

AQUIFER PROTECTION PERMIT NO. P- 511440
PLACE ID 145828, LTF 63190
SIGNIFICANT AMENDMENT

1.0 Authorization

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Articles 1, 2 and 3, Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Articles 1 and 2, A. A. C. Title 18, Chapter 11, Article 4 and amendments thereto, and the conditions set forth in this permit, the Arizona Department of Environmental Quality (ADEQ) hereby authorizes the City of Goodyear to operate the City of Goodyear – Vadose Injection Project, located at 15500 West Yuma Road, in the City of Goodyear, Arizona, in Maricopa County, over groundwater of the Phoenix Active Management Area groundwater basin in Township 1 North, Range 1 West, Section 8, SW¼, SW¼, SW¼ of the Gila and Salt River Base Line and Meridian.

This permit becomes effective on the date of the Water Quality Division Director's signature and shall be valid for the life of the facility (operational, closure, and post-closure periods), unless suspended or revoked pursuant to A.A.C. R18-9-A213. The permittee shall construct, operate and maintain the permitted facilities:

1. Following all the conditions of this permit including the design and operational information documented or referenced below, and
2. Such that Aquifer Water Quality Standards (AWQS) are not violated at the applicable point(s) of compliance (POC) set forth below, or if an AWQS for a pollutant has been exceeded in an aquifer at the time of permit issuance, that no additional degradation of the aquifer relative to that pollutant, and as determined at the applicable POC, occurs as a result of the discharge from the facility.

1.1 Permittee Information

Facility Name: City of Goodyear – Vadose Injection Project
Facility Address: 15500 West Yuma Road
Goodyear, Arizona 85338
County: Maricopa

Permittee: The City of Goodyear
Permittee Address: P.O. Box 5100
Goodyear, Arizona 85338

Facility Contact: Mr. Mark Seamans
Emergency Phone No.: (623) 882-7062

Permitted Flow Rate: 7,400,000 gallons per day (gpd)

Latitude/Longitude: 33° 26' 8.845" N/ 112° 23' 32.179" W

Legal Description: Township 1 North, Range 1 West, Section 8, SW¼, SW¼, SW¼ of the Gila and Salt River Base Line and Meridian

1.2 Authorizing Signature

Trevor Baggione, Director, Water Quality Division
Arizona Department of Environmental Quality

Signed this ____ day of _____, 2017

THIS AMENDED PERMIT SUPERCEDES ALL PREVIOUS PERMITS

2.0 SPECIFIC CONDITIONS [A.R.S. §§ 49-203(4), 49-241(A)]

2.1 Facility / Site Description [A.R.S. § 49-243(K)(8)]

The City of Goodyear is authorized to operate the City of Goodyear – Vadose Injection Project (VIP) a 7.4 million-gallons-per-day (mgd) groundwater recharge facility. The VIP shall receive Class A+ Reclaimed water conveyed via an underground pipeline from the City of Goodyear 157th Avenue Water Reclamation Facility (157th WRF) permitted under APP P-101324. The City of Goodyear 157th Avenue WRF produces effluent that is denitrified, filtered, and disinfected to meet Best Available Demonstrated Control Technology (BADCT) standards for new facilities, as per A.A.C. R18-9-B204. The permittee has an underground Storage Facility and Water Storage Permits issued by Arizona Department of Water Resources (ADWR) for this facility.

The VIP shall consist of a Soil Aquifer Treatment (SAT) Site, 15 active vadose injection wells and two contingency wells to be drilled as needed.

The SAT Site shall consist of four recharge basins with a total area of 13.94 acres and a maximum disposal limit of 4.0mgd. Recharge will be accomplished through four (4) earthen basins on a 34.15 acre site. The basins will be operated with alternating wet and dry cycles, which will achieve additional denitrification and optimize the recharge performance of the basins. The SAT Site was permitted under a Temporary Individual APP P-511420 issued May 22, 2014.

Five of the 15 vadose injection wells shall be located within the city right of way, in a pattern proceeding to the east of the intersection along West Yuma Road. The remaining 10 vadose injection wells shall be located within the city right of way in a pattern proceeding to the north of the intersection along South Estrella Parkway.

ADEQ has reviewed and approved this amendment to include the Soil Aquifer Treatment (SAT) Site as an optional facility for the disposal of 157th WRF reclaimed water.

