



DRAFT PERMIT

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ADEQ Inventory No.	513556	Permit No.	AZ0026212
LTF No.	113921	Place ID No.	192962

AUTHORIZATION TO DISCHARGE UNDER THE ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Article 3.1; the Federal Water Pollution Control Act, (33 U.S.C. §1251 *et seq.*, as amended), and Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Articles 9 and 10, and amendments thereto the,

Arizona Department of Environmental Quality (ADEQ)
Central Tucson PFAS Project Demonstration Facility
400 West Congress Street, Suite #433
Tucson, Arizona 85701

is authorized to discharge treated groundwater from the Central Tucson PFAS project (CTPP) Demonstration Facility in Pima county is located at 4301 East 32nd Street in Tucson, Arizona to a stormwater drainage system. The discharge enters the City of Tucson municipal separate storm sewer system (MS4), which conveys flows through several ephemeral washes, including Citation Wash and Arroyo Chico Wash, before ultimately discharging to the Santa Cruz River, a protected surface water in Arizona that is a Water of the U.S. (WOTUS), in the Santa Cruz Basin at:

Outfall No.	Latitude	Longitude	Legal
001	32° 11' 48"N 32.196667 in decimal degrees	110° 54' 02" W -110.90056 in decimal degrees	Township 14 S, Range 14 E, Section 23

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein, and in the attached "Standard AZPDES Permit Conditions."

Annual Registration Fee [A.R.S. 49-255.01 and A.A.C. R18-14-104]

The annual registration fee for this permit is payable to ADEQ each year. For the purposes of the annual fees, this permit is a Minor permit. If the facility is not yet constructed or is incapable of discharge at this time, the permittee may be eligible for reduced fees under rule. Send all correspondence requesting reduced fees to the Water Quality Division of ADEQ. Please reference the permit number, LTF number, and why reduced fees are requested under rule.

This permit shall become effective on _____, 2026.

This permit and the authorization to discharge shall expire on _____, 2031.

Signed _____.

Josephine Maressa, Deputy Director
Water Quality Division
Arizona Department of Environmental Quality

Table of Contents

PART I. EFFLUENT LIMITATIONS, OTHER LIMITATIONS, AND MONITORING REQUIREMENTS	3
A. Effluent Limitations and Monitoring Requirements.....	3
B. Trace Substance Monitoring.....	3
C. Whole Effluent Toxicity Monitoring.....	4
D. Discharge Characterization Testing.....	5
E. Other Limitations	6
PART II. MONITORING AND REPORTING.....	7
A. Sample Collection and Analysis.....	7
B. Reporting of Monitoring Results.....	9
C. Twenty-four Hour Reporting of Noncompliance.....	11
D. Monitoring Records	12
PART III. BIOSOLIDS / SEWAGE SLUDGE REQUIREMENTS	12
PART IV. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS.....	12
A. General Conditions.....	12
B. Chronic Whole Effluent Toxicity Requirements.....	13
C. Quality Assurance	14
D. Toxicity Identification Evaluation (TIE)/Toxicity Reduction Evaluation (TRE) Process	15
E. WET Reporting.....	17
PART V. SPECIAL CONDITIONS.....	19
A. Reopener	19
Appendix A. Part A: Acronyms.....	20
Appendix A. Part B: Definitions	20
Appendix B. AZPDES Discharge Flow Record	26
Appendix C. Ammonia Data Log	27
Appendix D. Standard AZPDES Permit Conditions & Notifications.....	30

PART I. EFFLUENT LIMITATIONS, OTHER LIMITATIONS, AND MONITORING REQUIREMENTS

A. Effluent Limitations and Monitoring Requirements

1. The Permittee shall limit and monitor discharges from Outfall 001 as specified in Table 1 which follows.

Table 1. Effluent Limitations and Monitoring Requirements

Parameter	Maximum Allowable Discharge limitations (1)		Monitoring Requirement (2) (3) (4)	
	Concentration limits (µg/L)			
	Monthly Average	Daily Maximum	Monitoring Frequency	Sample Type
Discharge Flow (MGD) (5)	Report	Report	continuous	Metered
Perfluorooctanesulfonic Acid (PFOS)	Report (ng/L) (6)	Report (ng/L)	1 x / Quarter	Discrete
Perfluorooctanic Acid (PFOA)	Report (ng/L)	Report (ng/L)	1 x / Quarter	Discrete
Chromium, total (7)	Report (µg/L)	Report (µg/L)	1 x / 6 Months	Discrete
Chromium VI (7)	8 µg/L	16 µg/L	1 x / 6 Months	Discrete
Iron	800 µg/L	2000 µg/L	1 x / 6 Months	Discrete
Nickel (8)	45 µg/L	90 µg/L	1 x / 6 Months	Discrete
Selenium	2 µg/L	3 µg/L	1 x / 6 Months	Discrete
Hardness (effluent) (8)	---	Report (mg/L)	1 x / 6 Months	Discrete
pH (9)	Not less than 6.5 standard units (S.U.) nor greater than 9.0 S.U.		1 x / week	Discrete

Footnotes

- All metals effluent limits are for total recoverable metals, except for chromium VI, for which the limits listed are dissolved.
- Testing must coincide with the Whole Effluent Toxicity Test (WET) samples, if any, taken during that monitoring period as per Part I.C, Table 3 of the permit. See Part IV of the permit.
- If discharge is infrequent, see Part I.D for minimum discharge characterization monitoring requirements.
- The Limit of Quantitation (LOQ) must be low enough to allow comparison of the results to the lowest applicable surface water quality standard (SWQS). If a LOQ below the SWQS cannot be achieved the permittee shall use the method expected to achieve the lowest LOQ, per Part II.A.5.d & e. Samples are to be representative of seasonal variation in the discharge.
- Monitoring and reporting required. No limit set at this time. In addition to the average and maximum flows reported on the Discharge Monitoring forms, daily discharge flow shall be recorded on the Discharge Flow Record provided in Appendix B. See Part II. B for reporting requirements.
- Nanograms per liter (ng/L) is equal to parts per trillion (PPT).
- If total chromium exceeds 8 µg/L, the permittee must conduct sampling for chromium VI for the remainder of the permit. Otherwise, monitoring for chromium VI is not required.
- Limits listed are based on the average effluent hardness of 106 mg/L as CaCO₃. The effluent must be tested for hardness at the same time that this metal sample is taken. Please see the hardness definition in Appendix A, Part B.
- pH must be measured at the time of sampling and do not require use of a certified laboratory. Measurements must be obtained in accordance with the applicable method and must meet all method quality assurance/quality control requirements to be considered valid data.

B. Trace Substance Monitoring

1. The permittee shall monitor discharges from Outfall 001 as specified in Table 2. Monitoring results above the Assessment Levels (ALs) listed below do not constitute a permit violation, but may trigger evaluation of

Reasonable Potential (RP) by ADEQ. The permittee shall use an approved analytical method with a Limit of Quantitation (LOQ) lower than the AL values as described in Part II.A.5.

Table 2. Assessment Level Monitoring

Parameter	Assessment Levels (1)		Monitoring Requirements (2)(3)(4)	
	Monthly Average	Daily Maximum	Monitoring Frequency	Sample Type
Cyanide (as free cyanide)	7.9 µg/L	16 µg/L	1 x / Quarter	Discrete

Footnotes

- 1 Concentration values are calculated based on Arizona Water Quality Standards. Monitoring and reporting required.
- 2 Testing must coincide with the Whole Effluent Toxicity Test (WET) samples, if any, taken during that monitoring period as per Part I.C, Table 3 of the permit. See Part IV of the permit.
- 3 If discharge is infrequent see Part I.D for minimum discharge characterization monitoring requirements.
- 4 The Limit of Quantitation (LOQ) must be low enough to allow comparison of the results to the lowest applicable surface water quality standard (SWQS). If a LOQ below the SWQS cannot be achieved the permittee shall use the method expected to achieve the lowest LOQ, per Part II.A.5.d & e. Samples are to be representative of seasonal variation in the discharge.

C. Whole Effluent Toxicity Monitoring

1. The permittee shall monitor discharges from Outfall 001 for Whole Effluent Toxicity (WET) as specified in Table 3 below. If toxicity is detected above an Action Level specified as follows, the permittee must perform follow-up testing and, as applicable, follow the TRE/TIE processes in Part IV.D of the permit.

Table 3. WET Testing

Parameter (1)	Action Levels			Monitoring Requirements	
	Daily Maximum (2) (3) (4)	Monthly Median (5)	Units (6)	Monitoring Frequency (7)	Sample Type
Chronic Toxicity <i>Pseudokirchneriella subcapitata</i> (Green algae) (8)	Pass (0) and <50 Percent Effect (PE)	Pass (0)	Pass (0)/Fail (1), PE in %	1 x / Year in years 2026, 2027, 2028, 2029 of permit term	Discrete
Chronic Toxicity <i>Pimephales promelas</i> (Fathead minnow)	Pass (0) and <50 PE	Pass (0)	Pass (0)/Fail (1), PE in %	1 x / Year in years 2026, 2027, 2028, 2029 of permit term	Discrete
Chronic Toxicity <i>Ceriodaphnia dubia</i> (Water flea)	Pass (0) and <50 PE	Pass (0)	Pass (0)/Fail (1), PE in %	1 x / Year in years 2026, 2027, 2028, 2029 of permit term	Discrete

Footnotes

- 1 See Part IV for additional requirements for testing and reporting Whole Effluent Toxicity (WET).
- 2 Maximum Daily reporting value is evaluated for each individual toxicity test, including every test conducted for determining the median monthly effluent result. For a chronic WET test, a WET action level exceedance occurs if **both** of the following occur in the same toxicity test: The Pass/Fail result is coded as **Fail (1)** and the **percent effect (PE) ≥ 50**, where **PE = [(Control mean response – In-Stream Waste Concentration (IWC) mean response) ÷ Control mean response] × 100%**. See Appendix A Part B Definitions for Test of Significant Toxicity (TST) Pass/Fail and Percent Effect (PE).
- 3 If a chronic toxicity test result is coded as Fail (1) and PE ≥ 50, the permittee must perform follow-up testing. See Part IV for details.
- 4 If more than one toxicity test is initiated during the calendar month due to a failed test result, then all laboratory reports shall be electronically submitted with the DMR (See Part IV.E) and the WET test with a **Fail (1)** and the highest PE shall be reported on the DMR form as the Daily Maximum. See Appendix A Part B Definitions for Test of Significant Toxicity (TST) Pass/Fail and Percent Effect (PE).
- 5 Monthly Median Test Result: An exceedance occurs if the median of Pass/Fail result is Fail (1) using no more than three toxicity tests initiated during the calendar month. If only one test is conducted, the median Pass/Fail result is simply the result of that test. If two tests are conducted and either one (or both) are a Fail (1), then the median is a Fail (1); if both are Pass (0), then the median is a Pass (0). If three tests are conducted, the median Pass/Fail result is the most common Pass/Fail result.
- 6 For Pass/Fail result, code Pass as 0 and Fail as 1 on the DMR.

