgL	Agricultural livestock Watering
ARS	Arizona Revised Statute
AZPDES	Arizona Pollutant Discharge Elimination System
BMP	Best Management Practice
CE	City of Buckeye Engineering Department
CFR	Code of Federal Regulations
CD	City of Buckeye Development Services
CWA	Clean Water Act
DEP	Department of Environmental Protection
DM	Drainage Manual
DMR	Discharge Monitoring Report
DS	City of Buckeye Development Services Department
E&S	Erosion and Sediment
EPA/USEPA	United States Environmental Protection Agency
ESD	Environmental Services Division of Public Works
FY	Fiscal Year
IDDE	Illicit Discharge Detection and Elimination
IDID	Illicit Discharge Illegal Dumping
LTF	Licensing Time Frame
MCM	Minimum Control Measure
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance

OAW	Outstanding Arizona Waters
PAC	Pre-Application Conference
PIP	Proactive Inspection Program
POTW	Public Operated Treatment Works
PSWL	Protected State Surface Water List
PW	City of Buckeye Public Works Department
ROW	Right-of-Way
SAP	Sampling and Analyses Plan
STORM	STormwater Outreach for Regional Municipalities
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
USGS	United States Geological Service
WLA	Waste Load Allocation
WOTUS	Water of the United States

Stormwater Management Program Review and/or Revision Dates

Annually, the City will review this plan and make updates as needed. Review and/or document revision will be noted in the table below. Review of this document by Public Works staff occurs during the annual report review and preparation.

A copy of the City's SWMP is available www.buckeyeaz.gov/stormwater

Revision Number	Date	Required Review Completion date	Review/Revised By	Reason for Revision	Sections Revised
1.0	6-20-2016	-	Robert van den Akker (Rv)	Pre-Permit Draft	N/A
2.0	10-26-2017	9-30-2017	Amy Murray (AM)	Update final	Minor wording and formatting throughout
2.1	3-15-2018	7-1-18	Rv	Update final	6.4.4, 6.4.5, 6.4.6 and wording for clarity.
2.2	7-18-18	7-1-19	AM	Annual Review	MCM4 and MCM6
2.3	6-30-19	-	Rv	Update final	Minor wording, entire document
	6-20-20	7-1-20	Rv	Annual Review	N/A
	6-1-21	7-1-21	Rv	Annual Review	N/A
2.3	6-15-2022	7-1-22	Rv, AM	Annual Review	N/A
3.0	10-5-22	7-1-23	AM	Updated SWMP for AZG2021-002 MS4 Permit	Minor wording for uniformity with new permit.
3.1	11-18-22	-	Rv	Rewording for accuracy	Minor wording for uniformity with new permit.
3.2	6-30-23	7-1-23	Rv, Miguel "Mike" Esquivel (ME)	Annual review as required by MS4 permit	Minor wording for uniformity with new permit
3.3	9-28-23	9-28-23	Rv	Added Bret Hodne as PW Director	Org Chart
3.4	10-17-23	10-17-23	Rv, ME	Adjusted wording throughout for accuracy	SAP, Org Charts, and more
3.5	7-1-2024	10-30-24	Rv	MCM review	Doc links updated
3.6	9-4-2025	10-30-25	Rv, ME	Annual Review	Updated WOTUS list and Org Charts
3.7	1-20-2026	10-30-2026	Rv	Annual Review	Updated introduction
3.8	4-6-2026	10-30-2026	Rv	Annual Review	Minor word adjustments for clarity

When a BMP has been changed, indicate in the table below the BMP Name, changes made, reason for the change and indicate if another BMP was used to replace the changed BMP.

Original BMP Name	Changes to Original BMP	Original BMP replaced (Y or N)	New BMP Name and Criteria

Attachments

- I. [ADEQ Stormwater Permit AZG2021-002](#)
- II. [Notice of Intent](#)
- III. [City of Buckeye Code](#)
- IV. [City of Buckeye Urbanized Area Map \(based on census data\)](#)
- V. [Drainage Manual](#)
- VI. [Enforcement Response Plan](#)
- VII. [IDDE Statement](#)
- VIII. [Emergency/Incident Response](#)
- IX. [Construction Plan Review](#)
- X. [Sampling Analysis Plan](#)
- XI. [Complaint Response Flowchart](#)
- XII. [City of Buckeye Organizational Charts](#)
- XIII. [Stormwater Pollution Prevention Plans \(City Facilities\)](#)
- XIV. [Definitions and Abbreviations](#)
- XV. [STORM Annual Report](#)

ADEQ Stormwater Permit AZG2021-002

https://azdeq.gov/MS4_GP

Approved Notice of Intent

<http://www.buckeyeaz.gov/stormwater>

City of Buckeye Code

https://library.municode.com/az/buckeye/codes/code_of_ordinances

Mapping

City of Buckeye Urbanized Area Map and General Land Use Map

The Urbanized Area, referenced in 40 CFR 122.32 (a)(1) is based on the decennial census, set by the federal government:

40 CFR 122.32 (a)(1) - Your small MS4 is located in an urbanized area as determined by the latest Decennial Census by the Bureau of the Census. (If your small MS4 is not located entirely within an urbanized area, only the portion that is within the urbanized area is regulated)

Urbanized Area Map

The Urbanized area map is not currently available online. The Census bureau has determined that it will not provide this Urbanized Area Map for the 2020 decennial census, however, the permitted area of Buckeye that discharges to a protected surface water:

<https://www.buckeyeaz.gov/home/showpublisheddocument/12921/638264947185170000>

Land Use Map

The City of Buckeye land use map is available online:

<http://www.buckeyeaz.gov/home/showdocument?id=500>

Stormwater System Map

The City of Buckeye has a live map of the entire storm system (MS4 and non-MS4 areas) available to the public, online:

<https://www.arcgis.com/apps/dashboards/fa8e9696b1f6428688e45d8237aa7d2d>

Drainage Manual/Engineering Design Standards

<https://www.buckeyeaz.gov/business/engineering/design-standards-and-details>

Enforcement Response Plan^{xiii}

Standard Operating Procedure | Enforcement Response Plan Environmental Services

- I. **Purpose:**
To establish uniformity in applying legal authority.
- II. **Applicability:**
Applies to all Environmental Services (ES) personnel involved in regulating the City of Buckeye Public Works Sanitation Regulation.
- III. **Background:**
This ERP is to be applied to all enforcement procedures within the Environmental Program unless otherwise specified in the City Code.

The Arizona Pollutant Discharge Elimination System General Permit for stormwater discharges from small municipal separate storm sewer systems to water of the United States requires an Enforcement Response Plan (ERP) that specifies how legal authority will be prioritized and applied.

- IV. **References:**
City of Buckeye, City Code, Chapter 9, Sanitation
- V. **Policy:**
 - A. Staff shall read, understand and comply with the procedures described herein, and City Code and regulations.
 - B. This SOP is intended as guidance for Staff pursuing legal action against an individual, facility or business.
 - C. This policy is to be used to enforce any violation of the Environmental Services Program, or other sanitation related code enforcement activity unless otherwise allowed by the City Code.
 - D. When requesting legal action, staff must include the appropriate standard legal comments and supporting documentation in the report.
- VI. **Procedures:**
 - A. Enforcement Measures
 - i. The Stormwater Quality Program will use the following three measures in the order shown, until the regulated entity resolves the violation. The three steps of enforcement are:
 - a. Inspector informs the owner of violation and provides an opportunity to meet with owner,
 - b. Program supervisor issues two notices of violation (NOV) to the owner. First, a Notice of Opportunity to Correct (NOC). The NOC should be issued after all communication with the responsible party(ies) have proven to not create a resolution or mitigation of the pollution or failure to protect environmental quality. Second, a Notice of Violation and requirement to correct (NOV)), and finally,
 - c. Inspector submits a Legal Action Request to the Environmental Manager, which may include a civil citation, an administrative penalty, or a cease-and-desist order.
 - ii. The legal action may be addressed administratively, between Public Works and the responsible party, or the legal action may be approved for a citation to be

issued, either by the Environmental Compliance Officer, Environmental Compliance Specialist, Environmental Manager, or by the Buckeye Police Department Code Enforcement Officer. A citation will require an appearance in civil court.

B. Escalating Enforcement Measures

- i. Exceptions for skipping steps may be approved by the Environmental Manager based on severity of the assumed violation, as well as specific program standards. In determining the severity of legal action, the following criteria will be considered:
 - a. Composition of discharge.
 - b. Proximity of violation to receiving water.
 - c. Proximity of violation to a storm sewer system structure.
 - d. Volume of discharge to the right-of way.
 - e. Documentation of repeated non-compliance.
 - f. A risk to a person, the public, health, safety or welfare or the environmental quality.
 - g. Any other direct observations, test results, photos or other pertinent documentation.

C. Steps for initiating Legal Actions - The Environmental Services Division will seek legal action:

- i. When a violation is discovered - staff shall use means such as providing an inspection report, letter, or phone call to an owner informing the owner of the issue. Email may also be used, but may only be accepted as a communication method if the responsible party(ies) respond.
- ii. When the issue is not resolved by first contact, the first Notice of Violation (NOV) in the form of a Notice of an Opportunity to Correct is sent out, signed by either the inspector or manager and sent to the owner/operator. The letter must contain the alleged violation(s), a summary and citation of the codes violated, and a request for the owner/operator to contact the Department by a specific date to dispute the violation, correct the violation, or complete and sign a compliance plan. A copy of all NOCs issued must be filed by the department in an enforcement folder (either digital or hard copy).
- iii. When the issue is not resolved by the NOC, a second NOV is issued, the NOV is sent by Staff, signed by either the inspector or manager and sent to the owner/operator, and copied to the land owner(s) if different. The letter must contain the alleged violation(s) and a request for the owner/operator to contact the Department by a specific date to dispute the violation, correct the violation, or complete and sign a compliance plan.
- iv. When the issue is not resolved, the staff will coordinate with the Manager for further legal action via a Legal Action Request. The staff submitting a Legal Action Request must include all documented evidence. If an NOC and NOV was prepared, it (they) shall be attached to serve as the justification for legal action. In addition to the NOC/NOV, the legal action documentation shall contain a list of recommended corrective actions and a suggested compliance schedule. Other documentation shall be attached as deemed necessary and pertinent to the issue. After the legal action documentation is submitted, staff will take responsibility for further actions; however, all applicable inspections will continue to be performed including technical reviews and inspections.

IDDE Statement

All staff shall follow city code. Each department is given authority and responsibility to implement a portion of city code, and shall control matters related to their section(s). The Public Works Department shall take the lead in implementing illicit discharge detection and elimination programs, and coordination with public reporting. Wastewater matters will be administratively handed to the Water Resources Department. Construction matters will be administratively handed to the Engineering Division(s). Spill response and hazardous materials will be coordinated with and led by the Fire Department, with collaboration and support from Public Works. Vehicular related matters will be handed to the Police Department. Solid Waste issues and matters regarding direct discharge of pollutants to the right-of-way will be handled by the Environmental Services Division of Public Works.

For Illicit Discharge, Detection and Elimination (IDDE) pollution source actions and controls, Public Works staff will operate and document existing programs for pollution prevention. These programs include complaint response processes, the Streets Operations Maintenance Plan, the Commercial Property Inspection program, the Emergency/Incident Response Plan, the Street Sweeping Program, the nuisance code and the infringement on the right-of-way code, the Visual Monitoring program, the Enforcement Response Plan, and the Integrated Solid Waste Management Plan.

During the Commercial Property Inspection Program, performed at least annually within the MS4, the following business types shall be noted:

A – Timber Products	R – Ship and Boat Building or Repairing Yards
B – Paper and Allied Products Manufacturing	S – Air Transportation Facilities
C – Chemical and Allied Products Manufacturing	T – Treatment Works
D – Asphalt Paving and Roofing Materials Manufactures and Lubricant Manufacturers	U – Food and Kindred Products
E – Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing	V – Textile Mills, Apparel, and other Fabric Products Manufacturing
F – Primary Metals	W – Furniture and Fixtures
K – Hazardous Waste Treatment Storage or Disposal	X – Printing and Publishing
L – Landfills and Land Application Sites	Y – Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries
M – Automobile Salvage Yards	Z – Leather Tanning and Finishing
N – Scrap Recycling Facilities	AA – Fabricated Metal Products
O – Steam Electric Generating Facilities	AB – Transportation Equipment, Industrial or Commercial Machinery
P – Land Transportation	AC – Electronic, Electrical, Photographic and Optical Goods
Q – Water Transportation	

Within 30 days of finding these businesses, a report shall be issued to ADEQ including the facility name and address. The report(s) shall be submitted to ADEQ at AZPDES@azdeq.gov.

Note: 1) Visual Monitoring will occur for at least 20% of all outfalls (field screening points) each year including both dry and wet weather screenings. The ratio of dry weather and wet weather screenings will be determined by the operating staff based on best professional judgement for finding and

monitoring pollution sources observed in the field. 2) Additionally, the complaint response program provides all residents the opportunity to report IDDE concerns through the City's website, via email and phone, or in person during normal business hours and special events. The city has a full-time Environmental Compliance Coordinator working with residents to advise of illegal dumping response, improper waste disposal, etc. to help educate and eliminate IDDE. Our residents are a critical part to observing and reporting our response activities.

All findings of pollution and illegal discharges gathered from the above-mentioned programs, processes, and procedures, will be used to adjust, and adapt the education and outreach activities of the stormwater program to raise awareness and encourage responsiveness from residents and businesses to pollution prevention needs of our city.

Emergency/Incident Response

For all emergency or incident response activities, the City shall respond using the following procedure:

- I. Stop and control the spill with the intent of protection of immediate life, immediate health, and the environment, in that order.
- II. Use spill and cleanup equipment to stop a pollutant from entering a storm drain or prevent a discharge from a storm drain to a water of the state.
- III. Reporting Requirements (when materials enter storm drain)
 - a. The following shall be included as information which must be reported within 24 hours under this paragraph:
 - i. Any discharge which exceeds the effluent limitations of the permit, including non-stormwater discharges except those listed in the MS4 Permit.
 - ii. Violation of a maximum daily discharge limitation for any of the pollutants listed in the MS4 permit per 40 CFR 122.44(g) which is incorporated by reference at A.A.C. R18-9-A905(A)(3)(d).
 - iii. Spills of hazardous materials to the storm system will be orally/verbally reported to ADEQ Emergency Response within 24 hours of the discharge.
 - b. Reporting method: calling (602) 771-4163 during normal business hours (MST M-F 8a – 5p) or by contacting ADEQ's after-hours emergency reporting at (602) 771-4508 or (602) 390-7894. A spill of any quantity of hazardous materials that impacts a waterway within Arizona must be reported. Emergencies include oil and chemical spills as well as accidents causing a release of pollutants.
 - c. Additional reporting:
 - i. All spills that enter the MS4 will be reported in written form (email, hard copy, or other method suitable to the permitting authority) to ADEQ's NPDES Permit manager within five (5) days of the discharge to ADEQ – Water Quality Division, 1110 W. Washington Street, Phoenix, AZ 85007. The written submission shall contain:
 1. A description of the noncompliance and its cause,

2. The period of noncompliance including exact dates and times, and
 3. If the noncompliance has not yet been corrected, the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
- ii. All spills referred to in the Permit as “upsets/discharges,” will also be reported in the annual report.
- IV. The following form will be used as a standard operating procedure for all spills responded to by the Public Works Department.

Emergency/Incident Response to Right of Way and Storm Drain

A. Responder information

Date	Time	Responder
Incident address and nearest intersection		

B. Incident information

Police report obtained?	Y N
Report number (required)	
Responsible Person: Name	
Address and phone	
Description of incident:	

C. Did any hazardous material enter a storm drain owned by the City? **Y N**

If **NO**, forward the form to Environmental Services on next business day. If **Yes**, do the following:

1. Inform Env. Mngr., Robert van den Akker: 623-208-3640, rvandenakker@buckeyeaz.gov
2. **Alert ADEQ emergency on call: (602) 390-7894**
3. Provide this page to Public Works, Environmental Services, for written notification requirements.
4. Obtain as much of the following information as possible for Risk Management:

RISK information – information from the person responsible for the incident – when in doubt, get information from all involved persons. Obtain any invoice or costs that the city has incurred from clean-up or disposal.

Responsible Person/Party name	
Insurance name and address	
Insurance contact number	
Labor hours:	
Equipment costs:	
Other:	

D. Is cleanup required by the City?

If spills occur on private property (HOA, residence, or business) it is the property owner's responsibility to clean-up their area.

Emergency Responder companies if needed

Karyenvironmental.com (preferred) 480-945-0009, Clean Harbor 800.645.8265, Enviro Response Inc.

Phone: 480-967-2802

What cleanup company did you call?

Cleanup Company Name	
Date of call	Time Contact name

Construction Plan Review Standard Operating Procedures

City of Buckeye Construction Plan Review Standard Operating Procedures

This Standard Operating Procedure (SOP) is intended to be used/referenced when reviewing Waste, Erosion, and Sediment ([WES](#)) Control Plans.

Step 1. Review the construction information to confirm completion. The information in the checklist should match other application package components (i.e., development type, disturbed area, owner/applicant).

Step 2. Review drawings to understand all elements affecting local drainage in and around the project area. Elements could include: the development type, location, steep slopes, existing drainage patterns, proposed drainage patterns, discharge points from project, entrance/exit to the construction site, flood hazard areas, etc.

Step 3. Understand the proposed Best Management Practices (BMPs). This step includes non-structural (actions/activities) as well as structural controls, slated for installation to understand how each of these elements will be managed.

- Does WES Control Plan fit the type of development?
- Is there project phasing presented and are control measures depicted for each phase?
- Does the construction schedule provided seem appropriate for the size, scope, and complexity of the project?
- Does the construction schedule address temporary and final site stabilization?

Step 4. Identify all BMPs proposed for the site. Questions that the Reviewer should begin to ask include:

- How does existing topography change?
- Are perimeter BMPs, installed before mass grading, clearly identified?
- Are all discharge points (areas where storm water runoff enters the City right of way or property, washes, or adjoining property) protected with appropriate BMPs to control waste, erosion, and sediment?

Step 5. Prepare written documentation and any applicable red-lines of the review findings.

Perform rounds of comment review/resolution until adequately resolved by the Applicant.

Step 6. Attend the Pre-Construction meeting to discuss WES Control Plans. During the Pre-Construction meeting, the following items should be discussed:

- Which waste, erosion, and sediment control measures must be installed at the beginning of the project before calling for a Pre-Construction Inspection?
- Which pollution prevention measures are to be installed during and following construction activities?
- How will inspection documentation findings be included with WES Control Plans?
- Do contractor and sub-contractors have a clear understanding of WES control requirements including right-of-way protection and cleanliness regardless if a WES Control Plan is or is not

required? Identify how City infrastructure, washes, and other stormwater systems within or adjacent to the project will be protected.

- Explain applicable inspection requirements.
- Verify the Contractor understands his/her responsibilities.
- Discuss any outstanding WES Control Plan or BMP questions.

Target review goals

The following table outlines the target plan review goals for each type of permit reviewed. Plan resubmittals should also follow these review goals. However, the reviewer should try to work minor submittals into the plans review schedule when possible.

Table 1. Target Review Goals

Permit Type	Review Goal
Residential building permit	First submittal: 16 days Subsequent Submittals: 8 days
Non-residential building permit	First submittal: 16 days Subsequent Submittals: 8 days
Subdivisions	First submittal: 16 days Subsequent Submittals: 8 days

Record Keeping

Maintaining thorough records is vital to any program inventory, Plan review process, and inspection program. The City maintains records using internal City software. Documentation for WES Plan compliance is to be maintained by Public Works. Not only are records necessary to document enforcement actions from a legal perspective, WES Control Plan records document activities undertaken for compliance with City’s Phase II Municipal Separate Storm Sewer System (MS4) Permit. The City’s Stormwater Management Program (SWMP) was developed for compliance with the MS4 Permit and outlines WES Control Plan review, inspection, and enforcement Control Measures. Recordkeeping is a critical element to document compliance with program activities for inclusion or reference in the City’s Stormwater Annual Report.