The vadose injection wells shall be installed in four phases:

SAT Site	Latitude	Longitude	Basin Size
Recharge Basin 1	33° 26' 11.86" N	112° 23' 38.67" W	2.50 acres
Recharge Basin 2	33° 26' 17.32" N	112° 23' 38.67" W	2.66 acres
Recharge Basin 3	33° 26' 17.32" N	112° 23' 44.51" W	5.38 acres
Recharge Basin 4	33° 26' 13.11" N	112° 23' 44.51" W	3.40 acres

Phase	Number of years	Number of well installations	Maximum Volume acre-feet per year (AFY)
Phase I	5	9	5,000
Phase II	5	2	6,000
Phase III	4	2	7,000
Phase IV	6	2	8,300

The preliminary design plan well construction specifications indicate a screened interval from 30 feet to 105 feet below ground surface for the injection wells. Depth to groundwater at the VIP site is approximately 81 feet below ground surface (bgs) and the direction of groundwater flow is to the west.

The facility following Vadose Injection Wells shall be installed in four phases:

ADWR Well No. ¹	Phase No.	Well ID No.	Cadastral Location ²	Latitude	Longitude
55-226077	I	GY-VZ- 1	B (01-01) 8BBB	33°26' 56.199" N	112° 23' 33.062" W
55-226082	I	GY-VZ- 2	B (01-01) 8BBC	33°26' 51.375" N	112° 23' 33.115" W

¹ The Arizona Department of Water Resources well number shall be provided upon completion of the wells

² Locations are approximate, actual vadose zone well locations are dependent on the field conditions and could be located on either side of Yuma Road or Estrella Parkway.

55-226079	I	GY-VZ- 3	B (01-01) 8BBC2	33°26' 46.598" N	112° 23' 33.084" W
55-226078	I	GY-VZ- 4	B (01-01) 8BCB	33°26' 42.333" N	112° 23' 33.141" W
TBD	I	GY-VZ- 5	B (01-01) 8BCC	33°26' 37.585" N	112° 23' 33.177" W
TBD	I	GY-VZ- 6	B (01-01) 8CBB	33°26' 32.488" N	112° 23' 33.116" W
TBD	I	GY-VZ- 7	B (01-01) 8CBB2	33°26' 27.175" N	112° 23' 33.115" W
TBD	I	GY-VZ- 8	B (01-01) 8CBC	33°26' 22.644" N	112° 23' 32.999" W
TBD	I	GY-VZ- 9	B (01-01) 8CCB	33°26' 17.530" N	112° 23' 33.023" W
TBD	II	GY-VZ- 10	B (01-01) 8CCC	33°26' 12.789" N	112° 23' 33.071" W
TBD	II	GY-VZ- 11	B (01-01) 17BBB	33°26' 7.821" N	112° 23' 28.906" W
TBD	III	GY-VZ- 12	B (01-01) 17BBA	33°26' 7.782" N	112° 23' 23.405" W
TBD	III	GY-VZ- 13	B (01-01) 17BAB	33°26' 7.685" N	112° 23' 17.940" W
TBD	IV	GY-VZ- 14	B (01-01) 17BAB2	33°26' 7.762" N	112° 23' 13.048" W
TBD	IV	GY-VZ- 15	B (01-01) 17BAA	33°26' 7.622" N	112° 23' 8.053" W
TBD	Contingency ³	GY-VZ- 16	Within the USF Boundary	TBD	TBD
TBD	Contingency	GY-VZ- 17	Within the USF Boundary	TBD	TBD

Annual Registration Fee [A.R.S. § 49-242 and A.A.C. R18-14-104]

The annual registration fee for this permit is payable to ADEQ each year. The permitted flow for fee calculation is 7,400,000 gallons per day (gpd). If the facility is not constructed or is incapable of discharge, the permittee may be eligible for reduced fees under the rule. Send all correspondence requesting reduced fees to the Groundwater Section. Please reference the permit number, LTF number, and the reason for requesting reduced fees under the rule.

Financial Capability [A.R.S. § 49-243(N) and A.A.C. R18-9-A203]

The permittee has demonstrated financial capability under A.R.S. § 49-243(N) and A.A.C. R18-9-A203 (B)(1)and(2). The estimated dollar amount for the closure/post closure cost of the Injection Wells is \$446,000.00. The estimated dollar amount for the closure/post closure cost of the SAT Site is \$35,000.00. The total estimated closure/post closure cost for the facilities under this permit is \$481,000.00 and is covered under the City of Goodyear 157th Avenue WRF APP (Inventory No. P-101324).