- 7 If discharge is infrequent see Part I.D for minimum discharge characterization monitoring requirements.
- 8 Formerly known as *Selenastrum capricornutum* or *Raphidocelis subcapitata*.

D. Discharge Characterization Testing

1. The permittee shall monitor to characterize the facility’s discharge for the parameters listed in Tables 4.a – b whenever the treatment system is operating, whether discharging or not. If the treatment system is not operating and no treated effluent is available for sampling, monitoring is not required. The permittee shall document such periods of non-operation in the facility records. When the facility discharges, during a reporting period, monitoring for parameters with set limits, assessment levels, or action levels is to be conducted at the frequency indicated in Tables 1 through 3 and results shall be reported on DMRs. No limits or ALs are established for monitoring requirements set in Tables 4.a – b, but the LOQ must be low enough to allow comparison of the results to the applicable water quality standards (WQS). If a LOQ below the WQS cannot be achieved, then the permittee shall use the method expected to achieve the lowest LOQ, as defined in Appendix A of this permit. Samples are to be representative of any seasonal variation in the discharge.
2. Discharge Characterization testing results shall be reported annually using the form provided by ADEQ. See Part II.B.3.

Table 4.a. Discharge Characterization Testing—General Chemistry and Microbiology

Parameter	Reporting Units	Monitoring Requirements (1)	
		Monitoring Frequency (2)	Sample Type
Ammonia (as N) (3)	mg/L	1 x / Quarter	Discrete
Ammonia Impact Ratio (AIR) (4)	N/A	1 x / Quarter	Discrete
Biochemical Oxygen Demand (BOD-5) or Chemical Oxygen Demand (COD)	mg/L	1 x / Quarter	Discrete
pH (3)(5)	S.U.	1 x / Quarter	Discrete
Perfluorooctanesulfonic Acid (PFOS)	ng/L	1 x / Quarter	Discrete
Perfluorooctanoic Acid (PFOA)	ng/L	1 x / Quarter	Discrete
Temperature – effluent (3)(5)	°Celsius	1 x / Quarter	Discrete
Total Dissolved Solids (TDS)	mg/L	1 x / Year in years 2027,2028,2029 of permit term	Discrete
Total Suspended Solids (TSS)	mg/L	1 x / Quarter	Discrete

Footnotes

- 1 The Limit of Quantitation (LOQ) must be low enough to allow comparison of the results to the lowest applicable surface water quality standard (SWQS). If a LOQ below the SWQS cannot be achieved the permittee shall use the method expected to achieve the lowest LOQ, per Part II.A.5.d & e. Samples are to be representative of seasonal variation in the discharge.
- 2 If more frequent monitoring of any of these parameters is required by another part of this permit, those sampling results may be used to satisfy Table 4.a. requirements.
- 3 When sampling for ammonia, temperature and pH must be determined concurrently and the results recorded on the **Ammonia Data Log** provided in Appendix C. See Part II.B for reporting requirements.
- 4 The Ammonia Impact Ratio (AIR) is calculated as the ratio of the reported effluent ammonia concentration and the calculated ammonia standard as determined by comparing concurrent measurement of the effluent pH and temperature with the values in the ammonia criteria table in Appendix C.
- 5 Temperature and pH must be measured at the time of sampling and do not require use of a certified laboratory.

Table 4.b. Discharge Characterization Testing—Selected Metals, Trace Substances, and WET

Parameter (1)	Most Stringent Criterion	Monitoring Requirements (2)	
		Monitoring Frequency (3)	Sample Type
Antimony	600 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Arsenic	150 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Barium	98,000 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Beryllium	5.3 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Cadmium (4)	2.3 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Chromium (5)	No Criterion	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Chromium VI (5)	11 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Copper (4)	9.4 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Fluoride	140,000 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Iron	1000 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Lead (4)	2.7 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Manganese	130,667 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Mercury	0.01 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Nickel (4)	55 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Selenium	2 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Silver (4)	3.6µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Thallium	75 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Zinc (4)	123 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Hardness	No Criterion	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Cyanide (as free cyanide)	9.7 µg/L	1 x/ Year in years 2027,2028,2029 of permit term	Discrete
Whole Effluent Toxicity – chronic (all 3 species)	Pass (0)/Fail (1) and PE in %	1x/year in years 2026,2027,2028,2029 of permit term	Discrete

Footnotes

- 1 All metals analyses shall be for total recoverable metals, except chromium VI, which is dissolved.
- 2 The Limit of Quantitation (LOQ) must be low enough to allow comparison of the results to the lowest applicable surface water quality standard (SWQS). If a LOQ below the SWQS cannot be achieved the permittee shall use the method expected to achieve the lowest LOQ, per Part II.A.5.d-e. Samples are to be representative of seasonal variation in the discharge.
- 3 If more frequent monitoring of any of these parameters is required by another part of this permit, those sampling results may be used to satisfy Table 4.b. requirements.
- 4 Hardness-dependent metal – The average hardness value of 106 mg/L was used to calculate the applicable water quality standard for these parameters.
- 5 If total chromium exceeds 8 µg/L, the permittee must conduct sampling for chromium VI for the remainder of the permit. Otherwise, monitoring for chromium VI is not required.

E. Other Limitations

1. The discharge shall not contain:
 - a. Objectional odor;
 - b. Unnatural color;
 - c. Refuse, rubbish, demolition or construction debris, trash, or garbage;

- d. Oil, grease and other pollutants that float as debris, foam, or scum; or
- e. Film or iridescent appearance.

PART II. MONITORING AND REPORTING

A. Sample Collection and Analysis

1. Samples taken for the monitoring requirements specified in Part I shall be collected at the following locations:
 - Discharge samples shall be taken downstream from the last treatment process and prior to discharge to the municipal separate storm sewer system (MS4) and before mixing with any receiving waters.
2. The permittee is responsible for the quality and accuracy of all data required under this permit.
3. The permittee shall keep a QA Manual on site that describes the sample collection and analyses processes. If the permittee collects samples or conducts sample analyses in house, the permittee shall develop a QA Manual that addresses these activities. If a third party collects and/or analyzes samples on behalf of the permittee, the permittee shall obtain a copy of the applicable QA procedures. The QA Manual shall be available for review by ADEQ upon request. The QA Manual shall be updated as necessary to reflect current conditions, and shall describe the following:
 - a. Project Management, including:
 - i. Purpose of sample collection and sample frequency;
 - ii. When and where samples will be collected;
 - iii. How samples will be collected;
 - iv. Laboratory(s) that will perform analyses;
 - v. Any field tests to be conducted (detail methods and specify equipment, including a description of any needed calibrations); and
 - vi. Pollutants or analytes being measured and for each, the permit-specific limits, Assessment Levels (ALs), or thresholds (e.g. the associated detection limits needed).
 - b. Sample collection procedures including:
 - i. Equipment to be used;
 - ii. Type and number of samples to be collected including QA/QC samples (i.e., background samples, duplicates, and equipment or field blanks);
 - iii. Types, sizes and number of sample bottles needed;
 - iv. Preservatives and holding times for the samples (see methods under 40 CFR 136 or 9 A.A.C. 14, Article 6 or any condition within this permit that specifies a particular test method); and
 - v. Chain of Custody procedures.
 - c. Specify approved analytical method(s) to be used and include:
 - i. Limits of Detection (LOD) and Limits of Quantitation (LOQs);
 - ii. Required quality control (QC) results to be reported (e.g., matrix spike recoveries, duplicate relative percent differences, blank contamination, laboratory control sample recoveries, surrogate spike recoveries, etc.) and acceptance criteria; and
 - iii. Corrective actions to be taken by the permittee or the laboratory as a result of problems identified during QC checks.
 - d. How the permittee will perform data review; complete DMRs and records used to report results to ADEQ; resolve data quality issues; and identify limitations on the use of the data.

4. Sample collection, preservation and handling shall be performed as described in 40 CFR 136 including the referenced Edition of *Standard Methods for the Examination of Water and Wastewater*, or by procedures referenced in A.R.S. Title 9, Chapter 14 of the Arizona Department of Health Services (ADHS) Laboratory Licensure rules. The permittee shall outline the proper procedures in the QA Manual, and samples taken for this permit must conform to these procedures whether collection and handling is performed directly by the permittee or contracted to a third-party.
5. Analytical requirements
 - a. The permittee shall use a laboratory licensed by the ADHS Office of Laboratory Licensure and Certification that has demonstrated proficiency within the last 12 months under A.A.C. R9-14-609, for each parameter to be sampled under this permit. However, this requirement does not apply to parameters which require analysis at the time of sample accordance with A.R.S. 36-495.02(A)(3). (These parameters may include flow, dissolved oxygen, pH, temperature, and total residual chlorine.)
 - b. The permittee must utilize analytical methods specified in this permit. If no test procedure is specified, the permittee shall analyze the pollutant using:
 - i. A test procedure listed in 40 CFR 136 which is also approved under A.A.C. R9-14-610 and is sufficiently sensitive in accordance with 40 CFR 136.1(c);
 - ii. An alternative test procedure approved by EPA as provided in 40 CFR 136 and which is also approved under A.A.C. R9-14-610;
 - iii. A test procedure listed in 40 CFR 136, with modifications allowed by EPA or approved as a method alteration by ADHS under A.A.C. R9-14-610C; or
 - iv. If no test procedure for a pollutant is available under (5)(b)(i) through (5)(b)(iii) above, any method approved under A.A.C. R9-14-610(B) for wastewater may be used, except the use of field kits is not allowed unless otherwise specified in this permit. If there is no approved wastewater method for a parameter, any other method identified in 9 A.A.C. 14, Article 6 that will achieve appropriate detection and reporting limits may be used for analyses.
 - c. For results to be considered valid, all analytical work, including those tests conducted by the permittee at the time of sampling (see Part II.A.5.a), shall meet quality control standards specified in the approved methods.
 - d. The permittee shall use approved analytical methods with a Limit of Quantitation (LOQ) that is lower than the effluent limitations, Assessments Levels, Action Levels, or other water quality criteria, if any, specified in this permit. If all methods have LOQs higher than the applicable water quality criteria, the Permittee shall use the approved analytical method with the lowest method detection limit (MDL) or minimum level (ML). If a published MDL or ML is not available see Appendix A. Part B. Definitions: Minimum Level for other ways to determine ML.
 - e. The permittee shall use (and ensure that the laboratory uses) a standard calibration curve when applicable to the method, where the lowest standard point is equal to or less than the LOQ.
6. Mercury Monitoring - The permittee shall use an ADHS-certified low-level mercury analytical method such as EPA method 245.7 or 1631E to achieve a reporting limit at or below the discharge limitations or assessment levels for mercury as specified in this permit. The permittee shall also use a "clean hands/dirty hands" sampling technique such as EPA Method 1669 if necessary to achieve these reporting limits.
7. Metals Analyses - In accordance with 40 CFR 122.45(c), all effluent metals concentrations, with the exception of chromium VI, shall be measured as "total recoverable metals". Discharge Limits and