Construction Site Inspection SOP

Purpose

This document describes general procedures, methods and considerations when conducting construction site inspections. Parameters are based on Arizona Department of Environmental Quality (ADEQ) Small Municipal Separate Storm Sewer System (MS4) permit #AZG2021-002 requirements – effective date October 5, 2022. City staff from Public Works, Engineering, Codes, Development Services, and/or Building Safety will conduct routine and follow-up inspections as needed on active construction sites. Any city staff conducting an inspection has the authority to enforce the City’s codes and ordinances. Refer to the City’s *Enforcement Response Plan* for additional enforcement authority information.

Scope

The procedures contained within are used by field personnel when conducting construction inspections within the MS4 permitted area.

Should personnel determine procedures described in this section are inappropriate or impractical and that another procedure must be used, the variant procedure will be documented with a description of the circumstances requiring its use.

Safety

A safe location to enter, exit, and the area in which to perform inspections during active construction should take into consideration:

- Personal Protective Equipment (PPE) needed,
- Slope/land composition,
 - Weather conditions (possible alternation of activities and/or soil composition)
- Heavy equipment operation

Construction Inspection Guidelines

Inspection frequency to monitor stormwater compliance should be conducted per Permit guidelines. An approved inspection form (example: Waste, Erosion, and Sediment Construction Inspection Form) should be used to document site conditions and concerns. Staff to use PPE provided. Inspector to abide by site-specific safety requirements.

Inspector has legal authority to enter the site however, if contractor denies permission to enter, do not force entry onto site. Document and discuss with supervisor.

Review developer’s required paperwork filing (Construction General Permit (CGP), Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), etc. as needed.

If needed, meet with developer’s representative to discuss Best Management Practice (BMP) concerns, self-inspection documentation and subsequent follow-up.

Inspect perimeter controls and BMPs listed within the developer's SWPPP along with temporary storage (solid waste, stockpiles) erosion and sediment controls. Compare BMPs with construction site activities and note any issues and document accordingly. Take photos as needed.

Inspect downstream areas to determine if sedimentation has left the site and impacted any other stormwater infrastructure.

Recordkeeping

Information generated or obtained by ESD personnel will be organized and accounted for based on MS4 permit recordkeeping requirements. Records are kept on file at public works based on directions contained within the MS4 permit or City recordkeeping requirements – whichever is more stringent.

Sampling Analysis Plan

If the City finds a discharge to the MS4 that is un-controlled or stopped, as needed or determined necessary, the City will call on a licensed contractor to perform sampling or staff may take samples and provide to a certified lab for analysis. All contractors currently available under state contract are available for service as needed. The city is also required to follow a one time sample for Stormwater Characterization.

SAP for analytical monitoring of illicit discharges, if found, includes the following information:

- Name(s) and title(s) of person(s) performing monitoring
- Monitoring site location(s)
- Map of protected surface water most likely to be impacted by the pollutant discharge(s)
- Water quality parameter(s) and pollutant(s) to be sampled
- Collection equipment and containers used
 - Decontamination process
 - Calibration procedure(s)
- Frequency of sampling is one time before September 16, 2024 for Characterization Sampling
- Documented site conditions at time of collection/field notes
- Samples are preserved in enclosed bottles provided by the lab which are set in ice within a cooler. Samples are received by the lab and processed within 72 hours of collection.
- Chain-of-custody form
- Analytical method(s) and method detection limit(s) for each parameter with a Limit of quantitation (LOQ) lower than the effluent limitations/assessments levels/action levels/or other criteria
- If the discharge is to an impaired or not-attaining water, a monitoring program for all pollutants for which the water is listed for shall be analyzed
- If the discharge is to an OAW, monitoring shall include biochemical oxygen demand (BOD), total suspended solids (TSS), pH, fecal coliform, and oils and greases and any pollutants for which has caused the OAW impairment
- If the discharge is to a lake, a site-specific sampling proposal must be implemented

SAMPLING AND ANALYSIS FORM^{xiv}

Date	Time	Inspector Name/Title	
Location		<input type="checkbox"/> Rain event <small>Approximate rainfall amount within last 24 hours: _____</small> <input type="checkbox"/> Non-rain event	
<input type="checkbox"/> Characterization Sampling* <input type="checkbox"/> Visual Inspection <input type="checkbox"/> Analytical Monitoring Include map showing portion of PSWL impacted by pollutant discharge			
<input type="checkbox"/> Flow <input type="checkbox"/> No flow	Weather conditions		<input type="checkbox"/> Summer Wet (June 1 – October 31) <input type="checkbox"/> Winter Wet (November 1 – May 31)
Flow rate (CFS)	<input type="checkbox"/> Foam <input type="checkbox"/> Trash/Floatables <input type="checkbox"/> Odor <input type="checkbox"/> Color Variation <input type="checkbox"/> No issues noted		
*Water Quality Parameters/Pollutants Sampled: See permit AZG2021-002 Table B, Chain-of-Custody Water Quality Sampling Containers and Protocols Used: Refer to Chain-of-Custody <input type="checkbox"/> Sample preservation <input type="checkbox"/> Samples processed by lab within 72 hours of collection <input type="checkbox"/> Samples packed on ice <input type="checkbox"/> Equipment calibration <input type="checkbox"/> Equipment decontamination Limit of Quantitation: Use approved analytical method with the lowest LOQ			
Sample for e.Coli? <input type="checkbox"/> YES <input type="checkbox"/> NO		Sample for TSS? <input type="checkbox"/> YES <input type="checkbox"/> NO	
Discharge to an impaired water? <input type="checkbox"/> YES <input type="checkbox"/> NO		If yes, list waterbody:	
Site Conditions/Field Notes:			
<input type="checkbox"/> Data logged onto Discharge Monitoring Report (DMR) via myDEQ account? Map of protected surface water impacted by this discharge.			

Chain-of-Custody form, bottles, and processing provided by Legends Lab, an approved stormwater sampling processing laboratory by the State of Arizona. Instructions to complete Legends' paperwork are provided by Legends. The SAP above is a sample form the city may utilize while collecting data.

Lab results are to be reported digitally via Buckeye's account to ADEQ within thirty (30) days of receipt from the lab report at <http://www.azdeq.gov/mydeq>

Sampling and Analysis Plan (SAP)

City of Buckeye

Public Works

23454 W MC 85

Buckeye, AZ 85326

(623) 349-6802

Contact(s):

Robert van den Akker, Environmental Manager

(623) 349-6802

rvandenakker@buckeyeaz.gov

Issue Date: May 25, 2022

Update: October 17, 2023

Next Revision: October 1, 2025

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1.0 SAMPLING AND ANALYSIS PLAN

This Sampling and Analysis Plan is intended to provide all details required by the AZG2021-002 Small Phase II MS4 Permit, Part 7.3. It shall be completed prior to implementing Wet Season or Stormwater Characterization Monitoring.

In accordance with AAC R18-9-A905(B)

A person shall analyze a pollutant using a test procedure for the pollutant specified by the Director in an AZPDES permit. If the Director does not specify a test procedure for a pollutant in an AZPDES permit, a person shall analyze the pollutant using:

- 1. A test procedure listed in 40 CFR 136, which is incorporated by reference in subsection (A)(7);*
- 2. An alternate test procedure approved by the EPA as provided in 40 CFR 136;*
- 3. A test procedure listed in 40 CFR 136, with modifications allowed by the EPA and approved as a method alteration by the Arizona Department of Health Services under A.A.C. R9-14-610(B); or*
- 4. If a test procedure for a pollutant is not available under subsection (B)(1) through (B)(3), a test procedure listed in A.A.C. R9-14-612 or approved under A.A.C. R9-14610(B).*

In accordance with Permit AZG2021-002 Modified, Part 7.2 Stormwater Characterization Monitoring Requirements

1. Stormwater Sampling

The permittee shall conduct stormwater characterization monitoring of discharges from the MS4 to protected surface waters at the outfalls identified by the permittee in Part 7.2(4). The permittee shall sample stormwater discharges from the MS4, as required in Appendix B, one (1) time within the first three and one-half (3.5) years of the effective date of the permit; new permittees shall sample stormwater discharges from the MS4 within the first three and one-half (3.5) years after obtaining permit coverage. This monitoring requirement shall provide discharge characterization data of stormwater discharges from the MS4.

2. Qualifying Storm Event

The permittee shall conduct the required stormwater characterization monitoring for qualifying storm events. A qualifying storm event is rainfall in the amount of 0.1 inches or more and a resulting discharge, within the first 24-hours of the event. The permittee shall design stormwater sampling procedures to include the "first flush" (first 30 minutes of storm event discharge) of a qualifying storm event, to the maximum extent practicable.

3. Storm Event Records

The sampled qualifying storm event is 0.1 inches or more of rainfall and resulting in a discharge at the outfall. The permittee shall include the sampled qualifying storm event data in the DMR, including the following information:

- a. Date of the qualifying storm event; and*
- b. Amount of rainfall (in inches) in the drainage area for each stormwater monitoring location identified in 7.2(4).*

4. Monitoring Locations

The permittee shall identify at least three (3) outfalls or locations within the MS4, representative of stormwater pollution from the MS4 for stormwater characterization monitoring. The identified outfalls for this one-time characterization monitoring must be reported in a discharge monitoring report (DMR), including the identification of the land use for the area served by the outfall from the following three uses: residential, commercial, industrial. The permittee's selected outfalls must be representative MS4 discharges and discharge to a protected surface water.

5. Adverse Climatic Conditions

Sampling of a qualifying storm event is not required during adverse climatic conditions. Adverse climatic conditions which prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, electrical storms, etc.). Information on the conditions that prevented sampling shall be reported to ADEQ with the DMRs. Where additional stormwater sampling is required, the

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permittee shall continue to monitor subsequent storm events during the monitoring season and perform storm water sampling of a qualifying storm event if another occurs during the same wet season.

6. Stormwater Characterization DMR

All parameters listed in Appendix B shall be monitored. Any additional parameters may be monitored as determined by the permittee. All parameters monitored must be reported to ADEQ via the DMR provided in myDEQ.

ADEQ will provide an electronic DMR in myDEQ for each permittee to record their stormwater characterization monitoring.

a. This DMR shall be submitted within 30 days after receiving laboratory results from characterization monitoring.

b. For existing permittees, this DMR will be available from October 1, 2021 through March 30, 2024, allowing the entry of data and/or no discharge codes throughout the first three and one-half (3.5) years of permit coverage.

c. For new permittees, a DMR will be made available for the first three and one-half (3.5) years after obtaining permit coverage.

The permittee shall retain records of all stormwater monitoring information with the SWMP.

1.1 Sampling Personnel

Table 1 – Sampling Personnel

Staff Names	Specific Responsibilities
Robert van den Akker	Environmental Manager – Oversight of the program, providing program implementation assistance as needed
Mike Esquivel	Environmental Compliance Coordinator – sample collection

1.2 Sampling Sites (outfalls and/or field screening points)

Check each type of monitoring required or exceptions taken based on activity, receiving water(s), or additional monitoring by ADEQ:

- Impaired Waters Monitoring without a TMDL
- Impaired Waters Monitoring with a TMDL
- Outstanding Arizona Water (OAW) Monitoring
- Stormwater Characterization Monitoring

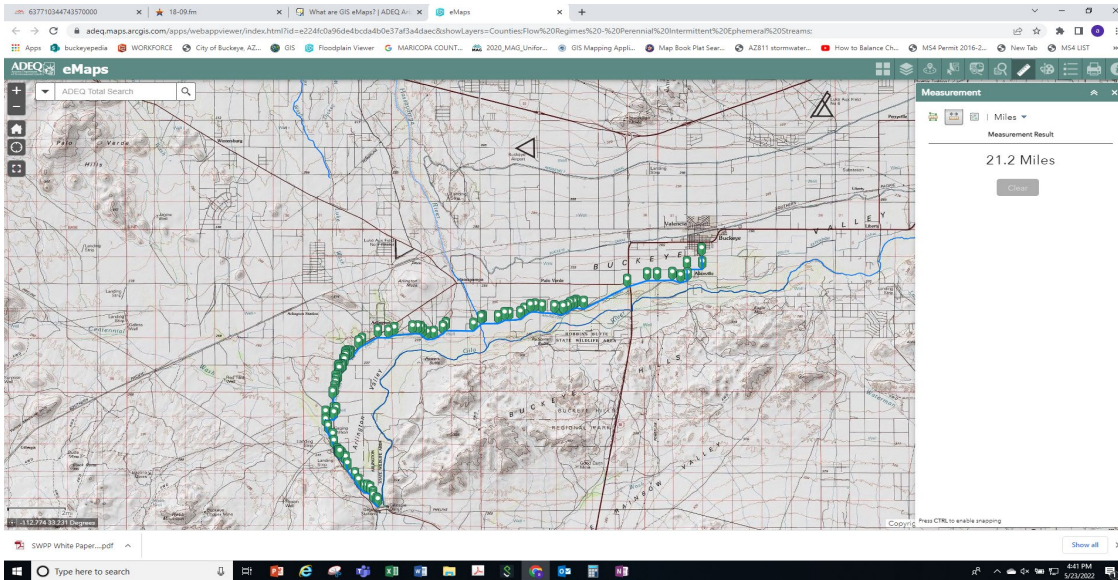
Table 2 – Locations of Monitoring Sites

The City of Buckeye has no outfalls (discharges from a stormwater structure to a Water of the United States), nor does it have discharges to Arizona Waters. The city does have Field Screening Points. These points empty into a flood collector ditch along Beloit Road. This ditch collects flood residential irrigation tailwater water and stormwater runoff, and flows to an irrigation tailwater ditch running south along 7th Ave/ Norton Rd, which continues for several miles before entering the Arlington Canal (non-protected agricultural irrigation channel, sourced by groundwater) and finally emptying to the Gila River at the Gillespie Dam.

Outfall/Field Screening Point Name	Location
FSP-1 / SWDP-164	6th Street at Beloit Road, south side of intersection
FSP-2 / SWDP-1800	5th Street at Beloit Road, south side of intersection
FSP-3 / SWDP-1801	4th Street at Beloit Road, south side of intersection

1.3 Map

There are no state protected surface waters or Waters of the US that are affected by the City of Buckeye’s stormwater discharge.



The City of Buckeye’s stormwater system empties into an irrigation tailwater ditch which winds around agricultural fields to the Arlington Canal. The Arlington Canal ends at the Gillespie Dam. The green markers indicate on the state generated map, above, indicate the path of the Arlington Canal, which runs alongside the Gila River. The solid blue line just to the south and east of the Arlington Canal is the Gila River. The solid blue line running from the north of the Gila and Arlington reaches is the Hassayampa River, a historically ephemeral wash. The converging point of these lines indicates the point where the protected surface water will be impacted by runoff discharged from the MS4.

1.4 Water Quality Parameters and Pollutants

Each sample collected at the locations listed here shall be analyzed for the parameters noted in Table 3 below.

Locations: Field Screening Point 1, Point 2, and Point 3 (south side of Beloat/Irwin Rd, at 4th, 5th, and 6th St)

Table 3 – Water Quality Parameters – indicate pollutants ADEQ requires the permittee to determine, through characterization sampling, if they are in stormwater runoff from the Buckeye MS4.

Parameter	Type	Reason	Frequency
Antimony	Metals	Characterization	Once: *, **, ***
Barium	Metals	Characterization	Once: *, **, ***
Beryllium	Metals	Characterization	Once: *, **, ***
Cadmium	Metals	Characterization	Once: *, **, ***
Nickel	Metals	Characterization	Once: *, **, ***
Mercury	Metals	Characterization	Once: *, **, ***
Silver	Metals	Characterization	Once: *, **, ***
Thallium	Metals	Characterization	Once: *, **, ***
Cyanide	Inorganics	Characterization	Once: *, **, ***
Acrolein	VOC	Characterization	Once: *, **, ***
Acrylonitrile	VOC	Characterization	Once: *, **, ***
Benzene	VOC	Characterization	Once: *, **, ***
Carbon tetrachloride	VOC	Characterization	Once: *, **, ***
Chlorobenzene	VOC	Characterization	Once: *, **, ***
Dibromochloromethane	VOC	Characterization	Once: *, **, ***
Chloroethane	VOC	Characterization	Once: *, **, ***
2-chloroethylvinyl ether	VOC	Characterization	Once: *, **, ***
Chloroform	VOC	Characterization	Once: *, **, ***
Bromodichloromethane	VOC	Characterization	Once: *, **, ***
1,2-dichlorobenzene	VOC	Characterization	Once: *, **, ***
1,3-dichlorobenzene	VOC	Characterization	Once: *, **, ***
1,4-dichlorobenzene	VOC	Characterization	Once: *, **, ***
1,1-dichloroethane	VOC	Characterization	Once: *, **, ***
1,2-dichloroethane	VOC	Characterization	Once: *, **, ***
1,3-dichloropropylene	VOC	Characterization	Once: *, **, ***
Ethylbenzene	VOC	Characterization	Once: *, **, ***
Bromomethane	VOC	Characterization	Once: *, **, ***
Chloromethane	VOC	Characterization	Once: *, **, ***
Methylene chloride	VOC	Characterization	Once: *, **, ***
1,1,2,2-tetrachloroethane	VOC	Characterization	Once: *, **, ***
Tetrachloroethylene	VOC	Characterization	Once: *, **, ***
Toluene	VOC	Characterization	Once: *, **, ***
1,2-trans-dichloroethylene	VOC	Characterization	Once: *, **, ***
1,1,1-trichloroethane	VOC	Characterization	Once: *, **, ***
1,1,2-trichloroethane	VOC	Characterization	Once: *, **, ***
Trichloroethylene	VOC	Characterization	Once: *, **, ***
Vinyl chloride	VOC	Characterization	Once: *, **, ***
Xylene	VOC	Characterization	Once: *, **, ***
2-chlorophenol	Semi VOC- <u>A</u>	Characterization	Once: *, **, ***

2,4-dichlorophenol	Semi VOC- <u>A</u>	Characterization	Once: *, **, ***
2,4-dimethylphenol	Semi VOC- <u>A</u>	Characterization	Once: *, **, ***
4,6-dinitro-o-cresol	Semi VOC- <u>A</u>	Characterization	Once: *, **, ***
2,4-dinitrophenol	Semi VOC- <u>A</u>	Characterization	Once: *, **, ***
2-nitrophenol	Semi VOC- <u>A</u>	Characterization	Once: *, **, ***
4-nitrophenol	Semi VOC- <u>A</u>	Characterization	Once: *, **, ***
p-chloro-m-cresol	Semi VOC- <u>A</u>	Characterization	Once: *, **, ***
Pentachlorophenol	Semi VOC- <u>A</u>	Characterization	Once: *, **, ***
Phenol	Semi VOC- <u>A</u>	Characterization	Once: *, **, ***
2,4,6-trichlorophenol	Semi VOC- <u>A</u>	Characterization	Once: *, **, ***
Acenaphthene	Semi VOC	Characterization	Once: *, **, ***
Acenaphthylene	Semi VOC	Characterization	Once: *, **, ***
Anthracene	Semi VOC	Characterization	Once: *, **, ***
Benz(a)anthracene	Semi VOC	Characterization	Once: *, **, ***
Benzo(a)pyrene	Semi VOC	Characterization	Once: *, **, ***
Benzo(b)fluoranthene	Semi VOC	Characterization	Once: *, **, ***
Benzo(g,h,i)perylene	Semi VOC	Characterization	Once: *, **, ***
Benzo(k)fluoranthene	Semi VOC	Characterization	Once: *, **, ***
Chrysene	Semi VOC	Characterization	Once: *, **, ***
Dibenzo(a,h)anthracene	Semi VOC	Characterization	Once: *, **, ***
3,3'-dichlorobenzidine	Semi VOC	Characterization	Once: *, **, ***
Diethyl phthalate	Semi VOC	Characterization	Once: *, **, ***
Dimethyl phthalate	Semi VOC	Characterization	Once: *, **, ***
Di-n-butyl phthalate	Semi VOC	Characterization	Once: *, **, ***
2,4-dinitrotoluene	Semi VOC	Characterization	Once: *, **, ***
2,6-dinitrotoluene	Semi VOC	Characterization	Once: *, **, ***
Di-n-octyl phthalate	Semi VOC	Characterization	Once: *, **, ***
1,2-diphenylhydrazine (as azobenzene)	Semi VOC	Characterization	Once: *, **, ***
Fluoranthene	Semi VOC	Characterization	Once: *, **, ***
Fluorene	Semi VOC	Characterization	Once: *, **, ***
Hexachlorobenzene	Semi VOC	Characterization	Once: *, **, ***
Hexachlorobutadiene	Semi VOC	Characterization	Once: *, **, ***
Hexachlorocyclopentadiene	Semi VOC	Characterization	Once: *, **, ***
Hexachloroethane	Semi VOC	Characterization	Once: *, **, ***
Indeno(1,2,3-cd)pyrene	Semi VOC	Characterization	Once: *, **, ***
Isophorone	Semi VOC	Characterization	Once: *, **, ***
Naphthalene	Semi VOC	Characterization	Once: *, **, ***
Nitrobenzene	Semi VOC	Characterization	Once: *, **, ***
N-nitrosodimethylamine	Semi VOC	Characterization	Once: *, **, ***