2.2 Best Available Demonstrated Control Technology (BADCT)

[A.R.S. § 49-243(B) and A.A.C. R18-9-A202(A)(5)]

The Class A+ reclaimed water being injected and recharged at the VIP is conveyed from the 157th WRF. The 157th WRF was designed, constructed, operated, and maintained to meet the treatment performance criteria for new facilities as specified in A.A.C. R18-9-B204 per APP P-101324.

2.2.1 Engineering Design

The Recharge Basins were designed as per the design drawings prepared and stamped, dated, and signed (sealed) by Keith Drunasky, P.E. (Civil), Ritoch-Powell and Associates dated August 24, 2016. The VIP was designed as per the design report prepared and stamped, dated and signed (sealed) by the Brown and Caldwell APP team, dated July 28, 2014.

2.2.2 Site-specific Characteristics

Site specific characteristics were not used to determine BADCT.

2.2.3 Pre-operational Requirements

Not required at time of permit issuance.

³ Contingency Vadose Zone Injection Wells consist of wells approved for installation as replacement wells and/or to increase recharge in this well field.

2.2.4 Operational Requirements

1. The permittee shall maintain a copy of the up-to-date operations and maintenance manual at the WWTP site at all times; the manual shall be available upon request during inspections by ADEQ personnel.
2. The pollution control structures shall be inspected for the items listed in Section 4.2, Table III Facility Inspection (Operational Monitoring).
3. If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and materials used shall be documented in the facility log book as per Section 2.7.2 and reported to ADEQ in the event of a violation or exceedance as per 2.7.3.

2.2.5 Reclaimed Water Classification

[A.A.C. R18-9-703(C)(2)(a), A.A.C. R18-11-303 through 307]

Not applicable

2.2.6 Certified Areawide Water Quality Management Plan Conformance

[A.A.C. R18-9-A201(B)(6)(a)]

Facility operations must conform to the approved Certified Areawide Water Quality Management Plan according to the 208 consistency determination in place at the time of permit issuance.

2.3 Discharge Limitations [A.R.S. §§ 49-201(14), 49-243 and A.A.C. R18-9-A205(B)]

1. The permittee is authorized to operate the VIP (injection wells and SAT recharge basins) with a maximum average annual flow of 7.4 mgd. The recharge basins are authorized to recharge a maximum average annual flow of 4.0 mgd. Recharge to the vadose zone wells shall occur in four phases. Phase I is limited to 5,000 AFY and a maximum of 9 wells, Phase II is limited to 6,000 AFY total and a maximum of 11 wells, Phase III is limited to 7,000 AFY total and a maximum of 13 wells, and Phase IV is limited to 8,300 AFY total and a maximum of 15 wells.
2. The permittee shall operate and maintain all permitted facilities to prevent unauthorized discharges pursuant to A.R.S. § 49-201(12) resulting from failure or bypassing of applicable BADCT.
3. Specific discharge limitations are listed in Section 4.2, Tables IA, IB, IC, and ID.

2.4 Point of Compliance (POC) [A.R.S. § 49-244]

The Points of Compliance (POCs) are designated at the following locations:

POC #	POC Location	Screened interval	Latitude	Longitude	ADWR #
1	Approximately 600 feet north-northwest of the intersection of West Yuma Road and South Estrella Parkway ADWR 55-916673 (east of the SAT Site ⁴)	35-105 ft	33° 26' 14.7" N	112° 23' 36.8" W	55-916671
2	Downgradient of SAT site recharge basins-located approximately 75 feet northwest of SAT Basin #3	30-100 ft	33° 26' 17.6" N	112° 23' 47.5" W	55-916673

Routine groundwater monitoring is required at the POC wells as per Section 4.2, Table II. The Director may amend this permit to designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.

⁴ SAT Site= Soil Aquifer Treatment Site (APP- 511420 Well #1)

2.5 Monitoring Requirements [A.R.S. § 49-243(B) and (K)(1), A.A.C. R18-9-A206(A)]

Unless otherwise specified in this permit, all monitoring required in this permit shall continue for the duration of the permit, regardless of the status of the facility. Monitoring shall commence the first full monitoring period following permit issuance. All sampling, preservation and holding times shall be in accordance with currently accepted standards of professional practice. Trip blanks, equipment blanks and duplicate samples shall also be obtained, and Chain-of-Custody procedures shall be followed, in accordance with currently accepted standards of professional practice. Copies of laboratory analyses and Chain-of-Custody forms shall be maintained at the permitted facility. Upon request, these documents shall be made immediately available for review by ADEQ personnel.