Assessment Levels in this permit, if any, are for total metals, except for chromium VI for which the levels listed are dissolved.

B. Reporting of Monitoring Results

1. The permittee shall report monitoring results on Discharge Monitoring Report (DMR) to the ADEQ electronic submission portal MyDEQ. The permittee shall submit results of all monitoring required by this permit in a format that will allow direct comparison with the limitations and requirements of this permit. If no discharge occurs during a reporting period, the permittee shall specify “No discharge” on the DMR. The results of all discharge analyses conducted during the monitoring period shall be included in determinations of the Monthly Average and Daily Maximum reported on the DMRs if the analyses were by methods specified in Part II.A above, as applicable.
2. DMRs and attachments are to be submitted by the 28th day of the month following the end of a monitoring period. See Part II.B.3 below for new reporting requirements for Effluent Characterization Testing. For example, if the monitoring period ends January 31st, the permittee shall submit the DMR by February 28th. The permittee shall electronically submit all compliance monitoring data and reports using the myDEQ electronic portal provided by ADEQ, except for Effluent Characterization Testing results, see Part II.B.3 below. The reports produced during a monitoring period are required to be electronically submitted with the DMR and include, but are not limited to, the following:
 - a. Discharge Monitoring Reports
 - b. Whole Effluent Toxicity (WET) reports
 - c. Original copies of laboratory reports
 - d. Ammonia data logs (Submitted annually, See Part II.B.5 below)
 - e. AZPDES discharge flow records
 - f. Method detection limit studies (upon request by ADEQ)
 - g. Bench sheets or similar documentation for field testing parameters
 - h. Progress report on the TRE/TIE investigation (*if applicable*)
3. Discharge Characterization Testing results shall be submitted to ADEQ using the Effluent Characterization form provided by ADEQ. The form shall be submitted to ADEQ by emailing azpdes_data@azdeq.gov. The forms are to be submitted on an annual basis by January 28th of each year (i.e., all effluent characterization monitoring required in the calendar year 2024 shall be submitted by January 28, 2025).
 - a. Required fields of the form include, but are not limited to, the following:
 - i. Sample location;
 - ii. Parameter;
 - iii. Analytical test method used;
 - iv. Data qualifier;
 - v. Results;
 - vi. Units;
 - vii. Sampling date;
 - viii. Published MDL or ML (if a published method-specific ML is not available see Appendix A. Part B. Definitions: Minimum Level);
 - ix. The laboratory’s MDL for the test method computed in accordance with Appendix B of 40 CFR 136;
 - x. Laboratory reporting limit; and
 - xi. The laboratory’s lowest calibration standard concentration.
 - b. Original copies of documents relevant to Discharge Characterization Testing shall be submitted electronically through MyDEQ. Upload these documents as attachments to the DMR for the reporting period when the monitoring activity was performed (i.e., if monitoring is required quarterly, the documentation shall be submitted with the quarterly DMR). This includes documentation for discharge

characterization monitoring performed during a reporting period when no discharge occurred and a No Data DMR is submitted.

4. See Part IV.F for WET Reporting requirements.
5. When sampling the effluent for ammonia, the pH and temperature of the effluent must be recorded at the time of sample collection. Results for all three parameters as well as the applicable ammonia standard and the calculated Ammonia Impact Ratio shall be recorded on the **Ammonia Data Log** provided in Appendix B. The effluent ammonia concentrations, effluent pH and temperature, and calculated ammonia impact ratio shall also be recorded on DMRs. The ammonia data log shall be submitted to ADEQ annually to the address information listed in Part II.B.2, above.
6. If requested to participate, the permittee shall submit the results of the annual NPDES DMR/QA Study to ADEQ and ADHS for all laboratories used in monitoring compliance with this permit by December 31st of each year. The permittee shall also conduct any proficiency testing required by the NPDES DMR-QA Study for those parameters listed in the study that the permittee analyzes in house or tests in the field at the time of sampling (these parameters may include pH and total residual chlorine). All results of the NPDES DMR-QA Study shall be submitted to the email and addresses listed below, or submit by any other alternative mode as specified by ADEQ:

Arizona Department of Environmental Quality
Email: AZPDES@azdeq.gov

Arizona Department of Health Services
Attn: Office of Laboratory Licensure and Certification
250 North 17th Avenue
Phoenix, AZ 85007

7. For the purposes of reporting, the permittee shall use the Limit of Quantitation.
8. For parameters with Daily Maximum Limits or Daily Maximum Assessment Levels in this permit, the permittee shall review the results of all samples collected during the reporting period and report as outlined in Table 5.
9. For parameters with Monthly Average Limits or Monthly Average Assessment Levels in this permit, the permittee shall review the results of all samples collected during the reporting period and report as outlined in Table 6.

Table 5. DMR Reporting Requirements for Daily Maximum Limits and Assessment Levels

For Daily Maximum Limits/Assessment Levels	The Permittee shall Report on the DMR
When the maximum value of any analytical result is greater than or equal to the LOQ	The maximum value of all analytical results
When the maximum value detected is greater than or equal to the laboratory's LOD but less than the LOQ	NODI (Q)
When the maximum value is less than the laboratory's LOD	NODI (B)

Table 6. DMR Reporting Requirements for Monthly Average Limits / Assessment Levels

For Monthly Average Limits/Assessment Levels	The Permittee shall Report on the DMR
When the value detected is greater than or equal to the LOQ	The analytical result

For Monthly Average Limits/Assessment Levels		The Permittee shall Report on the DMR
<p>If only one sample is collected during the reporting period (weekly, monthly, quarterly, annually, etc.)</p> <p>(In this case, the sample result is also the weekly or monthly average.)</p>	When the value detected is greater than or equal to the laboratory's LOD, but less than the LOQ	NODI (Q)
	When the value is less than the laboratory's LOD	NODI (B)
<p>If more than one sample is collected during the reporting period</p>	<p>All samples collected in the same calendar month must be averaged.</p> <ul style="list-style-type: none"> • When all results are greater than or equal to the LOQ, all values are averaged • If some results are less than the LOQ, use the LOD value in the averaging • Use '0' for values less than the LOD 	The highest monthly average which occurred during the reporting period

10. For all field testing, or if the information below is not included on the laboratory reports required by Part II.B.2, the permittee shall attach a bench sheet or similar documentation to each DMR that includes, for all analytical results during the reporting period the following:

- a. The analytical result;
- b. The number or title of the approved analytical method, preparation and analytical procedure utilized by the field personnel or laboratory, and the LOD and LOQ for the analytical method for the parameter; and
- c. Any applicable data qualifiers using the most current revision of the Arizona Data Qualifiers (available online at: <http://www.azdhs.gov>).

C. Twenty-four Hour Reporting of Noncompliance

1. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally to ADEQ within 24 hours from the time the permittee becomes aware of the circumstances. If the permittee believes there is an immediate threat to human health or the environment, the oral report shall be made to the Emergency Response Unit hotline at (602) 771-2330. All other noncompliance subject to the 24-hour reporting requirement shall be made to the ADEQ AZPDES hotline at (602) 771-1440. A written report submitted through MyDEQ indicating permit noncompliance shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times), and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and

environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather. All noncompliance reports shall be submitted electronically by the permittee through MyDEQ.

2. The following shall be included as information which must be reported within 24 hours:
 - a. Any unanticipated bypass which exceeds any effluent limitation in the permit,
 - b. Any upset which exceeds any effluent limitation in the permit, or
 - c. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours.

3. Other noncompliance. The permittee shall report all instances of noncompliance not reported under Part II.C above, at the time monitoring reports are submitted. The reports shall contain the information listed in Part II.C.1 above. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Part II.C.1 above and the applicable required data in appendix A to 40 CFR part 127. All noncompliance reports shall be submitted through MyDEQ.

D. Monitoring Records

1. The permittee shall retain the following monitoring records:
 - a. Date, exact location and time of sampling or measurements performed, preservatives used;
 - b. Individual(s) who performed the sampling or measurements;
 - c. Date(s) the analyses were performed;
 - d. Laboratory(s) which performed the analyses;
 - e. Analytical techniques or methods used;
 - f. Chain of custody forms;
 - g. Any comments, case narrative or summary of results produced by the laboratory. These comments should identify and discuss QA/QC analyses performed concurrently during sample analyses and should specify whether analyses met project requirements and 40 CFR 136. If results include information on initial and continuing calibration, surrogate analyses, blanks, duplicates, laboratory control samples, matrix spike and matrix spike duplicate results, sample receipt condition, or holding times and preservation, these records must also be retained; and
 - h. Summary of data interpretation and any corrective action taken by the permittee.