N-nitrosodi-n-propylamine	Semi VOC	Characterization	Once: *, **, ***
N-nitrosodiphenylamine	Semi VOC	Characterization	Once: *, **, ***
Phenanthrene	Semi VOC	Characterization	Once: *, **, ***
Pyrene	Semi VOC	Characterization	Once: *, **, ***
1,2,4-trichlorobenzene	Semi VOC	Characterization	Once: *, **, ***
Aldrin	PCB	Characterization	Once: *, **, ***
Alpha-BHC	PCB	Characterization	Once: *, **, ***
Beta-BHC	PCB	Characterization	Once: *, **, ***
Gamma-BHC	PCB	Characterization	Once: *, **, ***
Delta-BHC	PCB	Characterization	Once: *, **, ***
Chlordane	PCB	Characterization	Once: *, **, ***
4,4'-DDT	PCB	Characterization	Once: *, **, ***
4,4'-DDE	PCB	Characterization	Once: *, **, ***
4,4'-DDD	PCB	Characterization	Once: *, **, ***
Dieldrin	PCB	Characterization	Once: *, **, ***
Alpha-endosulfan	PCB	Characterization	Once: *, **, ***
Beta-endosulfan	PCB	Characterization	Once: *, **, ***
Endosulfan sulfate	PCB	Characterization	Once: *, **, ***
Endrin	PCB	Characterization	Once: *, **, ***
Endrin aldehyde	PCB	Characterization	Once: *, **, ***
Heptachlor	PCB	Characterization	Once: *, **, ***
Heptachlor epoxide	PCB	Characterization	Once: *, **, ***
PCB-1242	PCB	Characterization	Once: *, **, ***
PCB-1254	PCB	Characterization	Once: *, **, ***
PCB-1221	PCB	Characterization	Once: *, **, ***
PCB-1232	PCB	Characterization	Once: *, **, ***
PCB-1248	PCB	Characterization	Once: *, **, ***
PCB-1260	PCB	Characterization	Once: *, **, ***
PCB-1016	PCB	Characterization	Once: *, **, ***
Toxaphene	PCB	Characterization	Once: *, **, ***

*one (1) time within the first three and one-half (3.5) years of the effective date of the permit (special approval to start permit on 9/16/22 – must be completed by 3/16/26)

**at least three (3) outfalls or locations within the MS4, representative of stormwater pollution from the MS4

*** characterization shall occur for rainfall in the amount of 0.1 inches or more and a resulting discharge, within the first 24-hours of the event.

Analytical Methods and Laboratories

Other than parameters required to be sampled at the time of sample collection (e.g. field parameters), all samples shall be analyzed by a laboratory that is licensed by the Arizona Department of Health Service (ADHS) Office of Laboratory Licensure and Certification. Identification of the analytical methods and related limits of detection (if applicable) for each parameter is required.

All laboratory analyses shall be conducted according to test procedures specified in 40 CFR 136, unless other test procedures have been specified in this general permit. This requirement does not apply to parameters that require analysis at the time of sample collection as long as the testing methods used are approved by ADHS. The permittee may conduct field analysis of turbidity if the permittee has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to properly perform the field analysis.

NOTE: Reporting limits and sample results should be reported to the number of significant figures available or required on the eDMR generated by myDEQ.

Hardness

If hardness characterization of the receiving water included analysis of samples from the surface water receiving the discharge or surface water data collected by a third party (provided the data is credible, scientifically defensible and is representative of current conditions), the data and the methodology for determining the hardness values must be submitted to ADEQ in the myDEQ eDMR to allow ADEQ to compare monitoring results with applicable SWQS. The permittee shall retain all reports and monitoring data in accordance with Part 8.1(2) of the permit.

1.5 Sampling Protocols and Citations

Table 4 – Description of Sampling Protocols and Citation

Type	Parameter	Collection Citation and method
Metals	Antimony	Discrete Grab Method-40 CFR 136 and 403 appendix E
Metals	Barium	Discrete Grab Method-40 CFR 136 and 403 appendix E
Metals	Beryllium	Discrete Grab Method-40 CFR 136 and 403 appendix E
Metals	Calcium	Discrete Grab Method-40 CFR 136 and 403 appendix E
Metals	Magnesium	Discrete Grab Method-40 CFR 136 and 403 appendix E
Metals	Nickel	Discrete Grab Method-40 CFR 136 and 403 appendix E
Metals	Thallium	Discrete Grab Method-40 CFR 136 and 403 appendix E
Metals	Silver	Discrete Grab Method-40 CFR 136 and 403 appendix E
Metals	Mercury	Discrete Grab Method-40 CFR 136 and 403 appendix E
Metals	Cadmium	Discrete Grab Method-40 CFR 136 and 403 appendix E
Inorganics	Cyanide	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Acrolein	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Acrylonitrile	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	2-Chloroethylvinyl ether	Discrete Grab Method-40 CFR 136 and 403 appendix E

Volatile Organic Compounds	Dichlorodifluoromethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Chloromethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Vinyl chloride	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Bromomethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Chloroethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Trichlorofluoromethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,1-Dichloroethene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Acetone	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Iodomethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Carbon disulfide	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Dichloromethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Methyl-tert-butyl ether	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	trans-1,2-Dichloroethene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,1-Dichloroethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	cis-1,2-Dichloroethylene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	2-Butanone	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	2,2-Dichloropropane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Bromochloromethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Chloroform	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,1,1-Trichloroethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,1-Dichloropropene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Carbon tetrachloride	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Benzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,2-Dichloroethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Trichloroethene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,2-Dichloropropane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Dibromomethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Methyl methacrylate	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Bromodichloromethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	cis-1,3-Dichloropropene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	4-Methyl-2-pentanone	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Toluene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	trans-1,3-Dichloropropene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,1,2-Trichloroethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Tetrachloroethene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,3-Dichloropropane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	2-Hexanone	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Dibromochloromethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,2-Dibromoethane (EDB)	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Chlorobenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,1,1,2-Tetrachloroethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Ethylbenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	m,p-Xylene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	o-Xylene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Styrene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Bromoform	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Isopropylbenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,1,2,2-Tetrachloroethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,2,3-Trichloropropane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Bromobenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	trans-1,4-Dichloro-2-butene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	n-Propylbenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	2-Chlorotoluene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,3,5-Trimethylbenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	4-Chlorotoluene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	tert-Butylbenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,2,4-Trimethylbenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E

Volatile Organic Compounds	sec-Butylbenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	p-Isopropyltoluene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,3-Dichlorobenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,4-Dichlorobenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	n-Butylbenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,2-Dichlorobenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,2-Dibromo-3-chloropropane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,2,4-Trichlorobenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Hexachlorobutadiene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Naphthalene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	1,2,3-Trichlorobenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Xylenes (total)	Discrete Grab Method-40 CFR 136 and 403 appendix E
Volatile Organic Compounds	Total THMs	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi Volatile Organic Compounds	1,2,4-Trichlorobenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	1,2-Diphenylhydrazine as Azobenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	2,2'-oxybis(1-chloropropane)	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	2,3-Dichloroaniline	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	2,4,6-Trichlorophenol	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	2,4-Dichlorophenol	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	2,4-Dimethylphenol	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	2,4-Dinitrophenol	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	2,4-Dinitrotoluene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	2,6-Dinitrotoluene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	2-Chloronaphthalene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	2-Chlorophenol	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	2-Methylphenol	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	2-Nitrophenol	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	3&4-Methylphenol	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	3,3'-Dichlorobenzidine	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	4,6-Dinitro-2-methylphenol	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	4-Bromophenyl phenyl ether	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	4-Chloro-3-methylphenol	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	4-Chlorophenyl phenyl ether	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	4-Nitrophenol	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Acenaphthene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Acenaphthylene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Acetophenone	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Alachlor	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	alpha-Terpineol	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Aniline	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Anthracene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Atrazine	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Benzdine	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Benzo(a)anthracene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Benzo(a)pyrene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Benzo(b+k)fluoranthene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Benzo(g,h,i)perylene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Bis(2-chloroethoxy)methane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Bis(2-chloroethyl)ether	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Butyl benzyl phthalate	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Carbazole	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Chrysene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Di(2-ethylhexyl)adipate	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Di(2-ethylhexyl)phthalate	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Dibenz(a,h)anthracene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Diethyl phthalate	Discrete Grab Method-40 CFR 136 and 403 appendix E

Semi-VOCs	Dimethyl phthalate	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Di-n-butyl phthalate	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Di-n-octyl phthalate	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Fluoranthene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Fluorene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Hexachlorobenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Hexachlorobutadiene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Hexachlorocyclopentadiene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Hexachloroethane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Indeno (1,2,3-cd) pyrene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Isophorone	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Naphthalene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	n-Decane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Nitrobenzene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	N-Nitrosodimethylamine	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	N-Nitrosodi-n-propylamine	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	N-Nitrosodiphenylamine	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Octadecane	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Pentachlorophenol	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Phenanthrene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Phenol	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Pyrene	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Pyridine	Discrete Grab Method-40 CFR 136 and 403 appendix E
Semi-VOCs	Simazine	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	4,4'-DDD	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	4,4'-DDE	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	4,4'-DDT	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Aldrin	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	alpha-BHC	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Aroclor 1016	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Aroclor 1221	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Aroclor 1232	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Aroclor 1242	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Aroclor 1248	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Aroclor 1254	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Aroclor 1260	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	beta-BHC	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Chlordane (tech)	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	delta-BHC	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Dieldrin	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Endosulfan I	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Endosulfan II	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Endosulfan sulfate	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Endrin	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Endrin aldehyde	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	gamma-BHC (Lindane)	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Heptachlor	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Heptachlor epoxide	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Methoxychlor	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Mirex	Discrete Grab Method-40 CFR 136 and 403 appendix E
Polychlorinated biphenyls	Toxaphene	Discrete Grab Method-40 CFR 136 and 403 appendix E

1.6 Analytical Methods per Parameter

Type	Parameter	Method	Minimum Detection Limit	Unit
Metals	Antimony	EPA 200.8	0.00041	mg/L
Metals	Barium	EPA 200.7	0.00040	mg/L
Metals	Beryllium	EPA 200.7	0.00020	mg/L
Metals	Calcium	EPA 200.7	0.0490	mg/L
Metals	Magnesium	EPA 200.7	0.0680	mg/L
Metals	Nickel	EPA 200.7	0.0033	mg/L
Metals	Thallium	EPA 200.8	0.00012	mg/L
Metals	Silver	EPA 200.8	0.000037	mg/L
Metals	Mercury	EPA 245.1	0.000030	mg/L
Metals	Cadmium	EPA 200.8	0.000061	mg/L
Inorganics	Cyanide	SM 4500 CN E	0.00300	mg/L
Volatile Organic Compounds	Acrolein	EPA 624.1	4.59	µg/L
Volatile Organic Compounds	Acrylonitrile	EPA 624.1	3.08	µg/L
Volatile Organic Compounds	2-Chloroethylvinyl ether	EPA 624.1	0.332	µg/L
Volatile Organic Compounds	Dichlorodifluoromethane	EPA 624.1	0.192	µg/L
Volatile Organic Compounds	Chloromethane	EPA 624.1	0.181	µg/L
Volatile Organic Compounds	Vinyl chloride	EPA 624.1	0.117	µg/L
Volatile Organic Compounds	Bromomethane	EPA 624.1	0.138	µg/L
Volatile Organic Compounds	Chloroethane	EPA 624.1	0.15	µg/L
Volatile Organic Compounds	Trichlorofluoromethane	EPA 624.1	0.141	µg/L
Volatile Organic Compounds	1,1-Dichloroethene	EPA 624.1	0.13	µg/L
Volatile Organic Compounds	Acetone	EPA 624.1	4.49	µg/L
Volatile Organic Compounds	Iodomethane	EPA 624.1	1.16	µg/L
Volatile Organic Compounds	Carbon disulfide	EPA 624.1	1.16	µg/L
Volatile Organic Compounds	Dichloromethane	EPA 624.1	0.126	µg/L
Volatile Organic Compounds	Methyl-tert-butyl ether	EPA 624.1	0.111	µg/L
Volatile Organic Compounds	trans-1,2-Dichloroethene	EPA 624.1	0.13	µg/L
Volatile Organic Compounds	1,1-Dichloroethane	EPA 624.1	0.104	µg/L
Volatile Organic Compounds	cis-1,2-Dichloroethylene	EPA 624.1	0.128	µg/L
Volatile Organic Compounds	2-Butanone	EPA 624.1	1.8	µg/L
Volatile Organic Compounds	2,2-Dichloropropane	EPA 624.1	0.152	µg/L
Volatile Organic Compounds	Bromochloromethane	EPA 624.1	0.115	µg/L
Volatile Organic Compounds	Chloroform	EPA 624.1	0.132	µg/L
Volatile Organic Compounds	1,1,1-Trichloroethane	EPA 624.1	0.106	µg/L
Volatile Organic Compounds	1,1-Dichloropropene	EPA 624.1	0.109	µg/L
Volatile Organic Compounds	Carbon tetrachloride	EPA 624.1	0.139	µg/L
Volatile Organic Compounds	Benzene	EPA 624.1	0.098	µg/L
Volatile Organic Compounds	1,2-Dichloroethane	EPA 624.1	0.164	µg/L
Volatile Organic Compounds	Trichloroethene	EPA 624.1	0.111	µg/L
Volatile Organic Compounds	1,2-Dichloropropane	EPA 624.1	0.119	µg/L
Volatile Organic Compounds	Dibromomethane	EPA 624.1	0.148	µg/L
Volatile Organic Compounds	Methyl methacrylate	EPA 624.1	0.964	µg/L
Volatile Organic Compounds	Bromodichloromethane	EPA 624.1	0.162	µg/L
Volatile Organic Compounds	cis-1,3-Dichloropropene	EPA 624.1	0.113	µg/L
Volatile Organic Compounds	4-Methyl-2-pentanone	EPA 624.1	1.07	µg/L
Volatile Organic Compounds	Toluene	EPA 624.1	0.093	µg/L
Volatile Organic Compounds	trans-1,3-Dichloropropene	EPA 624.1	0.164	µg/L
Volatile Organic Compounds	1,1,2-Trichloroethane	EPA 624.1	0.175	µg/L
Volatile Organic Compounds	Tetrachloroethene	EPA 624.1	0.144	µg/L
Volatile Organic Compounds	1,3-Dichloropropane	EPA 624.1	0.152	µg/L
Volatile Organic Compounds	2-Hexanone	EPA 624.1	1.46	µg/L
Volatile Organic Compounds	Dibromochloromethane	EPA 624.1	0.174	µg/L
Volatile Organic Compounds	1,2-Dibromoethane (EDB)	EPA 624.1	0.178	µg/L
Volatile Organic Compounds	Chlorobenzene	EPA 624.1	0.124	µg/L
Volatile Organic Compounds	1,1,1,2-Tetrachloroethane	EPA 624.1	0.142	µg/L
Volatile Organic Compounds	Ethylbenzene	EPA 624.1	0.101	µg/L
Volatile Organic Compounds	m,p-Xylene	EPA 624.1	0.129	µg/L
Volatile Organic Compounds	o-Xylene	EPA 624.1	0.128	µg/L
Volatile Organic Compounds	Styrene	EPA 624.1	0.195	µg/L
Volatile Organic Compounds	Bromoform	EPA 624.1	0.211	µg/L

Volatile Organic Compounds	Isopropylbenzene	EPA 624.1	0.131	µg/L
Volatile Organic Compounds	1,1,2,2-Tetrachloroethane	EPA 624.1	0.214	µg/L
Volatile Organic Compounds	1,2,3-Trichloropropane	EPA 624.1	0.229	µg/L
Volatile Organic Compounds	Bromobenzene	EPA 624.1	0.144	µg/L
Volatile Organic Compounds	trans-1,4-Dichloro-2-butene	EPA 624.1	2.13	µg/L
Volatile Organic Compounds	n-Propylbenzene	EPA 624.1	0.127	µg/L
Volatile Organic Compounds	2-Chlorotoluene	EPA 624.1	0.125	µg/L
Volatile Organic Compounds	1,3,5-Trimethylbenzene	EPA 624.1	0.129	µg/L
Volatile Organic Compounds	4-Chlorotoluene	EPA 624.1	0.156	µg/L
Volatile Organic Compounds	tert-Butylbenzene	EPA 624.1	0.146	µg/L
Volatile Organic Compounds	1,2,4-Trimethylbenzene	EPA 624.1	0.139	µg/L
Volatile Organic Compounds	sec-Butylbenzene	EPA 624.1	0.119	µg/L
Volatile Organic Compounds	p-Isopropyltoluene	EPA 624.1	0.129	µg/L
Volatile Organic Compounds	1,3-Dichlorobenzene	EPA 624.1	0.135	µg/L
Volatile Organic Compounds	1,4-Dichlorobenzene	EPA 624.1	0.151	µg/L
Volatile Organic Compounds	n-Butylbenzene	EPA 624.1	0.111	µg/L
Volatile Organic Compounds	1,2-Dichlorobenzene	EPA 624.1	0.154	µg/L
Volatile Organic Compounds	1,2-Dibromo-3-chloropropane	EPA 624.1	0.421	µg/L
Volatile Organic Compounds	1,2,4-Trichlorobenzene	EPA 624.1	0.19	µg/L
Volatile Organic Compounds	Hexachlorobutadiene	EPA 624.1	0.645	µg/L
Volatile Organic Compounds	Naphthalene	EPA 624.1	0.175	µg/L
Volatile Organic Compounds	1,2,3-Trichlorobenzene	EPA 624.1	0.173	µg/L
Volatile Organic Compounds	Xylenes (total)	EPA 624.1		µg/L
Volatile Organic Compounds	Total THMs	EPA 624.1		µg/L
Semi Volatile Organic Compounds	1,2,4-Trichlorobenzene	EPA 625.1	0.60	µg/L
Semi-VOCs	1,2-Diphenylhydrazine as Azobenzene	EPA 625.1	0.57	µg/L
Semi-VOCs	2,2'-oxybis(1-chloropropane)	EPA 625.1	0.68	µg/L
Semi-VOCs	2,3-Dichloroaniline	EPA 625.1	0.56	µg/L
Semi-VOCs	2,4,6-Trichlorophenol	EPA 625.1	0.72	µg/L
Semi-VOCs	2,4-Dichlorophenol	EPA 625.1	0.50	µg/L
Semi-VOCs	2,4-Dimethylphenol	EPA 625.1	1.3	µg/L
Semi-VOCs	2,4-Dinitrophenol	EPA 625.1	1.1	µg/L
Semi-VOCs	2,4-Dinitrotoluene	EPA 625.1	3.1	µg/L
Semi-VOCs	2,6-Dinitrotoluene	EPA 625.1	2.7	µg/L
Semi-VOCs	2-Chloronaphthalene	EPA 625.1	0.32	µg/L
Semi-VOCs	2-Chlorophenol	EPA 625.1	0.42	µg/L
Semi-VOCs	2-Methylphenol	EPA 625.1	0.96	µg/L
Semi-VOCs	2-Nitrophenol	EPA 625.1	2.1	µg/L
Semi-VOCs	3&4-Methylphenol	EPA 625.1	0.46	µg/L
Semi-VOCs	3,3'-Dichlorobenzidine	EPA 625.1	5.8	µg/L
Semi-VOCs	4,6-Dinitro-2-methylphenol	EPA 625.1	1.8	µg/L
Semi-VOCs	4-Bromophenyl phenyl ether	EPA 625.1	0.84	µg/L
Semi-VOCs	4-Chloro-3-methylphenol	EPA 625.1	0.66	µg/L
Semi-VOCs	4-Chlorophenyl phenyl ether	EPA 625.1	0.78	µg/L
Semi-VOCs	4-Nitrophenol	EPA 625.1	2.0	µg/L
Semi-VOCs	Acenaphthene	EPA 625.1	0.31	µg/L
Semi-VOCs	Acenaphthylene	EPA 625.1	0.43	µg/L
Semi-VOCs	Acetophenone	EPA 625.1	0.47	µg/L
Semi-VOCs	Alachlor	EPA 625.1	0.63	µg/L
Semi-VOCs	alpha-Terpineol	EPA 625.1	0.41	µg/L
Semi-VOCs	Aniline	EPA 625.1	2.1	µg/L
Semi-VOCs	Anthracene	EPA 625.1	0.43	µg/L
Semi-VOCs	Atrazine	EPA 625.1	0.54	µg/L
Semi-VOCs	Benzdine	EPA 625.1	2.2	µg/L
Semi-VOCs	Benzo(a)anthracene	EPA 625.1	0.44	µg/L
Semi-VOCs	Benzo(a)pyrene	EPA 625.1	0.50	µg/L
Semi-VOCs	Benzo(b+k)fluoranthene	EPA 625.1	1.1	µg/L
Semi-VOCs	Benzo(g,h,i)perylene	EPA 625.1	1.2	µg/L
Semi-VOCs	Bis(2-chloroethoxy)methane	EPA 625.1	0.43	µg/L
Semi-VOCs	Bis(2-chloroethyl)ether	EPA 625.1	0.57	µg/L