2.5.1 Pre-Operational Monitoring

Not Applicable.

2.5.2 Discharge Monitoring

The permittee shall monitor the effluent only for flow according to Section 4.2, Table IA, IB, IC, or ID. The flow shall be monitored at the flow meter located at the inflow points to the vadose injection wells. Effluent quality monitoring shall be conducted under the 157th WRF permitted under APP P-101324 and shall be reported in Table IA of that permit.

2.5.3 Reclaimed Water Monitoring

Not Applicable.

2.5.4 Facility / Operational Monitoring

Operational monitoring inspections shall be conducted according to Section 4.2, Table III.

If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and materials used shall be documented in the facility log book as per Section 2.7.2 and reported to ADEQ in case of a violation or exceedance as per 2.7.3.

2.5.5 Groundwater Monitoring and Sampling Protocols

The permittee shall monitor the groundwater quality according to Section 4.2, Table II.

Static water level shall be measured and recorded prior to sampling. The wells shall be purged of at least three borehole volumes (as calculated using the static water level) or until field parameters (pH, temperature, and conductivity) are stable, whichever represents the greater volume. If evacuation results in the well going dry, the well shall be allowed to recover to 80 percent of the original borehole volume, or for 24 hours, whichever is shorter, prior to sampling. If after 24 hours there is not sufficient water for sampling, the well shall be recorded as "dry" for the monitoring event. An explanation for reduced pumping volumes, a record of the volume pumped, and modified sampling procedures shall be reported and submitted with the SMRF.

As an alternative, the permittee may conduct the sampling using the low-flow purging method as described in the Arizona Water Resources Research Center, March 1995 *Field Manual for Water Quality Sampling*. The well must be purged until indicator parameters stabilize. Indicator parameters shall include dissolved oxygen, turbidity, pH, temperature, and conductivity.

2.5.5.1 POC Well Replacement

In the event the designated POC well should become unusable or inaccessible due to damage, insufficient water in the well for more than two (2) sampling events, or any other event, a replacement POC well shall be constructed and installed upon approval by ADEQ. If the replacement well is fifty feet or less from the original well, the alert levels (ALs) and aquifer quality limits (AQLs) established for the previously designated POC well shall apply to the replacement well.

2.5.6 Surface Water Monitoring and Sampling Protocols

Routine surface water monitoring is not required under the terms of this permit

2.5.7 Analytical Methodology

All samples collected for compliance monitoring shall be analyzed using Arizona state-approved methods. If no state-approved method exists, then any appropriate EPA-approved method shall be used. Regardless of the method used, the detection limits must be sufficient to determine compliance with the regulatory limits of the parameters specified in this permit. If all methods have detection limits higher than the applicable limit, the permittee shall follow the contingency requirements of Section 2.6 and may propose “other actions” including amending the permit to set higher limits. Analyses shall be performed by a laboratory licensed by the Arizona Department of Health Services, Office of Laboratory Licensure and Certification unless exempted under A.R.S. § 36-495.02. For results to be considered valid, all analytical work shall meet quality control standards specified in the approved methods. A list of Arizona state-certified laboratories can be obtained at the address below:

Arizona Department of Health Services
Office of Laboratory Licensure and Certification
250 North 17th Avenue
Phoenix, AZ 85007
Phone: (602) 364-0720

2.5.8 Installation and Maintenance of Monitoring Equipment

Monitoring equipment required by this permit shall be installed and maintained so that representative samples required by the permit can be collected. If new groundwater wells are determined to be necessary, the construction details shall be submitted to the ADEQ Groundwater Section for approval prior to installation and the permit shall be amended to include any new points.

2.6 Contingency Plan Requirements

[A.R.S. § 49-243(K)(3), (K)(7) and A.A.C. R18-9-A204 and R18-9-A205]

2.6.1 General Contingency Plan Requirements

At least one copy of this permit and the approved contingency and emergency response plan submitted in the application shall be maintained at the location where day-to-day decisions regarding the operation of the facility are made. The permittee shall be aware of and follow the contingency and emergency plan.

Any AL that is exceeded or any violation of an AQL, discharge limit (DL), or other permit condition shall be reported to ADEQ following the reporting requirements in Section 2.7.3.