PART III. BIOSOLIDS / SEWAGE SLUDGE REQUIREMENTS

This facility does not generate, treat, use, or dispose of sewage sludge (biosolids) as defined under 40 CFR Part 503. Therefore, the requirements of 40 CFR Part 503 are not applicable to this permit.

PART IV. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. General Conditions

1. The permittee shall conduct chronic toxicity tests on 24-hour composite samples of the final effluent at the frequencies specified in Part I.

2. Final effluent samples must be taken following all treatment processes, including chlorination and dechlorination, and prior to mixing with the receiving water. The required WET tests must be performed on unmodified samples of final effluent. WET tests conducted on samples that are dechlorinated after collection are not acceptable for compliance with this permit.

3. A split of each WET sample must be analyzed for all monitoring parameters listed in Parts I.A and I.B. Analysis of any split sample taken for limited and assessment level monitoring parameters counts toward the minimum frequency of analysis specified in Parts I.A and I.B. For those parameters listed in Parts I.A and I.B of this permit whose required sample type is discrete, the testing shall be performed on a discrete sample collected concurrently with one sample, discrete or composite, collected for an acute or chronic WET test.
4. Definitions related to toxicity are found in Appendix A Part B. including In-Stream Waste Concentration (IWC), Percent Effect (PE), Test of Significant Toxicity (TST), and Test of Significant Toxicity (TST) Pass/Fail.

B. Chronic Whole Effluent Toxicity Requirements

There is a chronic toxicity action level set in this permit for discharge

1. Monitoring Conditions

Since completion of the short-term chronic WET test for *Ceriodaphnia dubia* and *Pimephales promelas* requires a minimum of three samples be taken for renewals, the chronic WET test will not be required during any given monitoring period in which discharge does not occur over seven consecutive calendar days except as specified in Part I.D (chronic WET testing for effluent characterization is required whether discharging or not). The discharge does not have to be continuous to fall under this requirement.

2. Monitoring Frequency

The permittee must conduct annual chronic toxicity tests on 24-hour composite effluent samples as prescribed in Part I.C. For sampling required only 1x/year, annual sampling shall be performed during a different quarter each year from the previous years to account for seasonal variation.

Chronic toxicity test samples must be collected for each outfall as specified in Part I at the AZPDES sampling location. See Part II.A of this permit.

3. Species and Wet Test Methods

The permittee shall follow the short-term WET test methods for estimating the chronic toxicity of AZPDES permitted effluent published in the U.S. EPA fourth edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA-821-R-02-013, 2002; Table IA found in 40 CFR Part 136.3). The permittee must conduct toxicity tests using 100% effluent and a control using all three of the following surrogate species:

- **Vertebrate:** Fathead minnow, *Pimephales promelas* (Growth Test Method 1000.0; Static renewal)
- **Invertebrate:** Daphnid, *Ceriodaphnia dubia* (Reproduction Test Method 1002.0; Static renewal)
- **Plant:** Green alga, *Pseudokirchneriella subcapitata* (also named *Selenastrum capricornutum* and *Raphidocelis subcapitata*) (Growth Test Method 1003.0; Static non-renewal)

4. Pass (0)/Fail (1) Criteria

For this permit, the determination of Pass (0) or Fail (1) from a multiple-effluent concentration chronic toxicity test including the control and the in-stream waste concentration (IWC) is determined using the Test of Significant Toxicity (TST) approach that is described in the *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA-833-R-10-003, 2010) and *National Pollutant Discharge Elimination System Test of Significant Toxicity Technical Document* (EPA-833-R-10-004, 2010).

The chronic WET test shall be conducted using a series of five dilutions and a control. Once the WET test has been conducted using five effluent concentrations (12.5, 25, 50, 75, and 100% IWC) plus a control and test conditions have met all Test Acceptability Criteria (TAC) as specified in the EPA methods, the TST approach is designed to be a Single Concentration Test of the IWC compared to a control. The TST approach requires defining what is considered toxic (i.e. the IWC results in a worse organism biological response compared to the control). For chronic WET methods (both the lethal and sublethal test endpoints) a 25 percent effect (or more) is considered evidence of unacceptable toxicity.

A chronic WET Daily Maximum action level or limit exceedance occurs upon any one WET test (either biological endpoint of survival or sublethal) where the result is *Fail (1)* at the IWC and the PE > 50. A chronic WET Monthly Median action level or limit exceedance occurs if the median of Pass/Fail result is *Fail (1)* using no more than three chronic toxicity tests initiated during a calendar month for the reporting period. See Appendix A Part B for more detail on calculating Monthly Median. For this permit, the IWC is 100 percent effluent. To calculate either a Pass (0) or Fail (1) of the multiple-effluent concentration chronic toxicity test at the IWC, follow the instructions in Appendix B in the *National Pollutant Discharge Elimination System Test of Significant Toxicity Technical Document* (EPA-833-R-10-004, 2010). A Pass (0) result indicates no toxicity at the IWC, and a Fail (1) result indicates toxicity at the IWC. The permittee must report either a Pass (0) or a Fail (1) **and** the percent effect (PE) on the DMR form. If an action level or limit result is reported as Fail (1), and the facility discharged during the reporting period when the WET test occurred, the permittee must follow Part IV.E of this permit beginning with Accelerated Follow-Up Toxicity Testing followed by the Toxicity Identification Evaluation (TIE)/Toxicity Reduction Evaluation (TRE) Process if necessary.

Any action level or limit result of Fail (1) when a discharge occurred requires Accelerated Follow-Up Toxicity Testing, per Part IV.D and notification to ADEQ as described below in Part IV.E. The permittee shall document all actions taken or planned to investigate, identify, and correct the causes of toxicity; status of actions required by this permit; and schedule for actions not yet completed; or reason(s) that no action has been taken. This documentation shall be uploaded as an attachment to the DMR for the reporting period when the monitoring activity was performed (i.e., if monitoring is required quarterly, the documentation shall be submitted with the quarterly DMR). See Part II.B.2.

5. Concentration-Response Relationship

Following Paragraph 10.2.6.2 of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA-821-R-02-013, 2002), all chronic toxicity test results from the multi-concentration tests required by this permit must be reviewed and reported according to U.S. EPA guidance on the evaluation of concentration-response relationships in *Method Guidance and recommendations for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136)* (EPA-821-B-00-004, 2000).

C. Quality Assurance

1. Quality assurance measures, instructions, and other recommendations and requirements are specified in the 40 CFR Part 136.3 approved WET test method(s) referenced above.
2. Effluent samples must be maintained between 0 and 6 °C from collection until utilized in the toxicity testing procedure. When a composite sample is required, each aliquot making up the composite must be chilled after collection and throughout the compositing period. The single allowable exception is when a grab sample is delivered to the performing laboratory for test initiation no later than 4 hours following the time of collection.
3. Dilution water and control water should be standard synthetic dilution water prepared and used as specified in the 40 CFR Part 136.3 approved WET test method(s). If the dilution water is different from test organism culture water, a second control using culture water must also be used.

4. Reference toxicity tests (a check of the laboratory and test organisms' performance) shall be conducted at least one time in a calendar month for each toxicity test method conducted in the laboratory during that month. Additionally, any time the laboratory changes its source of test organisms, a reference toxicity test must be conducted before or in conjunction with the first WET test performed using the organisms from the newer source. Reference toxicant testing must be conducted using the same test conditions as the effluent toxicity tests (i.e., same test duration, etc.).
5. If either the reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the 40 CFR Part 136.3 approved WET methods, then the permittee must resample and retest within 14 days of receipt of the test results **OR** if collection of a sample within 14 days is impossible the permittee shall notify ADEQ in writing at AZPDES@azdeq.gov to provide explanation and propose a date to re-sample and retest when a sample representative of the anticipated discharge can be collected. The re-sampling and retesting requirements include laboratory induced error in performing the test method.
6. If organisms are not cultured in-house, concurrent testing with a reference toxicant must be conducted. If organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests and effluent toxicity tests must be conducted using the same test conditions (e.g., same test duration).

D. Toxicity Identification Evaluation (TIE)/Toxicity Reduction Evaluation (TRE) Process

Part IV.E.2 and Part IV.E.3 below apply when a WET limitation or action level is exceeded. This means that a WET test failure occurred during the same reporting period when facility discharge occurred. Part IV.E.2 and Part IV.E.3 do not apply if the facility was not discharging during the reporting period when the WET test failure occurred.

1. TRE Plan

Within 90 days of the permit effective date, the permittee must prepare an Initial Investigation Toxicity Reduction Evaluation (TRE) Work Plan (1-2 pages) and submit to ADEQ by email at AZPDES@azdeq.gov for review and approval. The TRE shall be submitted using the *Toxicity Reduction Plan Template* provided by ADEQ. The plan must contain steps the permittee intends to follow if toxicity is measured above the WET permit limit or action level and should include the following, at a minimum:

- a. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency;
- b. A description of methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the facility;
- c. If a Toxicity Identification Evaluation (TIE) is necessary, an indication of who would conduct the TIEs (i.e., an in-house expert or outside contractor); and
- d. Subsequent revisions of the Toxicity Reduction Plan shall be submitted using the 'Track Changes' functionality to clearly identify changes to the document.

2. Accelerated Follow-Up Toxicity Testing

If a WET permit limit is exceeded during a reporting period when discharge occurs the permittee must inform ADEQ according to the 24-Hour/5-Day noncompliance requirements specified in Part II of this permit. If a WET action level is exceeded during a reporting period when the discharge occurs, the permittee shall notify ADEQ by email at AZPDES@azdeq.gov within five business days of receiving the certified laboratory report.

- a. Source of WET Toxicity is Known

If a WET permit limit or action level is exceeded during a reporting period when discharge occurs and the source of toxicity **is known** (e.g., a temporary plant upset), the permittee shall conduct **one** additional toxicity test to demonstrate that toxicity no longer exceeds the permit limit or action level. The additional test shall use the same species and 40 CFR Part 136.3 approved WET test method(s) for which an exceedance occurred. Sampling for this follow-up WET test must begin within 14 days of receipt of WET test results that exceed a WET permit limit or action level. The follow-up WET test shall be completed whether the permittee ceased discharge or not.

If the follow-up WET test does not exceed a WET permit limit or action level, the permittee shall perform the following actions:

- i. Notify ADEQ by email at AZPDES@azdeg.gov within five business days of receiving the certified laboratory report.
- ii. Return to the testing frequency specified in Part I of this permit.