Semi-VOCs	Butyl benzyl phthalate	EPA 625.1	1.2	µg/L
Semi-VOCs	Carbazole	EPA 625.1	0.75	µg/L
Semi-VOCs	Chrysene	EPA 625.1	0.36	µg/L
Semi-VOCs	Di(2-ethylhexyl)adipate	EPA 625.1	1.1	µg/L
Semi-VOCs	Di(2-ethylhexyl)phthalate	EPA 625.1	1.1	µg/L
Semi-VOCs	Dibenz(a,h)anthracene	EPA 625.1	1.2	µg/L
Semi-VOCs	Diethyl phthalate	EPA 625.1	0.48	µg/L
Semi-VOCs	Dimethyl phthalate	EPA 625.1	0.61	µg/L
Semi-VOCs	Di-n-butyl phthalate	EPA 625.1	0.59	µg/L
Semi-VOCs	Di-n-octyl phthalate	EPA 625.1	1.3	µg/L
Semi-VOCs	Fluoranthene	EPA 625.1	0.75	µg/L
Semi-VOCs	Fluorene	EPA 625.1	0.56	µg/L
Semi-VOCs	Hexachlorobenzene	EPA 625.1	0.69	µg/L
Semi-VOCs	Hexachlorobutadiene	EPA 625.1	0.86	µg/L
Semi-VOCs	Hexachlorocyclopentadiene	EPA 625.1	1.0	µg/L
Semi-VOCs	Hexachloroethane	EPA 625.1	0.57	µg/L
Semi-VOCs	Indeno (1,2,3-cd) pyrene	EPA 625.1	1.1	µg/L
Semi-VOCs	Isophorone	EPA 625.1	0.44	µg/L
Semi-VOCs	Naphthalene	EPA 625.1	0.31	µg/L
Semi-VOCs	n-Decane	EPA 625.1	0.64	µg/L
Semi-VOCs	Nitrobenzene	EPA 625.1	0.84	µg/L
Semi-VOCs	N-Nitrosodimethylamine	EPA 625.1	0.86	µg/L
Semi-VOCs	N-Nitrosodi-n-propylamine	EPA 625.1	0.42	µg/L
Semi-VOCs	N-Nitrosodiphenylamine	EPA 625.1	0.35	µg/L
Semi-VOCs	Octadecane	EPA 625.1	0.48	µg/L
Semi-VOCs	Pentachlorophenol	EPA 625.1	1.4	µg/L
Semi-VOCs	Phenanthrene	EPA 625.1	0.41	µg/L
Semi-VOCs	Phenol	EPA 625.1	0.40	µg/L
Semi-VOCs	Pyrene	EPA 625.1	0.84	µg/L
Semi-VOCs	Pyridine	EPA 625.1	1.0	µg/L
Semi-VOCs	Simazine	EPA 625.1	0.63	µg/L
Polychlorinated biphenyls	4,4'-DDD	608.3 PCB/PEST	0.060	µg/L
Polychlorinated biphenyls	4,4'-DDE	608.3 PCB/PEST	0.055	µg/L
Polychlorinated biphenyls	4,4'-DDT	608.3 PCB/PEST	0.057	µg/L
Polychlorinated biphenyls	Aldrin	608.3 PCB/PEST	0.073	µg/L
Polychlorinated biphenyls	alpha-BHC	608.3 PCB/PEST	0.081	µg/L
Polychlorinated biphenyls	Aroclor 1016	608.3 PCB/PEST	0.80	µg/L
Polychlorinated biphenyls	Aroclor 1221	608.3 PCB/PEST	1.3	µg/L
Polychlorinated biphenyls	Aroclor 1232	608.3 PCB/PEST	0.31	µg/L
Polychlorinated biphenyls	Aroclor 1242	608.3 PCB/PEST	0.41	µg/L
Polychlorinated biphenyls	Aroclor 1248	608.3 PCB/PEST	0.40	µg/L
Polychlorinated biphenyls	Aroclor 1254	608.3 PCB/PEST	0.43	µg/L
Polychlorinated biphenyls	Aroclor 1260	608.3 PCB/PEST	0.48	µg/L
Polychlorinated biphenyls	beta-BHC	608.3 PCB/PEST	0.045	µg/L
Polychlorinated biphenyls	Chlordane (tech)	608.3 PCB/PEST	0.11	µg/L
Polychlorinated biphenyls	delta-BHC	608.3 PCB/PEST	0.11	µg/L
Polychlorinated biphenyls	Dieldrin	608.3 PCB/PEST	0.052	µg/L
Polychlorinated biphenyls	Endosulfan I	608.3 PCB/PEST	0.058	µg/L
Polychlorinated biphenyls	Endosulfan II	608.3 PCB/PEST	0.056	µg/L
Polychlorinated biphenyls	Endosulfan sulfate	608.3 PCB/PEST	0.11	µg/L
Polychlorinated biphenyls	Endrin	608.3 PCB/PEST	0.061	µg/L
Polychlorinated biphenyls	Endrin aldehyde	608.3 PCB/PEST	0.074	µg/L
Polychlorinated biphenyls	gamma-BHC (Lindane)	608.3 PCB/PEST	0.071	µg/L
Polychlorinated biphenyls	Heptachlor	608.3 PCB/PEST	0.056	µg/L
Polychlorinated biphenyls	Heptachlor epoxide	608.3 PCB/PEST	0.056	µg/L
Polychlorinated biphenyls	Methoxychlor	608.3 PCB/PEST	0.055	µg/L
Polychlorinated biphenyls	Mirex	608.3 PCB/PEST	0.050	µg/L
Polychlorinated biphenyls	Toxaphene	608.3 PCB/PEST	0.47	µg/L

1.7 MS4 Sample Collection Form(s)

MS4 Sampling Information					
MS4 Name:	City of Buckeye		AZSM Auth. No.	AZG2021-002	
Outfall Name:	"Representative Outfall"?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Other point in MS4: FSP-3 / SWDP-1801		
Person(s)/Title(s) collecting sample: Robert van den Akker, Environmental Manager					
Person(s)/Title(s) assisting with sample: Miguel Esquivel, Environmental Compliance Coordinator					
Date & Time Discharge Began: Enter date and time		Date Sample Collected: Enter date		Time Sample Collected: Enter time	
Unique Sample Identifier (Matches Identifier on COC)		Sample Identifier			
Substitute Sample?	<input type="checkbox"/> No <input type="checkbox"/> Yes (identify quarter/year when sample was originally scheduled to be collected):				
Nature of Discharge: <input checked="" type="checkbox"/> Rainfall <input type="checkbox"/> Snowmelt					
Rainfall Amount: No of inches_					
Field Sampling Data					
Type of Sample	<input type="checkbox"/> Grab <input checked="" type="checkbox"/> Discrete <input type="checkbox"/> Manual <input type="checkbox"/> Auto sampler (Date/Time Collected)				
Field Parameter Measurements	pH: pH	Temperature: temperature	Conductivity: conductivity	Turbidity: turbidity	Flow Rate: rate
Field Filtration Methods	Insert details				
QC Samples	Insert details				
Field Instrument Calibration Data	Insert details				
Indicators of Stormwater Pollution Observed?	<input type="checkbox"/> No <input type="checkbox"/> Yes (Describe): Insert details				
Observations of sampling procedures and conditions at the time of sampling: Insert details					
Description of problems encountered, or deviations made from the Plan: Insert details					

Certification Statement			
<p>"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."</p>			
A. Name:	Robert van den Akker	B. Title:	Environmental Manager
C. Signature:		D. Date Signed:	Insert details

MS4 Sampling Information					
MS4 Name:	City of Buckeye		AZSM Auth. No.	AZG2021-002	
Outfall Name:	"Representative Outfall"?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Other Point in MS4: FSP-2 / SWDP-1800		
Person(s)/Title(s) collecting sample: Robert van den Akker, Environmental Manager					
Person(s)/Title(s) assisting with sample: Miguel Esquivel, Environmental Compliance Coordinator					
Date & Time Discharge Began: Enter date and time		Date Sample Collected: Enter date		Time Sample Collected: Enter time	
Unique Sample Identifier (Matches Identifier on COC)		Sample Identifier			
Substitute Sample?	<input type="checkbox"/> No <input type="checkbox"/> Yes (identify quarter/year when sample was originally scheduled to be collected):				
Nature of Discharge: <input checked="" type="checkbox"/> Rainfall <input type="checkbox"/> Snowmelt					
Rainfall Amount: No of inches_					
Field Sampling Data					
Type of Sample	<input type="checkbox"/> Grab <input checked="" type="checkbox"/> Discrete <input type="checkbox"/> Manual <input type="checkbox"/> Auto sampler (Date/Time Collected)				
Field Parameter Measurements	pH: pH	Temperature: temperature	Conductivity: conductivity	Turbidity: turbidity	Flow Rate: rate
Field Filtration Methods	Insert details				
QC Samples	Insert details				
Field Instrument Calibration Data	Insert details				
Indicators of Stormwater Pollution Observed?	<input type="checkbox"/> No <input type="checkbox"/> Yes (Describe): Insert details				
Observations of sampling procedures and conditions at the time of sampling: Insert details					
Description of problems encountered, or deviations made from the Plan: Insert details					

Certification Statement			
<p>"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."</p>			
A. Name:	Robert van den Akker	B. Title:	Environmental Manager
C. Signature:		D. Date Signed:	Insert details

MS4 Sampling Information					
MS4 Name:	City of Buckeye		AZSM Auth. No.	AZG2021-002	
Outfall Name:	"Representative Outfall"?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Other point in MS4: FSP-1 / SWDP-164		
Person(s)/Title(s) collecting sample: Robert van den Akker, Environmental Manager					
Person(s)/Title(s) assisting with sample: Miguel Esquivel, Environmental Compliance Coordinator					
Date & Time Discharge Began: Enter date and time		Date Sample Collected: Enter date		Time Sample Collected: Enter time	
Unique Sample Identifier (Matches Identifier on COC)		Sample Identifier			
Substitute Sample?	<input type="checkbox"/> No <input type="checkbox"/> Yes (identify quarter/year when sample was originally scheduled to be collected):				
Nature of Discharge: <input checked="" type="checkbox"/> Rainfall <input type="checkbox"/> Snowmelt					
Rainfall Amount: No of inches_					
Field Sampling Data					
Type of Sample	<input type="checkbox"/> Grab <input checked="" type="checkbox"/> Discrete <input type="checkbox"/> Manual <input type="checkbox"/> Auto sampler (Date/Time Collected)				
Field Parameter Measurements	pH: pH	Temperature: temperature	Conductivity: conductivity	Turbidity: turbidity	Flow Rate: rate
Field Filtration Methods	Insert details				
QC Samples	Insert details				
Field Instrument Calibration Data	Insert details				
Indicators of Stormwater Pollution Observed?	<input type="checkbox"/> No <input type="checkbox"/> Yes (Describe): Insert details				
Observations of sampling procedures and conditions at the time of sampling: Insert details					

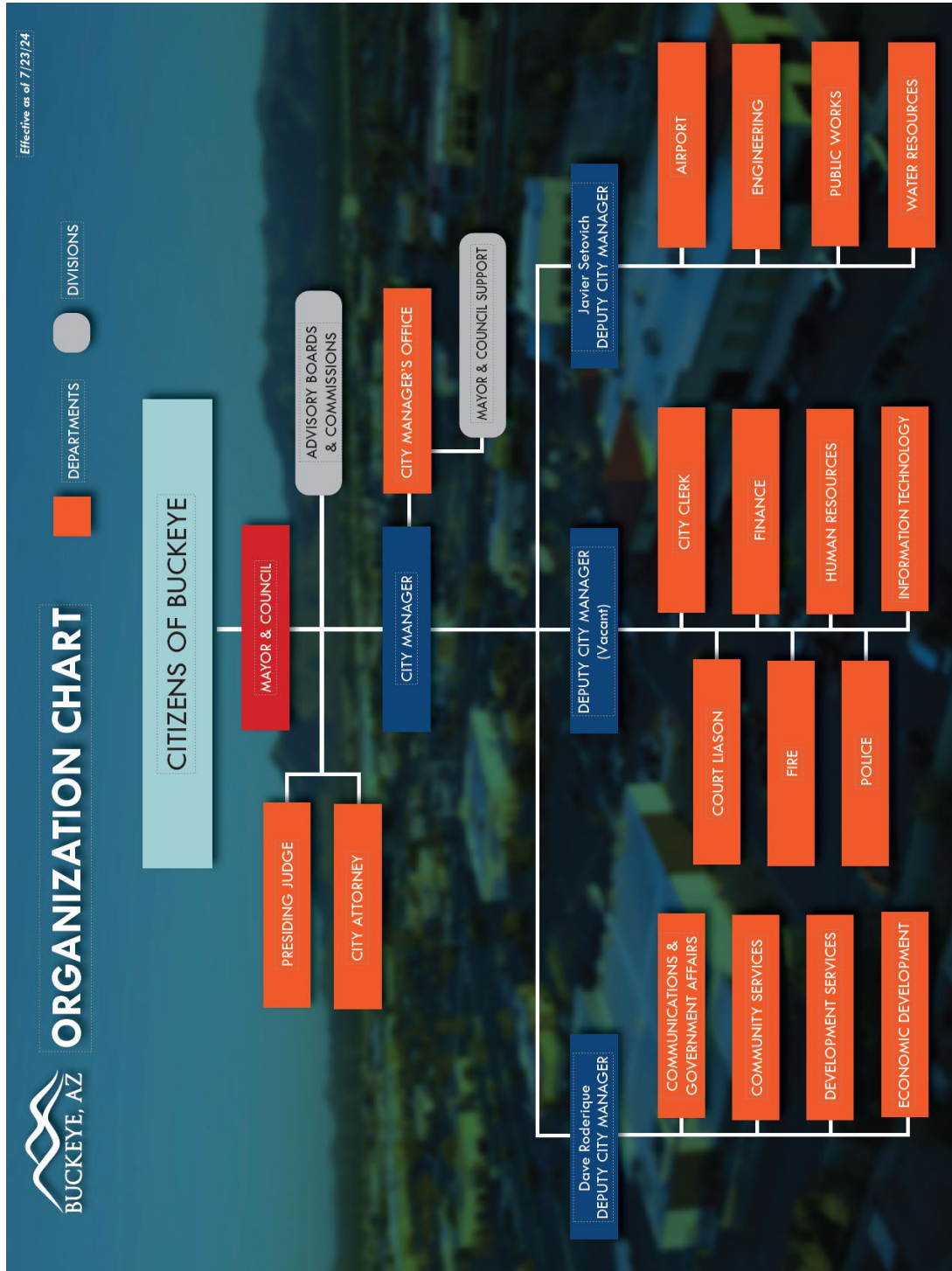
Description of problems encountered, or deviations made from the Plan: Insert details			
Certification Statement			
<p>"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."</p>			
A. Name:	Robert van den Akker	B. Title:	Environmental Manager
C. Signature:		D. Date Signed:	Insert details

Complaint Response Flowchart



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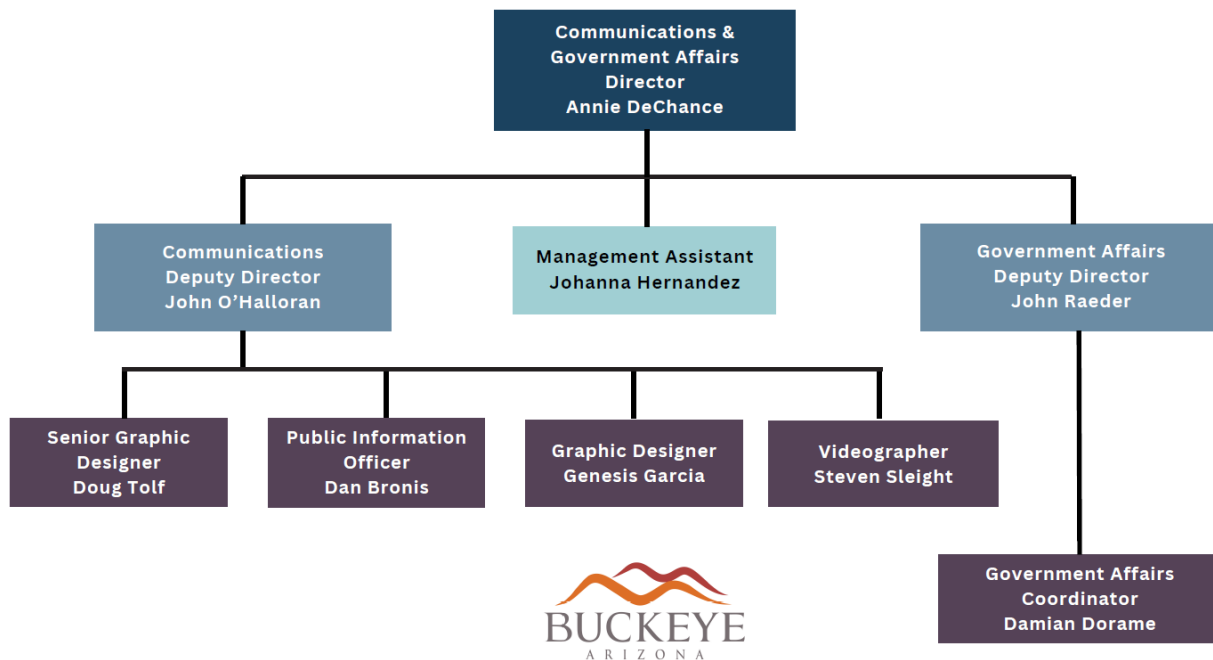
City of Buckeye Organization Charts