If a WET permit limit or action level is exceeded in the follow-up WET test, the permittee shall perform the following actions:

- i. Notify ADEQ by email at AZPDES@azdeg.gov within five business days of receiving the certified laboratory report.
- ii. Immediately begin implementing the pre-approved TRE Work Plan (see Part IV.E.3 below).

b. Source of WET Toxicity is Unknown

If a WET permit limit or action level is exceeded during a reporting period when discharge occurs and the source of toxicity **is unknown** the permittee shall conduct **four** follow-up toxicity tests using the same species and 40 CFR Part 136.3 approved WET test method(s) for which an exceedance occurred. The permittee shall notify ADEQ by email at AZPDES@azdeg.gov within five days of receiving each certified laboratory report. The email shall include a copy of the certified laboratory report.

If none of the follow-up WET tests exceed a WET permit or action level, the permit shall perform the following actions:

- i. Notify ADEQ by email at AZPDES@azdeg.gov within five business days of receiving the certified laboratory report.
- ii. Return to the testing frequency specified in Part I of this permit.

If a WET permit or action level is exceeded in any follow-up WET test and the facility is discharging, the permittee shall perform the follow actions:

- i. Notify ADEQ by email at AZPDES@azdeg.gov within five business days of receiving the certified laboratory report.
- ii. Whether discharging or not, the permittee shall immediately begin implementing the pre-approved TRE Work Plan (see Part IV.D.3 below).

Communication regarding the follow-up testing plan with ADEQ must begin within 14 days of receipt of WET test results exceeding a WET permit limit or action level. Frequency of the **four** follow-up tests is dependent on whether the discharge pattern is continuous or intermittent. If discharge occurs continuously following the WET failure, the permittee shall perform the **four** follow-up tests

approximately every two weeks over an eight-week period. If discharge occurs intermittently, the permittee shall conduct the first follow-up test within 14 days regardless of whether discharging or not. The subsequent three follow-up tests shall be conducted during the next three discharge events.

3. Toxicity Identification Evaluation (TIE)/Toxicity Reduction Evaluation (TRE) Process

The permittee shall use the U.S. EPA guidance manual *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA-833-B-99-002, 1999) to update the TRE Plan described above. Subsequent revisions of the TRE Plan shall be submitted to ADEQ by email at AZPDES@azdeq.gov using the 'Track Changes' functionality to clearly identify changes to the document.

a. The updates to the TRE plan shall include, at a minimum, the following:

- i. Further actions to investigate and identify the causes of toxicity, if unknown. The permittee may initiate a TIE as part of the TRE process using the following U.S. EPA manuals as guidance: *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I* (EPA-600-6-91-005F, 1992); *Methods for Aquatic Toxicity Identification Evaluations: Phase I, Toxicity Characterization Procedures*, 2nd Edition (EPA-600-6-91-003, 1991); *Methods for Aquatic Toxicity Identification Evaluations: Phase II, Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA-600-R-92-080, 1993); and *Methods for Aquatic Toxicity Identification Evaluations: Phase III, Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA-600-R-92-081, 1993).

- ii. Action the permittee will take to mitigate the impact of the discharge and to prevent the recurrence of toxicity; and

- iii. A schedule for implementing these actions including a proposed sampling schedule.

- b. Testing performed within the TRE process may replace the five effluent concentrations plus a control requirement with a Single Concentration Test that requires only the IWC plus control. Statistical assessment of toxicity must use the TST approach. Single Concentration Tests may be used to assess toxicity and/or exit the TRE process, however only tests performed using all five effluent concentrations plus a control as described in the method may be used for compliance reporting.

- c. When in a TRE, the permittee will provide quarterly updates to ADEQs by email at AZPDES@azdeq.gov.

d. Criteria to Exit the TRE Process

The permittee may exit the TRE Process and return to the regular WET testing frequency specified in Part I of this permit upon exhibiting no toxicity in two consecutive WET tests using the same species and 40 CFR Part 136.3 approved WET test method(s) for which the exceedance(s) occurred. If the permittee exhibits regular intermittent WET test failures, exit of the TRE Process shall be at the discretion of ADEQ and may require demonstration of no toxicity over the course of a year.

The permittee shall submit a final report outlining the corrective actions taken to resolve the presence of toxicity. This report shall be submitted to ADEQ by email at AZPDES@azdeq.gov within 60 days of receipt of the final qualifying passing result to formally exit the TRE.

E. WET Reporting

1. TRE Plan

- a. To be prepared according to the requirements specified in Part IV.D.

- b. Submit to ADEQ by email at AZPDES@azdeq.gov for review within 90 days of the permit effective date.

2. Discharge Monitoring Report (DMR)

- a. The permittee shall report toxicity results on the DMR as Pass (0)/Fail(1).
- b. The percent effect (PE) shall be reported on the DMR when chronic WET testing is required. A PE \geq 50 and a Fail (1) result indicates an exceedance of the Daily Maximum.
$$PE = [(Control\ mean\ response - IWC\ mean\ response) \div Control\ mean\ response] \times 100\%$$

3. WET Test Failure

a. Fail Result

- i. An acute WET Daily Maximum action level or limit exceedance occurs if a facility discharges during the monitoring period when the exceedance occurs and the Pass (0)/Fail (1) result is coded as Fail (1). See Appendix A Part B Definitions for Test of Significant Toxicity (TST) Pass/Fail.
- ii. A chronic WET Daily Maximum action level or limit exceedance occurs if a facility discharges during the monitoring period when the exceedance occurs and both of the following occur in the same toxicity test: The Pass/Fail result is coded as Fail (1) and the percent effect (PE) \geq 50. See Appendix A Part B Definitions for Test of Significant Toxicity (TST) Pass/Fail and Percent Effect (PE).
- iii. The Monthly Median WET test result is Fail (1) if the median of all toxicity Pass/Fail tests initiated during a single calendar month is greater than 0. For example, if only one test is conducted, the median Pass (0)/Fail (1) result is simply the result of that test. If two tests are conducted and either one (or both) are a Fail (1), then the median is a Fail (1); if both are Pass (0), then the median is a Pass (0). If three tests are conducted, the median Pass/Fail result is the most common Pass/Fail result. No more than three (3) toxicity tests shall be initiated during a single calendar month.
- iv. When a WET limit is exceeded and the facility discharged during the monitoring period when the limit exceedance occurred, results are subject to the Twenty-four Hour Reporting of Noncompliance requirements, per Part II.C.
- v. All action level and limit exceedance results and lab reports shall be emailed to AZPDES@azdeq.gov within five days.
- vi. If more than one toxicity test is initiated during the monitoring period due to a failed test result, then all laboratory reports shall be electronically submitted with the DMR and the WET test with a Fail (1) and the highest PE shall be reported on the DMR form as the Daily Maximum.

4. Discharge Monitoring Reports (DMR) Attachments

The permittee must submit the certified laboratory reports for all WET tests performed for the month as attachments to the monthly DMR. All documents should be submitted to ADEQ no later than the 28th day of the month following the end of the WET monitoring period, or upon request.

The certified laboratory report must contain the following:

- a. The dates of sample collection, confirmation of receipt of samples within the allowed holding time specified by the analytical method, and date of initiation for each toxicity test;
- b. Identification of the analytical method(s) used;
- c. Raw toxicity test results;
- d. Determination of Pass (0)/Fail (1) using the Test of Significant Toxicity (TST) approach
- e. Determination of the percent effect (PE) using the Test of Significant Toxicity (TST)

- f. All results for effluent parameters monitored concurrently with the toxicity test(s)
 - g. Progress report on the TRE/TIE investigation (*if applicable*)
5. Permit Renewal

The permittee shall submit all WET test results and all certified laboratory reports for the permit term with the permit renewal application.

PART V. SPECIAL CONDITIONS

A. Reopener

This permit may be modified per the provisions of A.A.C. R18-9-B906, and R18-9-A905 which incorporates 40 CFR Part 122. This permit may be reopened based on newly available information; to add conditions or limits to address demonstrated effluent toxicity; to implement any EPA-approved new Arizona water quality standard; or to re-evaluate reasonable potential (RP), if Assessment Levels in this permit are exceeded.

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Appendix A. Part A: Acronyms

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
ADHS	Arizona Department of Health Services
EQ	Exceptional Quality (biosolids)
AZPDES	Arizona Pollutant Discharge Elimination System
A.R.S.	Arizona Revised Statutes
CFR	Code of Federal Regulations
CFU	Colony Forming Units
Director	The Director of ADEQ or any authorized representative thereof
DMR	Discharge Monitoring Report
EPA	The U.S. Environmental Protection Agency
kg/day	Kilograms per day
MGD	Million Gallons per Day
mg/L	Milligrams per Liter, also equal to parts per million (ppm)
MPN	Most Probable Number
NPDES	National Pollutant Discharge Elimination System
PFU	Plaque-Forming Unit
QA	Quality Assurance
SSU	Sewage Sludge Unit
TBEL	Technology-based Effluent Limitation
µg/L	Micrograms per Liter, also equal to parts per billion (ppb)
WQBEL	Water quality-based Effluent Limitation

Appendix A. Part B: Definitions

Acute Toxicity Test	A test used to determine the concentration of effluent or ambient waters that produces an adverse effect (lethality) on a group of test organisms during a short-term exposure (e.g., 24, 48, or 96 hours). Acute toxicity is measured using statistical procedures (e.g., point estimate techniques or t-test)
Ammonia Impact Ratio (AIR)	The ratio of the concentration of ammonia in the effluent and the calculated ammonia standard as determined by the use of effluent/upstream receiving water pH and temperature.
Annual Pollutant Loading Rate	The maximum amount of a pollutant that can be applied to an acre or hectare of land during a 365-day period.
Assessment Levels (AL)	A trigger, altering the permitting authority when there is cause for re-evaluation of reasonable potential (RP) for exceeding a water quality standard, which may result in new permit limitations. An exceedance of an AL is not a permit violation.
Chronic Toxicity Test	A test in which sublethal effects (e.g., reduced growth or reproduction) are measured in addition to lethality.

Composite Sample	A sample that is formed by combining a series of individual, discrete samples of specific volumes at specified intervals. Composite samples characterize the quality of a discharge over a given period of time. Although, composite samples can be time-weighted or flow-weighted, this permit requires the collection of flow-proportional composite samples. This means that samples are collected and combined using aliquots in proportion to flow rather than time. Also see Flow-Proportional Composite.
Daily Maximum Concentration Limit	The maximum allowable discharge of a pollutant in a calendar day as measured on any single discrete sample or composite sample.
Daily Maximum Mass Limit	The maximum allowable total mass of a pollutant discharged in a calendar day.
Discrete Sample	An individual sample of at least 100 mL collected from a single location, or over a period of time not exceeding 15 minutes. Also referred to as "grab sample."
Effluent Dependent Water	Effluent Dependent Water means a surface water or portion of a surface water that consists of a point source discharge without which the surface water would be ephemeral. An effluent dependent water may be perennial or intermittent depending on the volume and frequency of the point source discharge of treated wastewater.
End-of-Pipe	End-of-pipe refers to application of water quality standards that must be achieved without a mixing zone. In cases where a mixing zone is not approved for a constituent of concern the water quality criteria are applied at "end-of-pipe," which is equivalent to the water quality of the discharge at the outfall.
Ephemeral Water	Ephemeral water means a surface water or portion of surface water that flows or pools only in direct response to precipitation.
Flow Proportional Composite Sample	A sample that combines discrete samples collected over time, based on the flow of the discharge being sampled. There are two methods used to collect this type of sample. One collects a constant sample volume at time intervals that vary based on stream flow. The other collects discrete samples that are proportioned into aliquots of varying volumes based on stream flow, at constant time intervals (i.e. flow-weighted composite sample).
Hardness	The sum of the calcium and magnesium concentrations, expressed as calcium carbonate (CaCO ₃) in milligrams per liter.
Hypothesis Testing	Statistical approach (e.g., Dunnett's procedure) for determining whether a test concentration is statistically different from the control. Endpoints determined from hypothesis testing are no observed effect concentration and lowest observed effect concentration (LOEC). The two hypotheses commonly tested in WET are: <ul style="list-style-type: none"> • Null hypothesis (H₀): The effluent is non-toxic. • Alternative hypothesis (H_a): The effluent is toxic.
Impaired Water	Impaired water means a protected surface water for which credible scientific data exists that satisfies the requirements of section 49-232, and that, in the case of waters of the U.S., demonstrate that the water should be identified pursuant to 33 United States Code section 1313(d) and the regulations implementing that statute

In-Stream Waste Concentration (IWC)	The concentration of a toxicant or effluent in the receiving water after mixing. The IWC is the inverse of the dilution factor. It is sometimes referred to as the receiving water concentration (RWC). For permits without an approved mixing zone, the IWC is 100% effluent.
Intermittent Water	Intermittent water means a surface water or portion of surface water that flows continuously during certain times of the year and more than in direct response to precipitation, such as when it receives water from a spring, elevated groundwater table or another surface source such as melting snowpack.
Limit of Detection (LOD)	An analyte and matrix-specific estimate of the minimum amount of a substance that the analytical process can reliably detect with a 99% confidence level that the analyte concentration is distinguishable from the method blank results as defined by the specific approved laboratory method. This may be laboratory dependent and is developed according to A.A.C. R9-14-615(C)(7). ADEQ considers the following terms to be synonymous: "detection limit," "method detection limit," and "limit of detection."
Limit of Quantitation (LOQ)	The minimum levels, concentrations, or quantities of a target variable such as an analyte that can be reported with a specific degree of confidence. The calibration point shall be at or below the LOQ. The LOQ is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all of the method-specified sample weights, volumes, and processing steps have been followed. ADEQ is considering the following terms related to analytical method sensitivity to be synonymous: "quantitation limit," "reporting limit," "limit of quantitation," and "minimum level."
Method Detection Limit (MDL)	See LOD
Minimum Level (ML)	The concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML may be obtained in several ways and are either: <ol style="list-style-type: none"> 1. Published in a method; 2. Sample concentrations equivalent to the lowest acceptable calibration point used by a laboratory; or 3. Calculated by multiplying the MDL in a method, or the MDL determined by a lab, by a factor of 3.
Monthly or Weekly Average Concentration Limit	Other than for bacteriological testing, means the highest allowable average calculated as an arithmetic mean of consecutive measurements made during calendar month or week, respectively. The "monthly or weekly average concentration limit" for <i>E. coli</i> bacteria means the highest allowable average calculated as the geometric mean of a minimum of four (4) measurements made during a calendar month or week, respectively. The geometric mean is the nth root of the product of n numbers. For either method (CFU or MPN), when data are reported as "0" or non-detect then input a "1" into the calculation for the geometric mean.

<p>Monthly Median</p>	<p>The highest allowable median of “daily discharges” over a calendar month, calculated as the middle value of all “daily discharges” measured during a calendar month where median is the value of the middle score in the distribution.</p> <p>For example,</p> <ul style="list-style-type: none"> • For 1 test, if Pass (0) then median = Pass (0); if Fail (1), then median = Fail (1). • For 2 tests, if 2 Pass (0), then median = Pass (0); if 1 Pass (0) and 1 Fail (1), then median = Fail (1); if 2 Fail (1), then median = Fail (1). • For 3 tests, if 3 Pass (0), then median = Pass (0); if 2 Pass (0) and 1 Fail (1), then median = Pass (0); if 1 Pass (0) and 2 Fail (1), then median = Fail (1); if 3 Fail (1), then median = Fail (1). <p>No more than three (3) toxicity tests shall be initiated during a single calendar month.</p>
<p>Non-WOTUS protected surface water</p>	<p>Non-WOTUS protected surface water means a protected surface water that is not a WOTUS.</p>
<p>Percent Effect (PE)</p>	<p>The observed (estimated) percent effect where $PE = [(Control\ mean\ response - IWC\ mean\ response) \div Control\ mean\ response] \times 100\%$. Sometimes referred to as “percent mean effect” if sample replication is performed. Replication is two or more independent organism exposures of the same treatment (i.e., effluent concentration) within a whole effluent toxicity test. Replicates are typically separate test chambers with organisms, each having the same effluent concentration.</p>
<p>Point Source</p>	<p>Point Source means any discernible, confined and discrete conveyance, including, 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 to a protected surface water. Point source does not include return flows from irrigated agriculture.</p>
<p>Protected Surface Waters</p>	<p>Protected Surface Waters means waters of the State listed on the protected surface water list under Section 49-221, Subsection G and all WOTUS.</p>
<p>Publicly Owned Treatment Works</p>	<p>Publicly owned treatment works means a treatment works owned by this state or a municipality of this state as defined in section 502(4) of the clean water act or that discharges to a protected surface water.</p>
<p>Reasonable Potential (RP)</p>	<p>The possibility based on the statistical calculations using the data submitted or consideration of other factors, that the discharge may cause or contribute to an exceedance of a water quality standard.</p>
<p>Reference Toxicant Test</p>	<p>A toxicity test conducted with the addition of a known toxicant to indicate the sensitivity of the organisms being used and demonstrate a laboratory’s ability to obtain consistent results with the test method. Reference toxicant data are part of the routine QA/QC program to evaluate the performance of laboratory personnel and test organisms.</p>

Regulatory Management Decision (RMD)	The decision that represents the maximum allowable error rates and thresholds for toxicity and non-toxicity that would result in an acceptable risk to aquatic life. For acute WET methods the RMD is set at 0.80, which means a 20 percent effect (or more) is evident of unacceptable acute toxicity. For chronic WET methods the RMD is set at 0.75 percent effect, which means a 25 percent effect (or more) is evident of unacceptable chronic toxicity.
Reporting Limit	A.A.C. R9-14-601 defines method reporting limit as the minimum concentration of a contaminant reported after analyzing a sample for a given parameter, determined after corrections have been made for sample dilution and sample weight. (Also see Limit of Quantitation)
Runoff	Rainwater, leachate, or other liquid that drains over any part of a land surface and runs off of the land surface.
Significant Difference	Defined as statistically significant difference (e.g., 95% confidence level) in the means of two distributions of sampling results.
Single Concentration Test	A statistical analysis comparing only two sets of replicate observations. In the case of WET, comparing only two test concentrations (e.g., a control and IWC). The purpose of this test is to determine if the IWC differs from the control (i.e., the test passes or fails).
Submit	As used in this permit, means post-marked, documented by other mailing receipt, sent electronically, or hand-delivered to ADEQ.
Surface Water Quality Standards	Surface Water Quality Standards means a standard adopted for a protected surface water pursuant to Section 49-221 and, in the case of WOTUS, pursuant to Section 49-222.
Test Acceptability Criteria (TAC)	Specific criteria for determining whether toxicity tests results are acceptable. The effluent and reference toxicant must meet specific criteria as defined in the test method.
Test of Significant Toxicity (TST)	A statistical method for toxicity determination developed by the U.S. Environmental Protection Agency. It uses a hypothesis testing approach to assess acute and chronic test data measuring the effects of wastewater on specific test organisms' ability to survive, grow, and reproduce.
Test of Significant Toxicity (TST) Pass/Fail	<p>Pass/Fail results are coded as one of the following:</p> <ul style="list-style-type: none"> • Pass (0) - TST null hypothesis is rejected and the IWC is declared not toxic • Fail (1) - TST null hypothesis is <u>not</u> rejected and the IWC is declared toxic <p>The null hypothesis for <i>chronic</i> toxicity is based on the following question: Is the organism response at the IWC less than or equal to 75% of the control mean response? The null hypothesis for <i>acute</i> toxicity is based on the following question: Is the organism response at the IWC less than or equal to 80% of the control mean response? Rejection of the TST null hypothesis is determined by following the step-by-step instructions in U.S. EPA June 2010 <i>National Pollutant Discharge Elimination System Test of Significant Toxicity Technical Document</i> (EPA 333-/R-10-004, 2010).</p>
Toxicity Identification Evaluation (TIE)	A set of procedures used to identify the specific chemical(s) causing effluent toxicity.
Toxicity Reduction Evaluation (TRE)	A site-specific study conducted in a stepwise process designed to identify the causative agents of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.