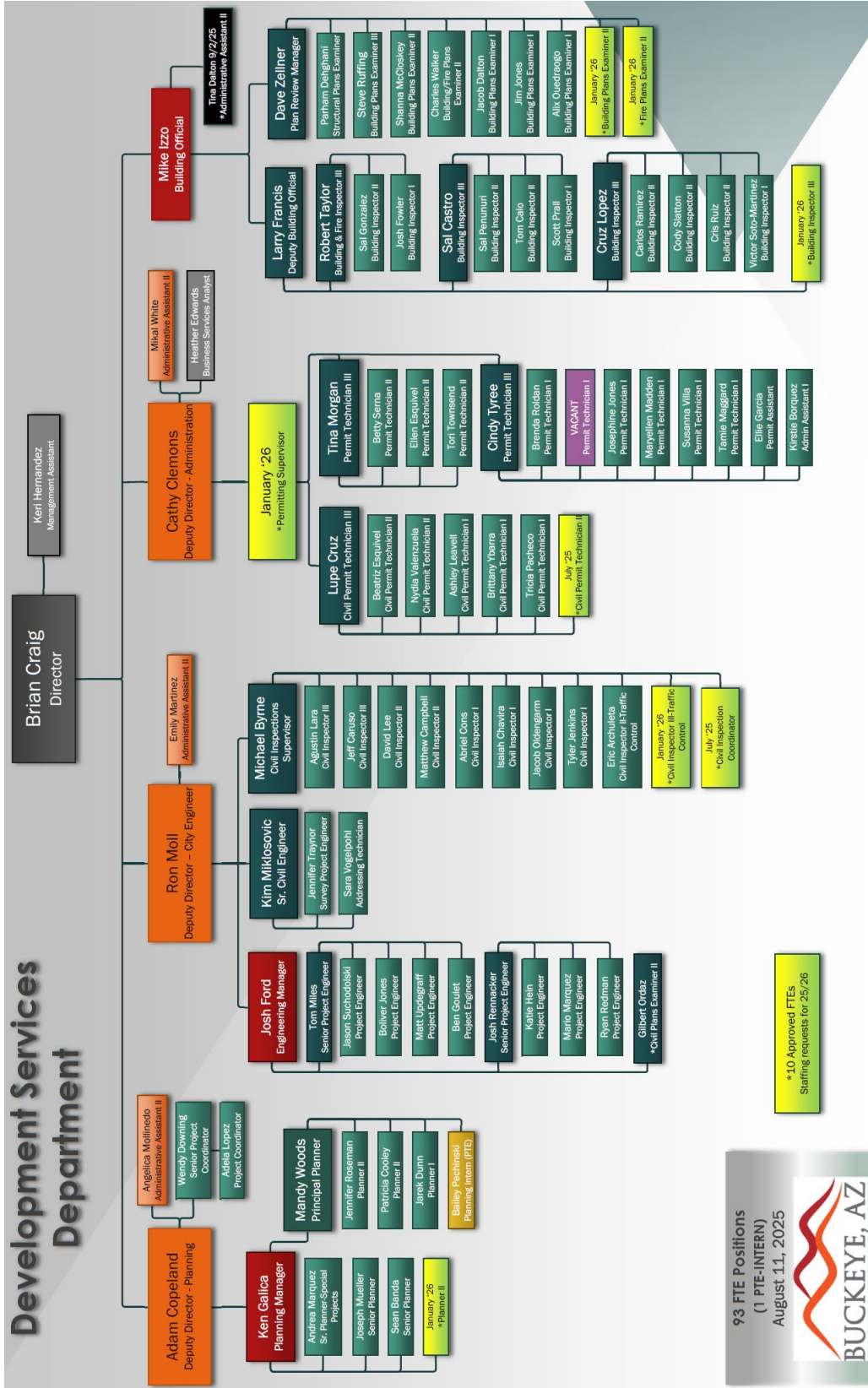
Doug Sandstrom, City Manager

Communications & Government Affairs

Organization Chart FY26

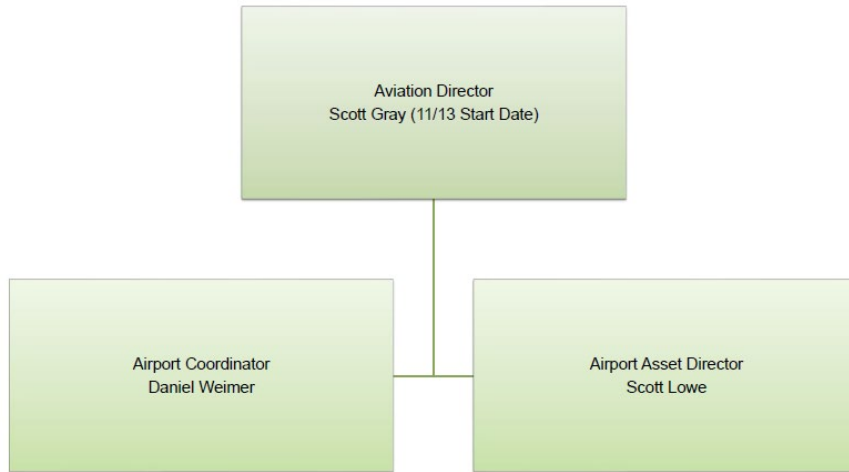


Annie DeChance, Communications Director

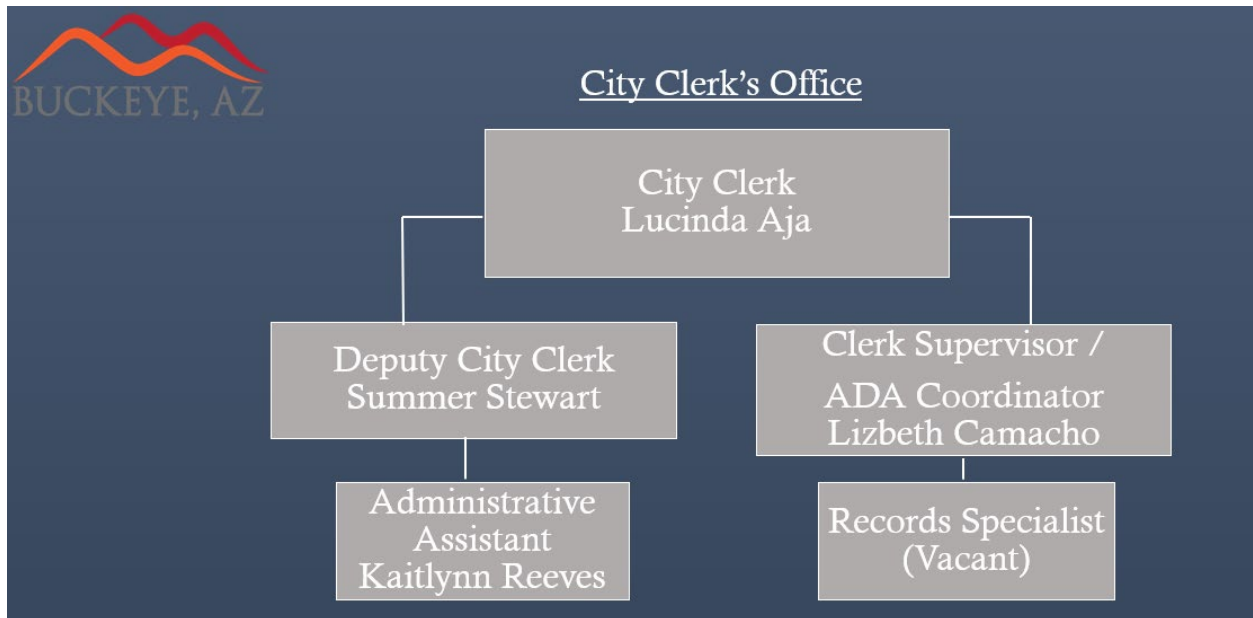


Brian Craig, Development Services Director

Airport (3 FTE)
September 26, 2023



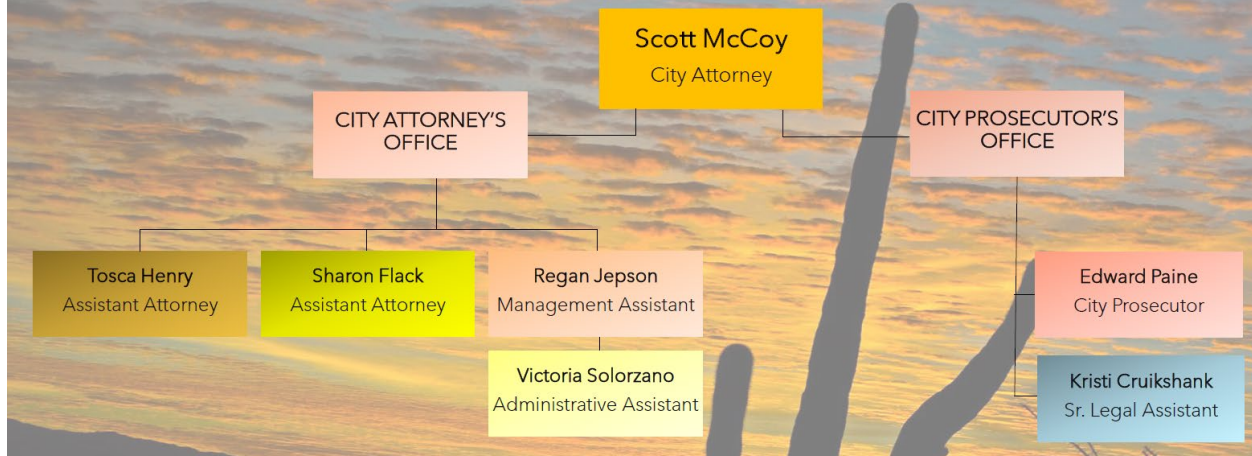
Daniel Weimer, Airport Coordinator



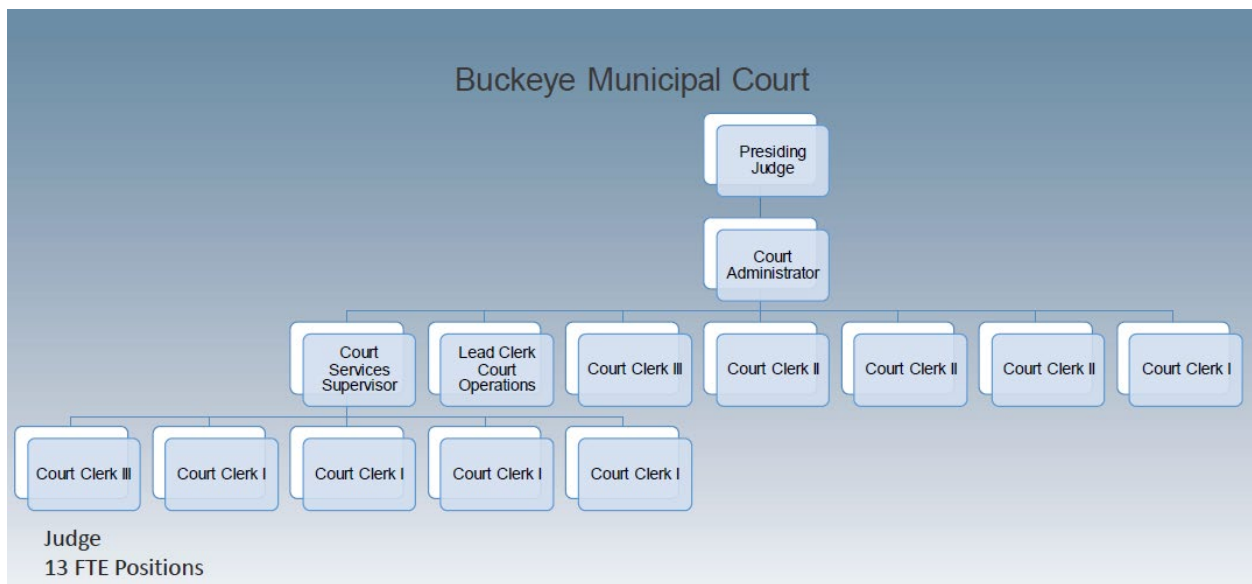
Lucinda Aja, City Clerk

CITY ATTORNEY'S OFFICE

Organization chart

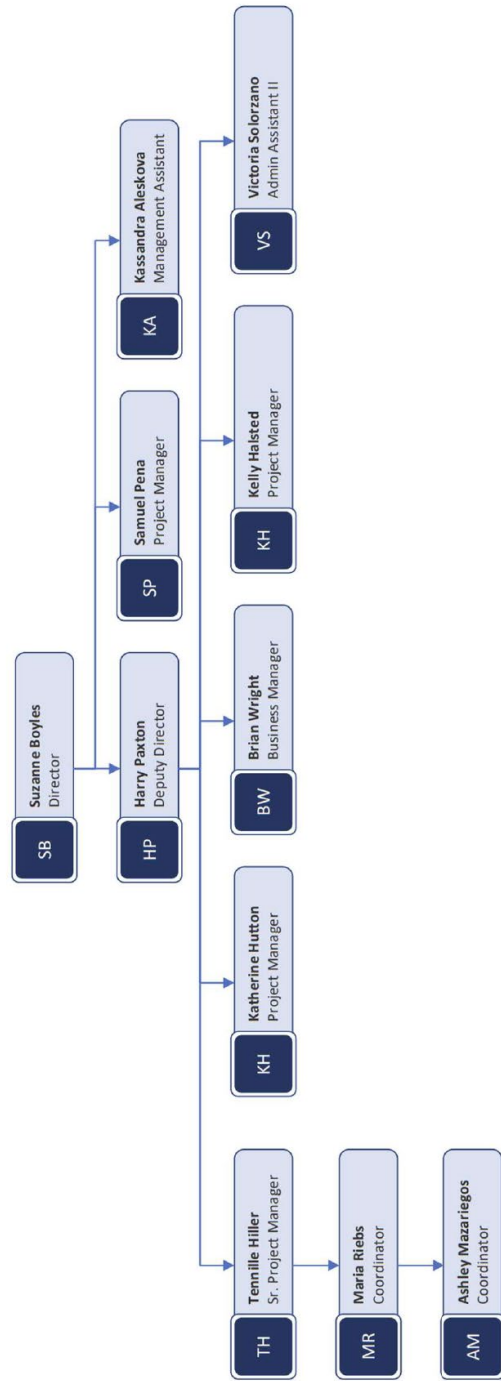


Scott McCoy, City Attorney

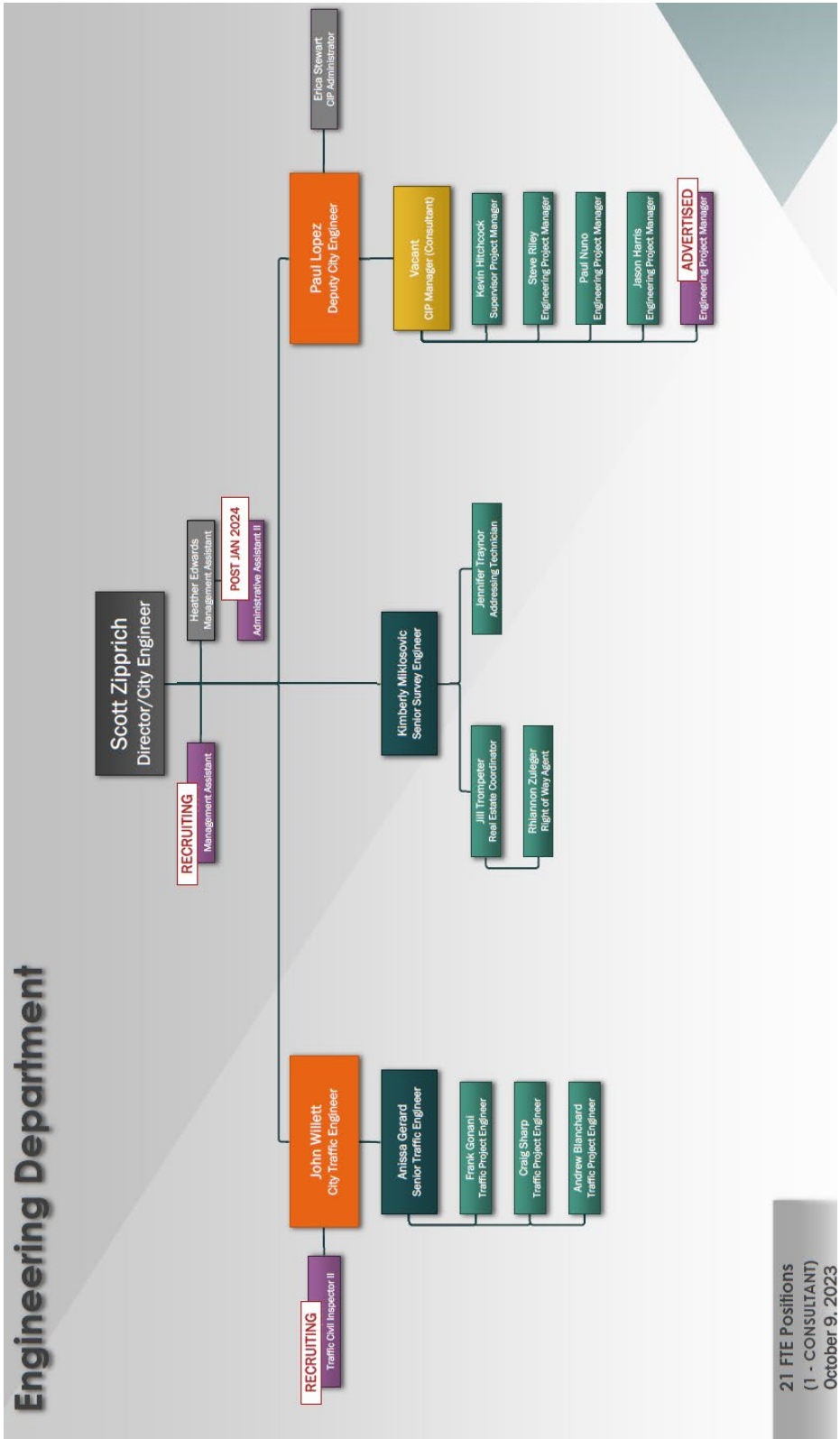


Municipal Court

Economic Development Org Chart

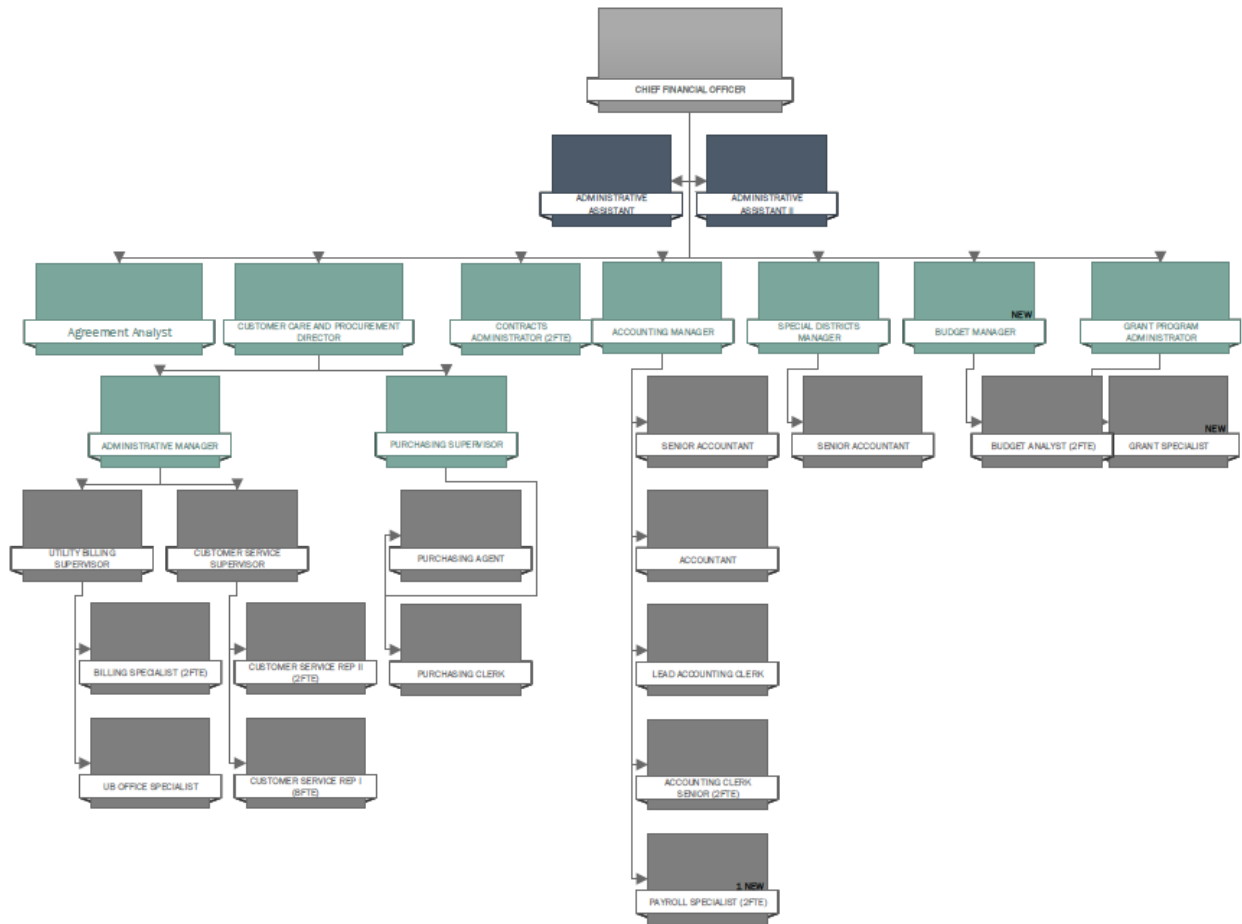


Suzie Boyles, Economic Development Director

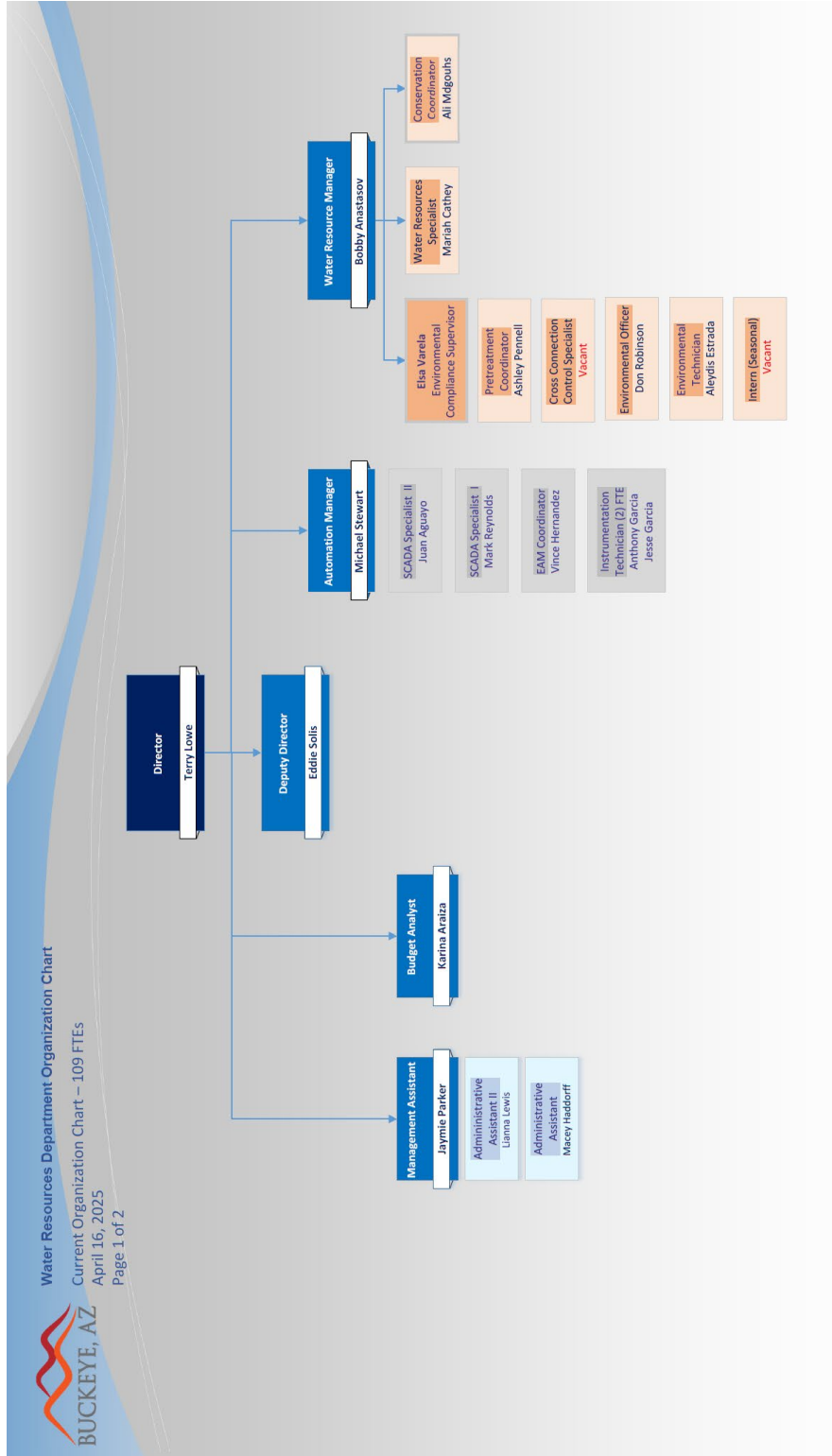


21 FTE Positions
(1 - CONSULTANT)
October 9, 2023

Ron Moll, Engineering Department

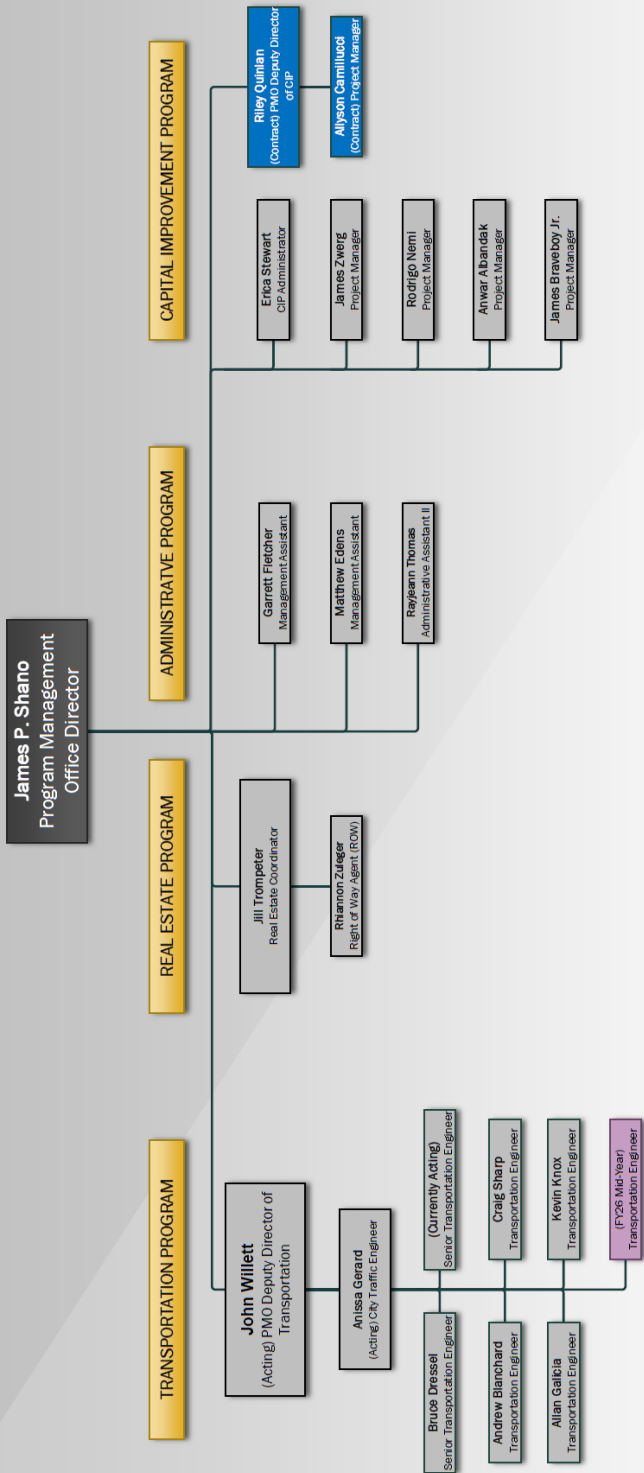


William Kauppi, Finance Department



Terry Lowe, Water Resources Department

Program Management Office



James Shano, Program Management

Stormwater Pollution Prevention Plans (City Facilities)

According to Part 6.4.6, Pollution Prevention and Good Housekeeping for Municipal Operations, the city must:

- a. Develop an inventory of municipal operations that discharge;
- b. Prioritize municipal facilities based on their risk to discharge pollutants and develop and implement a site inspection schedule (example, more frequent inspections for higher risk facilities, less frequent inspections for lower risk facilities);
- c. Develop and implement an inspection schedule for municipally-owned and operated facilities and activities to ensure stormwater controls are effective and being properly maintained;
- d. Based on inspection findings, update municipally-owned or operated facilities priority status and modify inspection frequency, as appropriate;

As of October 5, 2022, no City of Buckeye facilities that contain pollutants of concern discharge to the City MS4, nor to any permitted MS4.

Findings:

Public Works Fleet Management and Water Resources Yard

In September 2017, it was determined this yard has no discharge. All flood waters remain onsite, ponding in the South West corner of the property. No SWPPP is needed for this property.

Earl Edgar Maintenance Building

In March 2018, it was determined this yard has no discharge. All stormwater is retained onsite and discharges to a dry well on property. No SWPPP is needed for this property.

Public Works Yard

In March 2018, it was determined this yard discharges some portions of the yard to the Right-of-Way along Watson Road. This area does not have a discharge location and overflow from this area would discharge to an irrigation channel. This yard does not discharge to a stormwater structure. No SWPPP is needed for this property.

The city does not discharge to a protected surface water.

Other City Facilities

The following facilities have SWPPPs (or certificates of no exposure) under separate AZPDES Multisector General Permits (MSGPs):

- Buckeye Municipal Airport/Ensign John C. Butler Memorial Field – Originally created in 2006 and operated by the Public Works Department, applied for no exposure in 2020 as the facility has no discharges to WOTUS.
- Central Water Reclamation Facility – operated by the Water Resources Department
- Sundance Water Reclamation Facility – operated by the Water Resources Department
- Festival Ranch Water Reclamation Facility – operated by the Water Resources Department
- Tartesso Water Reclamation Facility – operated by the Water Resources Department

Definitions and Abbreviations/Stormwater Terms and Understandings

Note: This Definitions and Abbreviations document contains references to local, state, and federal code and agency documents. Some references are generally accepted definitions for the NPDES or AZPDES program. Unless countermanded by a Municipal Regulation or state issued permit, these definitions will be used for the Environmental Services Division.

303(d) List

The list of surface waters or segments required under section 303(d) of the Clean Water Act and A.R.S. Title 49, Chapter 2, Article 2.1, for which TMDLs are developed and submitted to EPA for approval. Per R18-11-601. Definitions

404 Waterbody, 404 Wash

The term and purpose of a 404 permit is regarding protection of waters of the united states (wotus) from unlawful or uncontrolled dredge and fill activity. Specifically, under section 404 of the Federal Water Pollution Control Act (aka clean water act).

In the Sonoran Desert, this requires proving the wash is a part of navigable waters. The Army Corp of Engineers has this jurisdiction in AZ, and has a document on determining the 404 status of a wash. One requirement is that the wash discharges to a WOTUS.

Determining this in Buckeye is easy using the Flood Plain map and the ADEQ protected waters map.

If a wash discharges to a flood zone area, it cannot discharge to a protected water. If it discharges to a protected surface water, it probably is a 404 protected surface water. Final determination is up to the Army Corp of Engineers.

MCDOT has a viewable Flood Zone map on their [roads map](#).
[ADEQ map](#) of waters of the US and AZ protected waters.

ABC

Aggregate Base Course - often referred to as ABC, AB or road base is a blend of gravel ranging in size from 1" down to sand size particles. It's used in many applications as a compaction material under concrete slabs and roads. ABC is also the product you will find on gravel roads and because it has minimal clay content is less likely to become muddy than native soil. ABC varies in color and type of rock depending on its source, and the percentages of large and small gravel within the product.

Attaining

Means there is sufficient, credible, and scientifically defensible data to assess a surface water or segment and the surface water or segment does not meet the definition of impaired or not attaining. Per R18-11-601. Definitions

AZPDES

Arizona Pollution Discharge Elimination System - The state of AZ was authorized to operate the NPDES program in December of 2002. Note: ADEQ has adopted the 2003 CFR [R18-9-A905.A.]

AZDEQ

Arizona Department of Environmental Quality (aka ADEQ)

Best management practice (BMP)

- In general, activities and practices to mitigate negative impacts.
- Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural. A BMP policy may affect limits on a development. 33CFR330, March 9, 2000
- *schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States."* BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. **40CFR 122.2 Definitions.**
- Schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, other management practices to prevent or reduce the introduction of pollutants directly or indirectly to the County MS4 or Storm Drainage Systems connected to the MS4 and the prohibition of specific activities, practices, and procedures and such other provisions as the Department determines appropriate for the control of pollutants. BMPs also include treatment practices, operating procedures, and practices to control the following; site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

CGP

- Construction General Permit – designed to protect surface waters from stormwater pollution flow off of construction sites.
- A general permit required to protect surface water from pollution created on construction sites per 40CFR122.26(b)(14)(x);