Toxicity Test	A procedure to determine the toxicity of a chemical or an effluent using living organisms. A toxicity test measures the degree of effect of a specific chemical or effluent on exposed test organisms.
Waters of the United States (WOTUS)	Waters of the United States (WOTUS) means protected surface waters that are also navigable waters as defined by Section 502(7) of the Clean Water Act.
WOTUS Protected Surface Water	WOTUS protected surface water- means a protected surface water that is a WOTUS.
Whole Effluent Toxicity	The total toxic effect of an effluent measured directly with a toxicity test.

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Appendix B. AZPDES Discharge Flow Record

Central Tucson PFAS Project Demonstration Facility – AZ0026212			
Discharge to Santa Cruz River in the Santa Cruz Basin At:			
Outfall No:	001		
Location:			
Month:		Year:	
Date:	Flow Duration ⁽¹⁾ (Total hours per day)	Flow Rate ⁽²⁾ (Total MGD per day)	
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
Comment:			

Footnotes

- 1 Total time of discharge in hours per day. If actual time is not available, use an estimate of flow duration.
- 2 Report flow discharge in MGD. If no discharge occurs on any given day, report 'ND' for the flow for that day.

Appendix C. Continued—Ammonia Special Reporting Requirements

Arizona Administrative Code, Title 18, Chapter 11 Department of Environmental Quality Water Quality Standards contains acute and chronic ammonia standards that are contingent upon temperature and/or pH values. The chronic criteria are more stringent than the acute ammonia criteria, so the effluent ammonia will be compared to the chronic ammonia standards. The table for chronic Aquatic and Wildlife designated uses follow below. The permittee shall refer to this table to determine the ammonia standard that applies each time an ammonia sample is taken. The required minimum discharge sampling frequency for these parameters may be found in Table 4.a of this permit. The permittee shall record all sampling results for effluent ammonia, effluent pH and temperature at the time of sampling, as well as the applicable ammonia standards, ammonia impact ratios, and sampling dates in the Ammonia Data Log. Additionally, the ammonia impact ratio shall be calculated by dividing the ammonia value by the corresponding ammonia standard. Anytime an ammonia impact ratio is found to be above the limit of 1.0 for the pH and temperature at the time the sample was taken, the permittee shall highlight this on the ammonia data log. These results shall also be reported on DMRs with any exceedances noted. Annual submittal of the ammonia data log is required (See Part II.B.4)

A&W Designated Uses

Determination of Chronic Total Ammonia Criteria as N in mg / L Based on pH and Temperature at Time of Sampling (1) (2)										
pH	Temperature, °C									
	0	14	16	18	20	22	24	26	28	30
6.5	6.7	6.7	6.1	5.3	4.7	4.1	3.6	3.2	2.8	2.5
6.6	6.6	6.6	6.0	5.3	4.6	4.1	3.6	3.1	2.8	2.4
6.7	6.4	6.4	5.9	5.2	4.5	4.0	3.5	3.1	2.7	2.4
6.8	6.3	6.3	5.7	5.0	4.4	3.9	3.4	3.0	2.6	2.3
6.9	6.1	6.1	5.6	4.9	4.3	3.8	3.3	2.9	2.6	2.3
7.0	5.9	5.9	5.4	4.7	4.2	3.7	3.2	2.8	2.5	2.2
7.1	5.7	5.7	5.2	4.5	4.0	3.5	3.1	2.7	2.4	2.1
7.2	5.4	5.4	5.0	4.3	3.8	3.3	2.9	2.6	2.3	2.0
7.3	5.1	5.1	4.6	4.1	3.6	3.1	2.8	2.4	2.1	1.9
7.4	4.7	4.8	4.3	3.8	3.3	3.0	2.6	2.3	2.0	1.7
7.5	4.4	4.4	4.0	3.5	3.1	2.7	2.4	2.1	1.8	1.6
7.6	4.0	4.0	3.6	3.2	2.8	2.5	2.2	1.9	1.7	1.5
7.7	3.6	3.6	3.3	2.9	2.5	2.2	1.9	1.7	1.5	1.3
7.8	3.2	3.2	2.9	2.5	2.2	2.0	1.7	1.5	1.3	1.2
7.9	2.8	2.8	2.5	2.2	2.0	1.7	1.5	1.3	1.2	1.0
8.0	2.4	2.4	2.2	1.9	1.7	1.5	1.3	1.2	1.0	0.90
8.1	2.1	2.1	1.9	1.7	1.5	1.3	1.1	1.0	0.88	0.77
8.2	1.8	1.8	1.6	1.4	1.3	1.1	0.97	0.86	0.75	0.66
8.3	1.5	1.5	1.4	1.2	1.1	0.94	0.83	0.73	0.64	0.56
8.4	1.3	1.3	1.2	1.0	0.91	0.80	0.70	0.62	0.54	0.48
8.5	1.1	1.1	0.99	0.87	0.77	0.67	0.59	0.52	0.46	0.40

Determination of Chronic Total Ammonia Criteria as N in mg / L Based on pH and Temperature at Time of Sampling (1) (2)										
pH	Temperature, °C									
	0	14	16	18	20	22	24	26	28	30
8.6	0.92	0.92	0.84	0.74	0.65	0.57	0.50	0.44	0.39	0.34
8.7	0.78	0.78	0.71	0.62	0.55	0.48	0.42	0.37	0.33	0.29
8.8	0.66	0.66	0.60	0.53	0.46	0.41	0.36	0.32	0.28	0.24
8.9	0.57	0.57	0.51	0.45	0.40	0.35	0.31	0.27	0.24	0.21
9.0	0.49	0.49	0.44	0.39	0.34	0.30	0.26	0.23	0.20	0.18

Footnotes

- 1 pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.
- 2 If field measured pH and/or temperature values fall between the Chronic Total Ammonia tabular values, round field measured values according to standard scientific rounding procedures to nearest tabular value to determine the ammonia standard.

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Appendix D. Standard AZPDES Permit Conditions & Notifications

(Updated as of February 2, 2004)

1. Duty to Reapply - [R18-9-B904(B)]

Unless the Permittee permanently ceases the discharging activity covered by this permit, the Permittee shall reapply, submit a new application, 180 days before the existing permit expires. ADEQ must receive the new application at least 180 days before permit expiration in order to start the re-application process.
2. Applications - [R18-9-A905(A)(1)(C) which incorporates 40CFR 122.22]
 - a. All applications shall be signed as follows:
 - i. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - A. A president, secretary, treasurer, or vice-president of the corporation in charge of a principle business function, or any other person who performs similar policy-or decision-making functions for the corporation, or
 - B. The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - ii. For partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - iii. For a municipality, State, Federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).
 - b. All reports required by permits and other information requested by the Director shall be signed by a person described in paragraph (a) of this Section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - i. The authorization is made in writing by a person described in paragraph (a) of this section;
 - ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) and,
 - iii. The written authorization is submitted to the Director.
 - c. Changes to Authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

- d. Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

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 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.

3. Duty to Comply - [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(a)(i) and A.R.S. §49- 262, 263.01, and 263.02]
- a. The Permittee shall comply with all conditions of this permit and any standard and prohibition required under A.R.S. Title 49, Chapter 2, Article 3.1 and A.A.C. Title 18, Chapter 9, Articles 9 and 10. For discharges to a WOTUS, any permit noncompliance constitutes a violation of the Clean Water Act; A.R.S. Title 49, Chapter 2, Article 3.1; and A.A.C. Title 18, Chapter 9, Articles 9 and 10, and is grounds for enforcement action, permit termination, revocation and reissuance, or modification, or denial of a permit renewal application.
 - b. The issuance of this permit does not waive any federal, state, county, or local regulations or permit requirements with which a person discharging under this permit is required to comply.
 - c. The Permittee shall comply with the effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Clean Water Act within the time provided in the regulation that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
 - d. Civil Penalties. A.R.S. § 49-262(C) provides that any person who violates any provision of A.R.S. Title 49, Chapter 2, Article 3.1 or a rule, permit, discharge limitation or order issued or adopted under A.R.S. Title 49, Chapter 2, Article 3.1 is subject to a civil penalty not to exceed \$25,000 per day per violation.
 - e. Criminal Penalties. Any a person who violates a condition of this permit, or violates a provision under A.R.S. Title 49, Chapter 2, Article 3.1, or A.A.C. Title 18, Chapter 9, Articles 9 and 10 is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4, which may include the possibility of fines and/or imprisonment.
4. Need to Halt or Reduce Activity Not a Defense - [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(c)]
- It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
5. Duty to Mitigate - [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(d)]
- The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
6. Proper Operation and Maintenance - [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(e)]
- The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

7. Permit Actions - [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(f)]

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

8. Property Rights - [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(g)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Duty to Provide Information - [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(h)]

The Permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

10. Inspection and Entry - [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(i)]

The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and such other documents as may be required by law, to:

- a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the terms of the permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring equipment or control equipment), practices or operations regulated or required under this permit; and
- d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by A.R.S. Title 49, Chapter 2, Article 3.1, and A.A.C. Title 18, Chapter 9, Articles 9 and 10, any substances or parameters at any location.

11. Monitoring and Records - [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(j)]

- a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- b. 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, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application, except for records of monitoring information required by this permit related to the Permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503). This period may be extended by request of the Director at any time.
- c. Records of monitoring information shall include:
 - i. The date, exact place and time of sampling or measurements;
 - ii. The individual(s) who performed the sampling or measurements;
 - iii. The date(s) the analyses were performed;
 - iv. The individual(s) who performed the analyses;
 - v. The analytical techniques or methods used; and
 - vi. The results of such analyses.

- d. Monitoring must be conducted according to test procedures specified in this permit. If a test procedure is not specified in the permit, then monitoring must be conducted according to test procedures approved under A.A.C. R18-9-A905(B) including those under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 (for sludge).
- e. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained in this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or by both for first conviction. For a second conviction, such a person is subject to a fine of not more than \$20,000 per day of violation, or imprisonment for not more than four years, or both.

Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained in this permit is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4, which includes the possibility of fines and/or imprisonment.