40CFR122.26(b)(15); ARS, Title 49, Chapter 2, Article 3.1; AAC, Title 18, Chapter 9, Articles 9 and Chapter 11, Article 1; and the Clean Water Act (33 U.S.C. 1251) [not to be confused with the construction plan review and inspection program required by municipalities to protect their MS4 per ARS Title 49, Chapter 2, Article 3.1; AAC Title 18, Chapter 9, Articles 9 and 10; and 40CFR122.34(b)(4)].

Common Plan of Development

- A construction activity is part of a larger common plan of development if it is completed in one or more of the following ways: in separate stages, in separate phases, in combination with other construction activities
- It is identified by the documentation that identifies the scope of the project including such things as the following: plats, blueprints, marketing plans, contracts, building permits, public notice or hearing, zoning requests.
- It can include one operator or many operators and may be commonly found in subdivisions and shopping plazas.
- A "larger common plan of development or sale" is a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan.
<http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-FAQs.cfm#305>

Construction Activity

40CFR122.26(b)(15)(i) (and (b)(14)(x)) Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre... (and also includes)...the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one ... acre. ... construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

CWA

Clean Water Act – The Federal Water Pollution Control Act: Legislation that provides statutory authority for the NPDES program, which is Public law 92-500; 33U.S.C. 1251.

Culvert

A short pipe or covered channel that crosses under a road, railway, etc...

DG

Decomposed Granite - made of granite aggregates a 1/4" or smaller. Sometimes DG is so fine that it resembles sand. Decomposed granite is the least expensive way to pave a patio, walkway, or driveway.

Documentation

Process of recording maintenance activities, work accomplished, problems encountered the condition of equipment, and other activities.

Drainage System

A system of natural or constructed conveyances for stormwater flow

Draw Down

The designed slow release of stormwater from a storage area

Dry Detention

A usually dry stormwater holding area designed to store stormwater runoff for a short period of time, releasing the water at a controlled rate to a surface water.

Dry weather field screening

- Screening for non-stormwater flows during dry weather. In the Sonoran Desert and with current regulation from Planning and Development, dry weather in MC is longer than 36 hours of no rain.
- For Construction sites: According to permit AZG2002-002, screening must include field tests of observed discharges for of selected chemical parameters as indicators of discharge sources. The permittee must investigate the illicit discharge within 15 days of its detection, and must follow up investigation with an action to further study the source of the discharge and ultimately eliminate the discharge.
- For Maricopa County, a discharge is either from an approved source, per the Maricopa County Stormwater Quality Discharge Control Regulation (a "non-polluted" discharge) or written permit, or it is to be stopped by inspection, education, and enforcement as needed.
- Any inspection performed \geq 48 hours after a rain should be considered a dry weather field screening inspection in MC and any observed flow should be inspected as an illicit discharge.

Drywell

An excavated pit often filled with stone or gravel that temporarily stores stormwater runoff until it soaks into the surrounding soil. Normally less than 100 feet, but may be up to 180 feet deep. The average is 20 feet deep. Drywells are designed so that

the bottom is at least 10 feet above groundwater – which in many parts of the Sonoran Desert could be very deep. The drywell normally consists of a sump that is 10 to 20 feet deep with a 4 inch pipe raised and screened at the opening near the top. This pipe allows any accumulated water to flow down into ground but must not discharge less than 10 feet from groundwater.

Regulating Drywells

Drywells can only receive stormwater runoff or discharges that are exempted by A.R.S. § 49-250(23). If other fluids have been directed to the drywell, it is subject to the aquifer protection program (APP) and/or closure requirements and may be considered an underground injection well that requires both ADEQ and USEPA permitting. Spills to the drywell may also trigger permitting, clean closure, or enforcement actions.

Regulations governing drywell operation, etc. are found in:

- A.R.S. § 49-331 through 49-336 (laws regulating drywells);
- A.R.S. § 49-201(5) (clean closure definition);
- A.R.S. § 49-241 (permit required to discharge); and
- A.R.S. § 49-245.02 (general permit for certain discharges associated with man-made bodies of water).

An APP permit is required for any drywell located in an area where hazardous substances, including motor fuels, are used, stored, treated, or loaded.

The permitting requirement may not apply if the Site Plan clearly demonstrates that the site is graded or engineered such that drywell(s) cannot receive runoff or spills from chemical handling areas.

Erosion

A natural process of weathering or wearing away of land by water or wind.

Exfiltration

Loss of water from a drainage system as result of percolation or absorption into the surrounding soil.

EPA

Environmental Protection Agency

Formed on December 2, 1970 due to concern about air quality and surface water quality pollution, the EPA consolidated a variety of federal research, monitoring, standard-setting and enforcement activities into one agency devoted to ensure environmental protection.

Ephemeral stream

An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow. (33 CFR 330, March 9, 2000)

Eutrophication

The natural progression of a natural waterbody as minerals and nutrients increase due stormwater runoff washing material into the waterbody, and as life in and around the waterbody produces waste. This process may be greatly increased as population increases around waterbody, and as soil disturbance and runoff occurs. Eutrophication (Greek *eutrophos*, "well-nourished"), dystrophication or hypertrophication, is when a body of water becomes overly enriched with minerals and nutrients inducing excessive growth of algae. This process may result in oxygen depletion of the water body.

Field Screening Point

Per AZPDES PERMIT NO. AZG2016-002, Part 10.16..."location(s) where municipal stormwater leaves a Small MS4 operator's permitted area and goes to a Waters of the U.S. by way of a conveyance (such as another municipal storm sewer system)."

First-flush

Stormwater flow occurring at the beginning of a storm when rain washes pollutants (gas, oil, dirt, leaves, trash) from streets and parking lots into lower lying areas. This stormwater contains a high concentration of pollutants.

FOG

Fats Oils and Grease

Grade

The elevation or slope of a road or ground

Groundwater

The supply of fresh water under the earth's surface that forms a natural low reservoir

GSA

Ground, screened asphalt

Ground Screened Asphalt or Reclaimed asphalt pavement (RAP) is the term given to removed and/or reprocessed pavement materials containing asphalt and aggregates. These materials are generated when asphalt pavements are removed for reconstruction, resurfacing, or to obtain access to buried utilities. When properly crushed and screened, RAP consists of high-quality, well-graded aggregates coated by asphalt cement. Asphalt pavement is generally removed either by milling or full-depth removal.

Hazardous Materials

Potentially harmful chemicals such as pesticides, herbicides, or fuel that may be hazardous and must be labeled, mixed, loaded, transported, applied, stored, and disposed of properly.

Headwaters

Non-tidal rivers, streams, and their lakes and impoundments, including adjacent wetlands, that are part of a surface tributary system to interstate or navigable water of the United States upstream of the point on the river or stream at which the average annual flow is less than five cubic feet per second. This may be estimated from available data by using the mean annual area precipitation, area drainage basin maps, and the average runoff coefficient, or by similar means. For streams that are dry for long periods of the year, the headwaters may be established as that point on the stream where a flow of five cubic feet per second is equaled or exceeded 50 percent of the time (DE=District Engineer). 33 CFR 330.2(d)

High Risk Facilities

Facilities that use chemicals that would be harmful if released into surface waters or storm sewers.

Household Hazardous Waste (HHW)

Solid wastes which are not listed in federal code as hazardous wastes, including household waste that has been collected, transported, stored, treated, disposed, recovered or reused. "Household waste" means any material derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds and day-use recreation areas). (40 CFR 261.4(b)(1))

Hydrologic Cycle

The continuous circular process, in which the water of the Earth evaporates from the oceans, condenses, falls to the Earth as rain or snow, and eventually returns to the oceans through run-off in rivers or streams. Some water is absorbed by plants and returned to the atmosphere as vapor.

IDDE

Illicit Discharge Detection and Elimination - The acronym stands for the program referenced by the EPA in the code of federal regulations that defines the Phase II MS4 permit method for addressing illegal discharges to their storm system.

IDID

Illicit Discharge and Improper Disposal- The acronym stands for the program referenced by the EPA in the code of federal regulations that defines the Phase I MS4 permit method for addressing illegal discharges to their storm system.

IGA

Intergovernmental Agreement - An agreement between agencies of different government entities to perform activities for mutual benefit.

Illicit Connection

The discharge of pollutants or non-stormwater materials into a storm sewer system via a pipe or other direct connection

Illicit Discharge

The discharge of pollutants or materials other than stormwater to storm sewers via overland flow or direct dumping

Impervious

Impenetrable materials such as asphalt, concrete, brick, stone, or caliche soils. Impervious surfaces do not allow runoff to pass through them and into the soil (percolation).

Infiltration

The process by which water flows through a permeable surface such as sand or gravel

Inlets

Transitional structures that allow stormwater to move into a different part of a storm system.

Inspections

On-site examination of a system to determine its condition. Inspections are one of the most important aspects of maintenance to an efficiently run system.

Intermittent stream

An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow. 33 CFR 330 March 9, 2000

Isolated waters

Those non-tidal waters of the United States that are:

- 1) Not part of a surface tributary system to interstate or navigable waters of the United States; and
- 2) Not adjacent to such tributary waterbodies.

33 CFR 330.2(e)

Iterative – repetitive

For the purpose of NPDES and AZPDES MS4 permits the term takes on an additional meaning of more stringency or severity as each repetition occurs; similar to refining a practice through project management techniques.

Maintenance

A schedule of regular inspections and repairs of a system

Maintenance of Traffic (MOT)

A designed plan to provide a safe environment in those areas where workers and the motoring public may compete for common or adjacent space.

Maintenance Standard

A measure of when or how often a system will be maintained.

Measurable goal

An activity that is desired to be achieved; it must be documented and quantifiable.

MCM

Minimum Control Measure

- No specific CFR definition exists although the term is referenced throughout 40CFR122 as being required to be performed to the MEP.
- From an MS4 compliance perspective: The smallest amount of an activity a permittee must perform to the maximum extent practicable to achieve permit compliance.

MEP

Maximum Extent Practicable Per Permit No. AZG2016-002 “means maximum extent practicable, the technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in storm water discharges.”

- For the City of Buckeye, MEP shall be: *Implementation of an approved stormwater management program while acting to the greatest amount or scope that is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall purpose.*
 - 40 CFR 230.3(q): the term practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.
 - 40 CFR does not define maximum. The Merriam Webster Dictionary is used to define the terms maximum and extent; therefore, “maximum,” is *the greatest quantity*, and “extent” is *the scope of a thing*.
 - For the purpose of MS4 compliance, the term includes a consideration of evaluation on an iterative process.
- How does one achieve a MEP standard of activity? MEP may be achieved by implementing an approved Stormwater Management Program 40CFR122.34(a) and 40CFR122.33
- Implementation of best management practices consistent with the provisions of the storm water management program (*approved SWMP*) required pursuant to this section and the provisions of the permit required pursuant to § 122.33 (*approved SWMP*) constitutes compliance with the standard of reducing pollutants to the “maximum extent practicable.”

Milling

Milling includes the removal of the pavement surface using a “milling” machine, which can remove up to 50 mm (2 in) thickness in a single pass. Full-depth removal involves ripping and breaking the pavement using a rhino horn on a bulldozer and/or pneumatic pavement breakers. In most instances, the broken material is picked up and loaded into haul trucks by a front-end loader and transported to a central facility for processing. Millings broken to small size are frequently used as a temporary road cover and soil stabilizer.

Mitigate

Reducing impact with protective steps to repair or restore the affected environment.

MSDS (see Safety Data Sheets) (SDS)

MS4 – Municipal Separate Storm Sewer System

40 CFR 122.26(b)(8)

(8) Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

(i) Owned or operated by a... designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;

(ii) Designed or used for collecting or conveying storm water;

(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

MSGP

Multi Sector General Permit

Storm water associated with industrial activity:

The discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program. For the categories of industries identified in paragraphs (i) through (x) of this definition, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites, sites used for the application or disposal of process waste waters (as defined at 40 CFR Part 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in paragraph (xi) of this definition, the term includes only storm water discharges from all areas (except access roads and rail lines) listed in the previous sentence where material handling equipment or activities, raw materials, intermediate products, final products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally, State, or municipally owned or operated that meet the description of the facilities listed in paragraphs (i) to (xi) of this definition) include those facilities designated under 122.26 (a)(1)(v). The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:

- (i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR Subchapter N (except facilities with toxic pollutant effluent standards that are exempted under category (xi) of this definition);
- (ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32 (except 323), 33, 3441, 373; (iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(l) because the performance bond issued to the facility by the appropriate SMCR authority has been released, or except for areas of noncoal mining operations that have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; inactive mining operations are mining sites that are not actively being mined, but that have an identifiable owner/operator;
- (iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C or RCRA;
- (v) Landfills, land application sites, and open dumps that have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under Subtitle D of RCRA;
- (vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but not limited to those classified as Standard Industrial Classification 5015 and 5093;
- (vii) Steam electric power generating facilities, including coal handling sites;
- (viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 that have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or that are otherwise identified under paragraphs (i) to (vii) or (ix) to (xi) of this subsection are associated with industrial

activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and that are not physically located in the confines of the facility, or areas that are in compliance with 40 CFR Part 503;

(x) Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than 5 acres total land area that are not part of a larger common plan of development or sale;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37, (except 373), 38, 39, 4221-4225, (and that are not otherwise included within categories (i) to (x)).

FROM: Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999. (The Phase II Final Rule), Page 68840.

Municipal

The term "municipality" means a city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 1288 of this title.

- Clean Water Act, Section 502 General Definitions

Not attaining

Means a surface water is assessed as impaired, but is not placed on the 303(d) List because:

a. A TMDL is prepared and implemented for the surface water;

b. An action, which meets the requirements of R18-11-604(D)(2)(h), is occurring and is expected to bring the surface water to attaining before the next 303(d) List submission; or

c. The impairment of the surface water is due to pollution but not a pollutant, for which a TMDL load allocation cannot be developed. PER AAC R18-11

NPDES

National Pollution Discharge Elimination System

Ordinary High Water Mark –

14 geographic features used to identify jurisdictional waters (**Waters of the United States**) in many arid geographic regions:

1. clear, natural line impressed on the bank
2. the presence of litter and debris
3. changes in the character of soil
4. destruction of terrestrial vegetation
5. shelving
6. presence of wrack line
7. vegetation matted down, bent, or absent
8. sediment sorting
9. leaf litter disturbed or washed away
10. scour
11. sediment deposition
12. multiple observed or predicted flow events
13. water staining
14. abrupt change in plant community

The Ordinary High Water Mark (OHWM) is a defining element for identifying the lateral limits of non-wetland waters....Federal jurisdiction over a non-wetland WOTUS extends to the OHWM, defined in 33 CFR Part 328.3 as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, or the presence of litter and debris. In the Arid West region of the United States..., waters are variable and include ephemeral/intermittent and perennial channel forms. The most problematic ordinary high water (OHW) delineations are associated with the commonly occurring ephemeral/intermittent channel forms that dominate the Arid West landscape. The climate of the region drastically influences the hydrology, channel-forming processes, and distribution of OHWM indicators such that delineations can be inconsistent (over space and time) and problematic.

(ACE OHWM AWR*)

Outfall

A point source that discharges to Waters of the United States

40 CFR 122.26(b)(9) - Outfall means a point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the

United States and are used to convey waters of the United States.

Operations and Maintenance

The decisions and actions regarding the control and upkeep of property and equipment. These are inclusive, but not limited to, the following: 1) actions focused on scheduling, procedures, and work/systems control and optimization; and 2) performance of routine, preventive, predictive, scheduled and unscheduled actions aimed at preventing equipment failure or decline with the goal of increasing efficiency, reliability, and safety.

*(Department of Energy, **FEDERAL ENERGY MANAGEMENT PROGRAM Release 3.0 Operations & Maintenance Best Practices**)*

Operator

Per ADEQ CGP

Who must obtain coverage (Part 2.1):

- Any person that meets the definition of “operator” must submit their own NOI;
- Many sites will have more than one operator

Section 2.1.1

...an “operator” is any person associated with a construction project that meets either of the following two criteria:

- 1. The person has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or*
- 2. The person has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the permit).*

Subcontractors generally are not considered operators for the purposes of this permit.

(Section 2.0 of the permit contains more wording on issues related to operator definition)

Overland Conveyance

Conveyances direct runoff moving over impervious surfaces such as parking lots, rooftops, and hard ground into the drainage system.

Overland Flow

Water flowing over the ground surface

PAC

Permit Application Conference (Pre Application Conference) – a meeting with an permit applicant for agencies to submit comments on proposed plans.

Peak Discharge Rate

The maximum flow which passes through a conveyance.

Perennial stream

A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow. 33 CFR 330 March 9, 2000

Point source

40 CFR 122.2

- Any discrete conveyance (open or closed) that may discharge pollutants
- Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does **not include return flows from irrigated agriculture or agricultural storm water runoff.**
- “The term “point source” means any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.” Clean Water Act, Section 502 General Definitions

Point Source Pollution

Pollution from a single identifiable source such as a factory or a sewage-treatment plant. Most of this pollution is highly regulated at the state and local levels.

Pollution

Any illicit discharge as seen in 40 CFR 122.26(b)(2)

Contamination of the air, water, or soil by the addition of harmful substances.

Any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities.

Pollutant Load

The amount of pollution in stormwater runoff.

POST-CONSTRUCTION SITE PLAN:

A plan or set of plans clearly identifying the site and depicting the placement of BMPs that are to remain permanently on the site following completion of the construction phase.

PRE-CONSTRUCTION AND CONSTRUCTION PHASE SITE PLAN:

A plan or set of plans clearly identifying the site and depicting the placement of BMP's to be used during the preconstruction land disturbance and during construction phase of a construction project. The plan will cover the complete interior and perimeter of the construction site during all phases of the project.

Record keeping –

AZPDES Permit AZG2002-002, Part IV.G.1. Records for the annual report shall be kept for the duration of the permit plus 3 years.

Recordkeeping

1. The permittee shall retain records of all monitoring information, including, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of Discharge Monitoring Reports (DMRs), a copy of the NPDES permit, and records of all data used to complete the application (NOI) for this permit, for a period of at least three years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended by request of the permitting authority at any time.
2. The permittee shall submit its records to the permitting authority only when specifically asked to do so. The permittee must retain the SWMP required by this permit (including a copy of the permit language) at a location accessible to the permitting authority. The permittee must make its records, including the notice of intent (NOI) and the SWMP, available to the public if requested to do so in writing.

Retention System

A stormwater storage area used to hold runoff and allow it to percolate through the soil and evaporate into the air instead of releasing the flow to another structure or system. This system does not discharge through conveyances.

Safety Data Sheet – SDS (AKA - Material Safety Data Sheets)

A document that contains information on the potential hazards (health, fire, reactivity and environmental) and how to work safely with the chemical product. It is an essential starting point for the development of a complete health and safety program.

Saltation

noun - intermittent, leaping motion

- Downwind movement of particles in a series of jumps or skips. (USGS)
- In arid regions this term describes natural forces at work in normal stormwater, surfacewater and wind activity.

Scope of the NPDES permit

40CFR 122.1(b)

(b) Scope of the NPDES permit requirement.

(1) The NPDES program requires permits for the discharge of "pollutants" from any "point source" into "waters of the United States." The terms "pollutant", "point source" and "waters of the United States" are defined at § 122.2.

Scour

Soil and debris movement. (ACE OWHM AWR*)

Scupper

A sidewalk culvert (a small box culvert)

Sheetflow

Overland flow occurring in a continuous sheet; a relatively high-frequency, low-magnitude event. (ACE OWHM AWR*)

Preventative maintenance

A regular cycle of cleaning, repair, and replacement of stormwater structures.

Sediment

Soil, sand, and minerals washed from land into water, usually after rain. Sediment can destroy fish-nesting areas, clog animal habitats, and cloud waters so that sunlight does not reach aquatic plants.

Site Map

a map or series of maps completed to scale, used to review construction sites. The Site Map contains:

1. Topography of the site including existing types of cover (e.g., forest, pasture, pavement, structures), and drainage pattern(s) of flow onto, over, and from the site property before and after major grading activities. Drainage divides and direction of stormwater flow (i.e., use arrows to show which way stormwater will flow).
2. Areas of soil disturbance and areas that will not be disturbed.
3. Boundaries of the property and of the locations where construction activities will occur, noting any Phasing of construction activities; locations where sediment or soil will be stockpiled; locations of any crossings of surface waters; designated points on the site where vehicles will exit onto paved roads and locations of construction support activity areas covered by this permit.
4. Locations of temporary and permanent stormwater control measures (identified in the SWPPP) including:
5. Locations where stabilization control measures are expected to be implemented.
6. Areas protected by buffers (i.e., either the 50-foot buffer or other buffer areas retained on site when within 50 feet of a perennial water), including the boundary line of all such buffers.
7. Locations of on-site material, waste, borrow areas, or equipment storage areas, and other supporting activities.
8. Locations of all potential pollutant-generating activities (see Part 6.3(9)).
9. Locations of all surface waters and any impaired waters or OAWs within 1/4 mile of the facility.
10. Stormwater discharge location(s), using arrows to indicate discharge direction. Include: location(s) where stormwater and/or allowable non-stormwater discharges are discharged to waters of the U.S. and location(s) of any discharges to municipal separate storm sewer systems (MS4s) from the construction site. Note: Where surface waters and/or MS4s receiving stormwater will not fit on the plan sheet, they shall be identified with an arrow indicating the direction and distance to the surface water and/or MS4.
11. Locations and registration numbers of on-site drywells and drywells on adjacent properties that have the potential to receive stormwater from the site.
12. Areas where final stabilization has been established and no further construction permit requirements apply.
13. Location and boundaries of environmentally sensitive areas and buffer zones to be preserved including the nearest receiving water(s), ephemeral and intermittent streams, dry washes, and arroyos, including such areas offsite that could potentially receive discharges from disturbed areas of the project. Indicate if the receiving water(s) is listed as impaired, or an Outstanding Arizona Water.

This information is from the ADEQ description of a sitemap as of 9/2013

Slope

Changes in the surface pitch of the land.

Spill Prevention Control and Countermeasure Plan (SPCC Plan)

A set of measures undertaken to decrease the chances and effects of a spill in a municipal facility.

Street Sweeping

An effective method of removing both the large and microscopic pollutants that collect on streets. Sweeping also serves as one of the Best Management Practices (BMP) to control and improve water quality.

Stormwater management

Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

33 CFR 330 March 9, 2000

Stormwater Runoff

Water that flows over paved and unpaved surfaces during and after rain (or snow). Stormwater runoff is moved or controlled by both natural (non-structural) and constructed systems.

Small municipal separate storm sewer system

40 CFR 122.26 (b) (16), all separate storm sewers that are:

- (i) Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.

(ii) Not defined as "large" or "medium" municipal separate storm sewer systems pursuant to paragraphs (b)(4) and (b)(7) of this section, or designated under paragraph (a)(1)(v) of this section.

(iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

SPCC

Spill Prevention Control and Countermeasures

Stormwater

Naturally occurring precipitation that may cause water flow over ground (originally written as two words but has become one word nationally since the 1990s).

SWMP

Stormwater Management Program *per 40 CFR 122.34(a)*

A program produced by the municipality and agreed upon by the permitting authority that describes activities by which a permittee shall comply with an MS4 permit. This program must be updated annually as activities are performed and evaluated for effectiveness. It is required to be created and submitted with the Phase II MS4 application according to the CFR, and required to be approved by the permitting agency.

SWPPP

Stormwater Pollution Prevention Plan

A document required by the CGP that is to contain the following

1. Signature of operator(s)/Certification
2. Site Identification
3. list of responsible party/Operator(s)
4. Description of the construction activities
5. Phases of Construction events
6. Site Map(s)
7. Stormwater Control Measures
8. Potential Pollutant Sources
9. Description of Chemicals to be used on site
10. Pollution Prevention Procedures
11. Inspection program description
12. Monitoring program description
13. Methods for Corrective Actions

This information is from the ADEQ webpage as of 9/2013 - A full checklist for the SWPPP may be obtained from ADEQ.

Structural System

For stormwater – an engineered or constructed system to control volume, peak discharge rates and pollution in stormwater flow. They are usually engineered and built rather than using natural formations or good practices. Several BMPs may be combined into a stormwater management system.

Sustainability

A project management operational care for people, profit, and plant; however, from the government standpoint, all operations should be considered from the viewpoint of continuation of the people, as that is the purpose of government. Without people, the government has no purpose.

System

a related group of elements, a network of structures that interact or function together.

TMDL

Total Maximum Daily Load

A water quality standard required by the Clean Water Act, and represent the highest pollutant load a waterbody can accept and still meet its intended use

A TMDL is the Total Maximum Daily Load (amount) of a water quality parameter which can be carried by a surface waterbody, on a daily basis, without causing an exceedance of surface water quality standards. TMDL calculations are made for waters listed as impaired on the state's 303(d) List (impaired waters list). Every two years, states submit a list of impaired waters and a schedule to establish TMDLs to the U.S. EPA. The U.S. EPA reviews and approves the 303(d) Lists and schedules. (Source - ADEQ website as of 9/2013)

Track Dozer/Crawler

A vehicle that moves on tracks of metal plates. This piece of equipment is used in the maintenance of slope/spoil site maintenance.

Transitional

A location where a pipe or channel changes size. The change in cross sectional area results in the change in velocity which would result in loss of head flow.

Tributary

- A stream feeding a larger stream or a lake – (Webster)
- 40 CFR § 120.2 - Definitions. (3)(xii) Tributary. The term tributary means a river, stream, or similar naturally occurring surface water channel that contributes surface water flow to a water identified in paragraph (1)(i) of this definition in a typical year either directly or through one or more waters identified in paragraph (1)(ii), (iii), or (iv) of this definition. A tributary must be perennial or intermittent in a typical year. The alteration or relocation of a tributary does not modify its jurisdictional status as long as it continues to satisfy the flow conditions of this definition. A tributary does not lose its jurisdictional status if it contributes surface water flow to a downstream jurisdictional water in a typical year through a channelized non-jurisdictional surface water feature, through a subterranean river, through a culvert, dam, tunnel, or similar artificial feature, or through a debris pile, boulder field, or similar natural feature. The term tributary includes a ditch that either relocates a tributary, is constructed in a tributary, or is constructed in an adjacent wetland as long as the ditch satisfies the flow conditions of this definition.