- 12. Signatory Requirement - [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(k)]
 - a. All applications, reports, or information submitted to the Director shall be signed and certified. (See 40 CFR 122.22 incorporated at R18-9-A905(A)(1)(c))
 - b. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than \$20,000 per day of violation, or imprisonment of not more than four years, or both.
- 13. Reporting Requirements - [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(l)]
 - a. Planned changes – The Permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
 - i. The alteration or addition to a permitted facility that discharges to a WOTUS, may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b) (incorporated by reference at R18-9-A905(A)(1)(e)); or
 - ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1) (incorporated by reference at R18-9-A905(A)(3)(b)).
 - iii. The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
 - b. Anticipated noncompliance – The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
 - c. Transfers – (R18-9-B905) This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary under Arizona Revised Statutes and the Clean Water Act.

- d. Monitoring reports – Monitoring results shall be reported at the intervals specified elsewhere in this permit.
 - i. Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.
 - ii. If the Permittee monitors any pollutant more frequently than required by the permit, then the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR, or sludge reporting form specified by the Director.
 - iii. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.
 - e. Compliance schedules – Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
 - f. Twenty-four hour reporting
 - i. The Permittee shall report any noncompliance which may endanger human health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not 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. The following shall be included as information which must be reported within 24 hours under this paragraph.
 - A. Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR 122.41(l) which is incorporated by reference at R18-9-A905(A)(3)(a)).
 - B. Any upset which exceeds any effluent limitation in the permit.
 - C. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. (See 40 CFR 122.41(l) which is incorporated by reference at R18-9-A905(A)(3)(d)).
 - g. Other noncompliance – The Permittee shall report all instances of noncompliance not reported under paragraphs (d), (e), and (f) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (f) of this section.
 - h. Other information – When the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.
14. Bypass - [R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(m)]
- a. Definitions
 - i. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
 - ii. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

- b. Bypass not exceeding limitations – The Permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of paragraphs (c) and (d) of this section.
 - c. Notice
 - i. Anticipated bypass – If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of bypass.
 - ii. Unanticipated bypass – The Permittee shall submit notice of an unanticipated bypass as required in paragraph (f)(2) of section 13 (24-hour notice).
 - d. Prohibition of bypass
 - i. Bypass is prohibited, and the Director may take enforcement action against a Permittee for bypass, unless:
 - A. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - B. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - C. The Permittee submitted notices as required under paragraph (c) of this section.
 - ii. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (d)(i) of this section.
15. Upset - [A.R.S. §§49-255(8) and 255.01(E), R18-9-A905(A)(3)(a) which incorporates 40 CFR 122.41(n)]
- a. Definition – "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
 - b. Effect of an upset – An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (c) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
 - c. Conditions necessary for a demonstration of upset – A Permittee who wishes to establish the affirmative defenses of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - i. An upset occurred and that the Permittee can identify the cause(s) of the upset;
 - ii. The permitted facility was at the time being properly operated; and
 - iii. The Permittee submitted notice of the upset as required in paragraph (f)(2) of Section 13 (24-hour notice); and
 - iv. The Permittee has taken appropriate measure including all reasonable steps to minimize or prevent any discharge or sewage sludge use or disposal that is in violation of the permit and that has a reasonable likelihood of adversely affecting human health or the environment per A.R.S. § 49-255.01(E)(1)(d).

- d. Burden of proof – In any enforcement proceeding the Permittee seeking to establish the occurrence of an upset has the burden of proof.

16. Existing Manufacturing, Commercial, Mining, and Silvicultural Dischargers - [R18-9-A905(A)(3)(b) which incorporates 40 CFR 122.42(a)]

In addition to the reporting requirements under 40 CFR 122.41(l) (which is incorporated at R18-9-A905(A)(3)(a)), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - i. One hundred micrograms per liter (100 µg/L);
 - ii. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - iii. Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7) (which is incorporated at R18-9-A905(A)(1)(b)); or
 - iv. The level established by the Director in accordance with 40 CFR 122.44(f) (which is incorporated at R18-9-A905(A)(3)(d)).
- b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - i. Five hundred micrograms per liter (500 µg/L);
 - ii. One milligram per liter (1 mg/L) for antimony;
 - iii. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7)(which is incorporated at R18-9-A905(A)(1)(b)); or
 - iv. The level established by the Director in accordance with 40 CFR 122.44(f) (which is incorporated at R18-9-A905(A)(3)(d)).

17. Publicly Owned Treatment Works (POTWs) - [R18-9-A905(A)(3)(b) which incorporates 40 CFR 122.42(b)]

This section applies only to publicly owned treatment works as defined at ARS § 49-255(5).

- a. All POTW's must provide adequate notice to the Director of the following:
 - i. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and
 - ii. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
 - iii. For the purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharge from the POTW.

Publicly owned treatment works may not receive hazardous waste by truck, rail, or dedicated pipe except as provided under 40 CFR 270. Hazardous wastes are defined at 40 CFR 261 and include any mixture containing any waste listed under 40 CFR 261.31 - 261.33. The Domestic Sewage Exclusion (40 CFR 261.4) applies only to wastes mixed with domestic sewage in a sewer leading to a publicly owned

treatment works and not to mixtures of hazardous wastes and sewage or septage delivered to the treatment plant by truck.

18. Reopener Clause - [R18-9-A905(A)(3)(d) which incorporates 40 CFR 122.44(c)]

This permit shall be modified or revoked and reissued to incorporate any applicable effluent standard or limitation or standard for sewage sludge use or disposal under sections 301(b)(2)(C), and (D), 304(b)(2), 307(a)(2) and 405(d) which is promulgated or approved after the permit is issued if that effluent or sludge standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant or sludge use or disposal practice not limited in the permit.

19. Privately Owned Treatment Works - [R18-9-A905(A)(3)(d) which incorporates 40 CFR 122.44]

This section applies only to privately owned treatment works as defined at 40 CFR 122.2.

- a. Materials authorized to be disposed of into the privately owned treatment works and collection system are typical domestic sewage. Unauthorized materials are hazardous waste (as defined at 40 CFR Part 261), motor oil, gasoline, paints, varnishes, solvents, pesticides, fertilizers, industrial wastes, or other materials not generally associated with toilet flushing or personal hygiene, laundry, or food preparation, unless specifically listed under "Authorized Non-domestic Sewer Dischargers" elsewhere in this permit.
- b. It is the Permittee's responsibility to inform users of the privately owned treatment works and collection system of the prohibition against unauthorized materials and to ensure compliance with the prohibition. The Permittee must have the authority and capability to sample all discharges to the collection system, including any from septic haulers or other unsewered dischargers, and shall take and analyze such samples for conventional, toxic, or hazardous pollutants when instructed by the permitting authority. The Permittee must provide adequate security to prevent unauthorized discharges to the collection system.
- c. Should a user of the privately owned treatment works desire authorization to discharge non-domestic wastes, the Permittee shall submit a request for permit modification and an application, pursuant to 40 CFR 122.44(m), describing the proposed discharge. The application shall, to the extent possible, be submitted using ADEQ Forms 1 and 2C, unless another format is requested by the permitting authority. If the privately owned treatment works or collection system user is different from the Permittee, and the Permittee agrees to allow the non-domestic discharge, the user shall submit the application and the Permittee shall submit the permit modification request. The application and request for modification shall be submitted at least 6 months before authorization to discharge non-domestic wastes to the privately owned treatment works or collection system is desired.

20. Transfers by Modification - [R18-9-B905]

Except as provided in section 21, a permit may be transferred by the Permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made under R18-9-B906, to identify the new Permittee and incorporate such other requirements as may be necessary.

21. Automatic Transfers - [R18-9-B905]

An alternative to transfers under section 20, any AZPDES permit may be automatically transferred to a new Permittee if:

- a. The current Permittee notifies the Director at least 30 days in advance of the proposed transfer date;
- b. The notice includes a written agreement between the existing and new Permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
- c. The Director does not notify the existing Permittee and the proposed new Permittee of his or her intent to modify or revoke and reissue the permit. A modification under this subparagraph may also be a minor modification under R18-9-B906(B).

22. Minor Modification of Permits - [R18-9-B906(B)]

Upon the consent of the Permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following public notice procedures under R18-9-A907 or A908. Minor modifications may only:

- a. Correct typographical errors;
- b. Update a permit condition that changed as a result of updating an Arizona water quality standard;
- c. Require more frequent monitoring or reporting by the Permittee;
- d. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;
- e. Allow for a change in ownership or operational control of a facility where the Director determines that no other change in their permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittee has been submitted to the Director;
- f. Change the construction schedule for a discharger that discharges to a WOTUS which is a new source. No such change shall affect a discharger's obligation prior to discharge under 40 CFR 122.29 (which is incorporated by reference in R18-9-A905(A)(1)(e));
- g. Delete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with the permit limits;
- h. Incorporate conditions of a POTW pretreatment program that has been approved in accordance with the procedures in 40 CFR 403.11 and 403.18 as enforceable conditions of the POTW's permit; and
- i. Annex an area by a municipality.

23. Termination of Permits - [R-9-B906(C)]

The following are causes for terminating a permit during its term, or for denying a permit renewal application:

- a. Noncompliance by the Permittee with any condition of the permit;
- b. The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the Permittee's misrepresentation of any relevant facts at any time;
- c. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
- d. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit (for example, a plant closure or termination of discharge by connection to a POTW).

24. Availability of Reports - [Pursuant to A.R.S. § 49-205]

Except for data determined to be confidential under A.R.S. § 49-205(A), all reports prepared in accordance with the terms of this permit shall be available for public inspection at ADEQ offices. As required by A.R.S. § 49-205(B) and (C), permit applications, permits, and effluent data shall not be considered confidential.

25. Removed Substances - [Pursuant to Clean Water Act Section 301]

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

26. Severability - [Pursuant to A.R.S § 49-324(E)]

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and remainder of this permit, shall not be affected thereby.

27. Civil and Criminal Liability - [Pursuant to A.R.S § 49-262, 263.01, and 263.02]

Except as provided in permit conditions on "Bypass" (Section 14) and "Upset" (Section 15), nothing in this permit shall be construed to relieve the Permittee from civil or criminal penalties for noncompliance.

28. Oil and Hazardous Substance Liability - [Pursuant to Clean Water Act Section 311]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any applicable State or Tribal law or regulation under authority preserved by Section 510 of the Clean Water Act.

29. State or Tribal Law - [Pursuant to R 18-9-A904 (C)]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any applicable State or Tribal law or regulation under authority preserved by Section 510 of the Clean Water Act.

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