Turbidity

Water mixed with suspended particles or sediment.

Measured in the degree to which water loses its transparency due to the presence of suspended particulates.

Turbidity is usually measured in nephelometric turbidity units (NTU) or Jackson turbidity units (JTU), depending on the method used for measurement. The two units are roughly equal. In environmental sampling, a Secchi dish or turbidity meter may be used.

Cross Connection

A connection made between two or more distinct things, typically parts of different networks or circuits, in the Stormwater reference it refers to sanitary sewer and storm sewer system lines.

Stormwater Structural Controls

Structures used to control the flow, reduce pollution, and reduce flooding concerns associated with stormwater runoff

Non-structural Stormwater Controls

A series of actions that encompass an idea of stormwater pollution prevention:

- **Management planning controls** - such as the use of management instruments to promote water quality sensitive design features.
- **Strategic planning controls** - such as the use of strategic, regional or urban wide stormwater management plans.
- **Pollution prevention procedures** - Maintenance practices, operational processes, and staff training to minimize the risk of stormwater pollution.
- **Education and participation programs** – Outreach, training, and involvement programs in development and implementation of stormwater management plans.
- **Regulatory controls** - such as enforcement of local laws to improve erosion and sediment control on building sites, the use of environmental permits to help manage premises likely to contaminate stormwater or groundwater, and programs to minimize illicit discharges to stormwater management systems.

UA (Urbanized Area)

Following the 2020 Census, the U.S. Census Bureau decided to stop distinguishing between "urbanized areas" (populations of 50,000+) and "urban clusters" (5,000–49,999) starting in December 2022. The change aims to simplify data, using a single "urban" definition based on a minimum of 2,000 housing units or 5,000 people to better reflect modern development. The federal agency made the change in process, following executive office directive.

41 CFR § 102-83.60 - § 102-83.60 What is an urbanized area?

An urbanized area is a statistical geographic area defined by the Census Bureau, consisting of a central place(s) and adjacent densely settled territory that together contain at least 50,000 people, generally with an overall population density of at least 1,000 people per square mile.

The boundaries of a developed area declared to be urbanized based on population density. Set by the Federal Census Bureau.

The MS4 programs must follow the Decennial Census – no other census data is applicable according to the CFR.

Urbanized Area Definition (1990 Census)

NOTE: EPA published this Bureau of the Census definition in 63 FR 1568, January 9, 1998, The Proposed Phase II Rule with this guidance: "The full definition of an 'urbanized area' has been included primarily for informational purposes. Because the Bureau of Census determines urbanized areas based on the latest decennial census, the owner or operator of a municipal separate

storm sewer system does not need to make any calculations to determine eligibility as a regulated small municipal separate storm sewer system." The Bureau of the Census provides detailed maps and comprehensive listings of all the political entities within a given urbanized area.

FROM 55 FR 42592, October 22, 1990

The Bureau of the Census definition of "urbanized area," adopted by EPA for the purposes of the NPDES Phase II Final Rule.

An urbanized area (UA) comprises a place and the adjacent densely settled surrounding territory that together have a minimum population of 50,000 people. The "densely settled surrounding territory" adjacent to the place consists of the following:

1. Territory made up of one or more contiguous census blocks having a population density of at least 1,000 people per square mile provided that it is:
 - a. Contiguous with and directly connected by road to other qualifying territory, or
 - b. Noncontiguous with other qualifying territory, and:
 - (1) Within 1 1/2 road miles of the main body of the urbanized area and connected to it by one or more non-qualifying census blocks that [a] are adjacent to the connecting road and [b] together with the outlying qualifying territory have a total population density of at least 500 people per square mile, or
 - (2) Separated by water or other undevelopable territory from the main body of the urbanized area, but within 5 road miles of the main body of the urbanized area, as long as the 5 miles include no more than 1 1/2 miles of otherwise non-qualifying developable territory.
2. A place containing territory qualifying on the basis of criterion 1 [above] will be included in the urbanized area in its entirety (or partially, if the place is an extended city) if that qualifying territory includes at least 50 percent of the population of the place. If the place does not contain any territory qualifying on the basis of the above criterion, or if the qualifying territory includes less than 50 percent of the place's population, the place is excluded in its entirety.
3. Other territory with a population density of less than 1,000 persons per square mile, provided that it:
 - Eliminates an enclave of no more than 5 square miles in the territory otherwise qualifying for the urbanized area when the surrounding territory qualifies on the basis of population density, or
 - Closes an indentation in the boundary of the territory otherwise qualifying for the urbanized area when the contiguous territory qualifies on the basis of population density, provided that the indentation is no more than 1 mile across the open end, has a depth at least two times greater than the distance across the open end, and encompasses no more than 5 square miles.

UUA

Unincorporated Urbanized Area

Underground Conveyance

A system of pipes and culverts used to move runoff.

Unscheduled Maintenance

Maintenance performed as needed; often on an emergency basis. non-repetitive maintenance

Waters of the United States

(WOTUS) – 40CFR230.3(s)

- (a) All waters which are currently used, were used in the past, or may be susceptible of use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide
- (b) All interstate waters including interstate "wetlands"
- (c) All other waters such as intra-state lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 - (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes;
 - (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - (3) Which are used or could be used for industrial purposes by industries in interstate commerce;
- (d) All impoundments of waters otherwise defined as waters of the United States under this definition;
- (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition;
- (f) The territorial sea; and
- (g) "Wetlands" adjacent to water (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. [See Note 1 of this section.] Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

Wash

A broad gravelly dry bed of an intermittent stream. (ACE OWHM AWR*)

Water Table

The depth to which the ground below is saturated with water.

Watershed

(drainage basin) An area of land that drains to a single outlet and is separated from other watersheds by a divide. (ACE OWHM AWR*). A geographic region enclosed by elevated areas creating a drainage area or collection of drainage areas, normally discharging to washes or rivers. Also known as drainage area or river basin.

Weir

A designed opening that allows water to flow to another section of the system

Wet Detention

Wet Detention systems detain water in a permanent pond releasing the water at a controlled rate. The longer water is held the more settling and biological processes occur to treat the stormwater.

Wetland

In Arizona – it is an area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. A wetland includes a swamp, marsh, bog, cienega, tinaja, and similar areas.
AAC 18-11-101.49 - Wetland delineation criteria correspond to §404 of the CWA, relying on the U.S. Army Corps of Engineers' 1987 *Wetlands Delineation Manual*

Work Order

Document that is used to schedule jobs and record the actual labor, equipment, and materials needed to complete it.

AZ Rules of note and other references

AAC Title 18, Chapter 11, R18-11-117. Canals and Urban Park Lakes

A. Nothing in this Article prevents the routine physical or mechanical maintenance of canals, drains, and the urban lakes identified in Appendix B. Physical or mechanical maintenance includes dewatering, lining, dredging, and the physical, biological, or chemical control of weeds and algae. Increases in turbidity that result from physical or mechanical maintenance activities are permitted in canals, drains, and the urban lakes identified in Appendix B.

B. The discharge of lubricating oil associated with the start-up of well pumps that discharge to canals is not a violation of R18- 11-108(B).

Historical Note

Adopted effective February 18, 1992 (Supp. 92-1). Amended effective April 24, 1996 (Supp. 96-2). Amended by final rulemaking at 14 A.A.R. 4708, effective January 31, 2009 (Supp. 08-4).

R18-11-118. Dams and Flood Control Structures

Increases in turbidity that result from the routine physical or mechanical maintenance of a dam or flood control structure are not violations of this Article. Nothing in this Article requires the release of water from a dam or a flood control structure.

Historical Note

Adopted effective February 18, 1992 (Supp. 92-1). Amended effective April 24, 1996 (Supp. 96-2). Amended by final rulemaking at 8 A.A.R. 1264, effective March 8, 2002 (Supp. 02-1). Amended by final rulemaking at 14 A.A.R. 4708, effective January 31, 2009 (Supp. 08-4).

R18-11-119. Natural background

Where the concentration of a pollutant exceeds a water quality standard and the exceedance is not caused by human activity but is due solely to naturally-occurring conditions, the exceedance shall not be considered a violation of the water quality standard.

State Authority over the MS4 permits

State's requirement to remain no more stringent than the CFR and CWA may be found in ARS 49-104.A.17* and ARS 49-255.01.B**

* "17. Unless specifically authorized by the legislature, (the department shall) ensure that state laws, rules, standards, permits, variances and orders are adopted and construed to be consistent with and no more stringent than the corresponding federal law that addresses the same subject matter...."

** "B...The director shall not adopt any requirement that is more stringent than or conflicts with any requirement of the clean water act. The director may adopt federal rules pursuant to section 41-1028 or may adopt rules to reflect local environmental conditions to the extent that the rules are consistent with and no more stringent than the clean water act and this article."

Flood Control District of Maricopa County

Under Floodplain Regulations for Maricopa County, 2018

- The FCDMC has the authority to enforce their rules
- The FCDMC has authority to review plans for use of their structures.
- The FCDMC intent of protecting the natural and beneficial function of the floodplains, although to focus on flooding, would by default, include pollution prevention from development. For this reason, wastes are specifically defined and pointed out in the FCDMC regulations. Specifically, the floodplain regulations limits the type of fill allowed in a structure, to not include wastes, this - gives the FCDMC authority to control waste discharges to their structures.

Historical Note

Adopted effective February 18, 1992 (Supp. 92-1).

AAC Chapter 18 Section 9 and 10

ARS Chapter 49-255-255.03

ARS Chapter 49-371

CFRs of note: 40 CFR 122

In the state of AZ, the 2003 CFR has been adopted by reference in ARS18. No later CFR has been adopted.

Other documentation of interest:

A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States

https://www.spl.usace.army.mil/Portals/17/docs/regulatory/JD/FinalOHWMManual_2008.pdf

CWA 404 and Arizona DEQ

Clean Water Act § 404 Assumption

ADEQ conducted a collaborative stakeholder process to draft a roadmap for Arizona to assume the Clean Water Act (CWA) § 404 permitting program. Starting in 2018, almost 500 people engaged by attending stakeholder meetings, participating in work groups, and providing over 2,100 comments. The majority of stakeholder input supported retaining the current process in Arizona, which is conducted by federal agencies | [Learn More >](#)

Based on stakeholder input, ADEQ decided not to continue pursuing state assumption of the CWA § 404 permitting program in 2020. Stakeholder engagement is an integral part of the potential development of any program, and ADEQ appreciates the participation of so many people sharing their perspectives.

AZ Rules of note and other references

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A. Nothing in this Article prevents the routine physical or mechanical maintenance of canals, drains, and the urban lakes identified in Appendix B. Physical or mechanical maintenance includes dewatering, lining, dredging, and the physical, biological, or chemical control of weeds and algae. Increases in turbidity that result from physical or mechanical maintenance activities are permitted in canals, drains, and the urban lakes identified in Appendix B.

B. The discharge of lubricating oil associated with the start-up of well pumps that discharge to canals is not a violation of R18- 11-108(B).

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** "B...The director shall not adopt any requirement that is more stringent than or conflicts with any requirement of the clean water act. The director may adopt federal rules pursuant to section 41-1028 or may adopt rules to reflect local environmental conditions to the extent that the rules are consistent with and no more stringent than the clean water act and this article."

Historical Note

Adopted effective February 18, 1992 (Supp. 92-1).

AAC Chapter 18 Section 9 and 10

ARS Chapter 49-255-255.03

ARS Chapter 49-371

CFRs of note: 40 CFR 122

In the state of AZ, the 2003 CFR has been adopted by reference in ARS18. No later CFR has been adopted.

Other documentation of interest:

A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States

https://www.spk.usace.army.mil/Portals/12/documents/regulatory/pdf/Ordinary_High_Watermark_Manual_Aug_2008.pdf

STORM Annual Report

Azstorm.org

Waste, Erosion, and Sediment Control Plan

5-1.200 Stormwater Quality:

5-1.201 Definitions and Abbreviations:

- A. ADEQ – Arizona Department of Environmental Quality
- B. AZPDES – Arizona Pollutant Discharge Elimination System
- C. BMP – Best Management Practice
- D. CGP – Construction General Permit
- E. CWA – Clean Water Act
- F. EPA – Environmental Protection Agency
- G. GIS - Geographic Information System
- H. IW – Impaired Water
- I. MS4 – Municipal Separate Storm Sewer System

Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

- (i) Owned or operated by a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
 - (ii) Designed or used for collecting or conveying storm water;
 - (iii) Which is not a combined sewer; and
 - (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.
- J. MSGP – Multi-Sector General Permit
 - K. NOI – Notice of Intent
 - L. NPDES – National Pollutant Discharge Elimination System
 - M. SWMP – Stormwater Management Plan
 - N. SWPPP – Stormwater Pollution Prevention Plan
 - O. WES - Waste, Erosion, and Sediment
 - P. WOTUS – Waters of the U.S.

5-1.202 AZPDES Phase II Requirements:

- A. The AZPDES Phase II Small MS4 Permit No. AZG2016-002 went into effect on September 30, 2016. In these requirements, certain municipalities and agencies that are owners or operators

of their MS4 were required to apply for coverage under the Phase II permitting program enforced by the State. The City of Buckeye is an AZPDES Phase II regulated municipality.

- B. One of the requirements of the Phase II program is to develop a construction site runoff control program for new developments and redevelopments affecting one acre or more. The City uses code §19-2-1-D. and §20-5-C, to enforce protection of the Right of Way (and MS4, where it exists, as noted by the Phase II program). These codes provide authority over any discharge or placement of any material on under or above the Right of Way, and give the City authority to require a permit for anyone wishing to infringe upon the Right of way.”

5-1.203 AZPDES Construction General Permit Requirements:

- A. Land disturbing activities affecting one acre or more, or less than one acre but part of a larger plan of development are required to obtain coverage under the AZPDES Construction General Permit (CGP). An applicant is required to submit a Notice of Intent (NOI) for coverage under this permit and send a copy of the approval for coverage under the permit CGP to the local MS4.
- B. The AZPDES permit also requires permittees to develop and maintain Stormwater Pollution Prevention Plans (SWPPPs) for each permitted site. These plans do not have to be submitted with the NOI. However, they must be made available to State inspectors during site inspections or as otherwise requested by the State.
- C. ADEQ performs inspections on permitted sites regularly. Permit holders are required to perform and document routine inspections.
- D. Additional ADEQ permits may be required. A comprehensive list of potentially applicable permits can be found at: <http://azdeq.gov/Permits/Listing>.

5-1.204 City of Buckeye Storm Water Requirements:

- A. To comply with Phase II MS4 permit requirements and to ensure protection of the City Right of Way, the City requires the use of stormwater controls to stop discharges from entering the City streets and MS4. These requirements are referred here in as the WES controls. Two key components of the City’s storm water management program are the ordinance protecting the Right of Way and the City’s Best Management Practices Manual. The ordinance authorizes the creation and use of Waste, Erosion, and Sediment (WES) controls. The BMP Manual describes the control measures that should be used on all construction activities

5-1.205 Program Goals:

- A. The goal of the City required WES plans are to control waste and erosion, and to prevent sedimentation (deposition of sediment) to the MS4 or WOTUS. Each land-disturbing project should be reviewed and inspected with these basic principles in mind. Sediment can cause damage to adjoining properties, damage streams and habitat for fish and other aquatic species, and clog storm drain systems. The required WES plan should be designed to prevent off-site sedimentation from land-disturbing activities through proper utilization of approved BMPs. The City reviews WES plans for sites that discharge to the MS4, and conducts inspections of land-disturbing activities within the City’s jurisdiction.

5-1.206 Detailed WES Plans:

- A. All Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre, and adjacent to the ROW (and the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one acre, and

discharges to an MS4 as defined by the Public Works Department) must submit detailed WES plans. These plans must be reviewed for general conformance prior to any land-disturbing activity on the site.

- B. Construction activities on properties that are less than one acre must implement BMPs to protect the Right-of-Way; however, a WES Plan submittal will not be required (subject to the discretion of the Engineering Department or Public Works Department).
- C. The WES Plan Template can be found in Appendix A and online at www.buckeyeaz.gov

5-1.207 Coordinating with Other Agencies:

- A. Besides coordinating with City, County, and State agencies, other agencies may need input on development plans. In the event that City staff believes that one of these permits or approvals is required, a permit application may be held until the information is provided or proof that the information is not required by the specific agency.

5-1.208 Plans Review:

- A. During plan review City staff use the following tools:
 - 1. City's BMP Manual
 - 2. City's Ordinance
 - 3. GIS
 - 4. Construction Site Information Form
 - 5. Standard WES Plan

5-1.209 Responsibilities of Contractors:

- A. Contractors are responsible for the following within the City of Buckeye's jurisdiction:
 - 1. Understand when a WES plan is required by the City and inform developers prior to beginning land-disturbing activities.
 - 2. Install or oversee the installation of erosion prevention, sediment management, and good housekeeping practices before land-disturbing activities begin and maintain these WES BMPs for the duration of the land disturbance.
 - 3. Inspect BMPs in accordance with CGP requirements. Document the findings of the site inspections, inform the developer of the findings, and maintain inspection documentation for the permitted site.
 - 4. Maintain BMPs during the entirety of the construction project until final stabilization.
 - 5. Notify the Public Works Department of a failure of WES controls that cause significant sediment to enter the right-of-way.
- B. Maintenance of controls must be conducted in accordance with the requirements identified in the City's Best Management Practices Manual:
 - 1. Act as the site contact for the City regarding the WES plan, relaying information to the permit holder from the City.
- C. It is the desire of the City of Buckeye to apply WES plan requirements uniformly and fairly across the City's jurisdiction. Often, responsibilities for WES maintenance become difficult to define in residential subdivisions. In an effort to define responsibilities for WES installation, inspection,

and maintenance in residential subdivisions where numerous homebuilders and contractors may be present, the City will require permit holders to do one of the following:

1. Submit a completed Standard WES Plan for a residential lot at the time that he/she applies for a building permit, identify the Contractor for the lot, and assume responsibility for WES for that lot; OR
2. Get permission from the permit holder to be covered under the subdivision’s WES plan. This will require a statement from the permit holder and/or Contractor that they accept the responsibility for overseeing WES on the lot.

5-1.210 Inspections:

- A. Inspections must be performed by both the City staff and the contractor and/or owner responsible for a WES plan. All active and applicable construction projects within the City’s jurisdiction must have inspections conducted by the developer responsible for the WES plan in accordance to the approved WES plan.” The role of the City’s inspection program is to provide routine, consistent inspections to ensure that the requirements of the WES plan are being followed.

5-1.211 Inspection Frequencies:

- A. The contractor and/or owner responsible for the WES plan shall perform inspections at a minimum of monthly, or at a greater frequency necessary to ensure BMPs remain active and function per approved WES plans and design standards.
- B. City staff may inspect active construction sites in accordance with the following inspection schedule goals. Note that some of these inspections are likely going to be scheduled inspections, in that the permit holder, complainant, or Contractor will be informed of the inspection date. However, if the other party cannot attend, then the inspection should occur anyway.

TABLE 1: Inspection Frequencies

Inspection	Inspection Frequency	Scheduled or unannounced?
Routine inspection	Quarterly	Unannounced
Complaint follow-up	Within 5 working days of receipt by the City	Unannounced
Violation follow-up	As established in inspection report or in NOV	Scheduled or unannounced
Final inspection	After the site has been provided with a permanent ground cover providing at least 70% coverage over entire site, before bond has been released, or before Certificate of Occupancy has been issued.	Scheduled or unannounced

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- i 4.1.10
 - ii 2.1
 - iii 4.2
 - iv 4.1.5
 - v 4.1.1
 - vi 4.1.2
 - vii 4.1.4
 - viii 4.1.3
 - ix 6.0-6.6
 - x 4.1.6
 - xi 4.1.7
 - xii 4.1.9
 - xiii 3.0-3.3
 - xiv 4.1.8