Some contingency actions involve verification sampling. Verification sampling shall consist of the first follow-up sample collected from a location that previously indicated a violation or the exceedance of an AL. Collection and analysis of the verification sample shall use the same protocols and test methods to analyze for the pollutant or pollutants that exceeded an AL or violated an AQL. The permittee is subject to enforcement action for the failure to comply with any contingency actions in this permit. Where verification sampling is specified in this permit, it is the option of the permittee to perform such sampling. If verification sampling is not conducted within the timeframe allotted, ADEQ and the permittee shall presume the initial sampling result to be confirmed as if verification sampling has been conducted. The permittee is responsible for compliance with contingency plans relating to the exceedance of an AL or violation of a DL, AQL or any other permit condition.

2.6.1.1 Vadose Zone Monitoring and Injection Contingencies

1. If water levels within one or more vadose zone injection wells rise to a level higher than 15 feet bgs, and that level persists for at least two (2) weeks, then injection operations within the affected well(s) shall cease. Each time the water persists at a level higher than 15 feet bgs for at least two (2) weeks, the permittee shall report the occurrence to the ADEQ Groundwater Section and the ADEQ Water Quality Compliance Section (see Section 2.7.5). This contingency shall

- not apply for the six months after startup to allow for flexibility in the initial start-up and testing phases, as long as the discharge does not overflow the well or appear at the land surface, and the water table surface does not pose a threat to surface structures.
2. A well in which the water level has risen higher than 15 feet bgs for at least two (2) weeks may be rehabilitated prior to being placed back in service. The permittee shall provide a rehabilitation report to the ADEQ Water Quality Compliance Section, Data Unit, and the ADEQ Groundwater Section each time a well is rehabilitated, including flow data, methods of rehabilitation, the quantity and quality of any chemicals involved in rehabilitation, a description of the actions and repeat actions taken, and the period of time required to complete the rehabilitation. ADEQ approval of the rehabilitation report is not required before the well is placed back in service. After the well has been placed back in service, the permittee shall provide a report describing the percolation capacity of the rehabilitated well, the new water levels involved, and an estimation of the remaining lifespan of the well.
 3. Once water levels return to at least 15 feet bgs, and/or after rehabilitation procedures have been completed, injection may resume within the affected well(s). However, if water levels return to levels higher than 15 feet bgs within 30 days after the last rehabilitation attempt, injection operations within the affected wells shall immediately cease, and the permittee shall submit a clean closure application to the ADEQ Groundwater Section, and submit a Notice of Abandonment to ADWR.

2.6.2 Exceeding of Alert Levels

2.6.2.1 Exceeding of Performance Levels Set for Operational Conditions

1. If an operational performance level (PL) set in Section 4.2, Table III has been exceeded the permittee shall:
 - a. Notify the ADEQ Groundwater Section (by phone or fax, see Section 2.7.5) within five days of becoming aware of the exceedance.
 - b. Submit a written report to the ADEQ Groundwater Section within 30 days after becoming aware of the exceedance. The report shall document all of the following:
 - (1) A description of the exceedance and its cause;
 - (2) The period of the exceedance, including exact date(s) and time(s), if known, and the anticipated time period during which the exceedance is expected to continue;
 - (3) Any action taken or planned to mitigate the effects of the exceedance or spill, or to eliminate or prevent recurrence of the exceedance or spill;
 - (4) Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an AWQS; and
 - (5) Any malfunction or failure of pollution control devices or other equipment or process.

The facility is no longer on alert status once the operational indicator no longer indicates that a PL is being exceeded. The permittee shall, however, complete all tasks necessary to return the facility to its pre-alert operating condition.

2.6.2.2 Exceeding of Alert Levels (ALs) Set for Discharge Monitoring

1. If an AL set in Section 4.2, Tables IA, IB, IC, or ID has been exceeded, the permittee shall immediately investigate to determine the cause. The investigation shall include the following:
 - a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the exceedance;
 - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences; and
 - c. If the investigation procedures indicated in (a) and (b) above fail to reveal the cause of the exceedance, the permittee shall sample individual waste streams composing the wastewater for the parameter(s) in question, if necessary to identify the cause of the exceedance.
2. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 5.0 and specific contingency measures identified in Section 2.6 to resolve any problems identified

by the investigation which may have led to the AL exceedance. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6.

3. Within thirty days of an AL exceedance, the permittee shall submit the laboratory results to the ADEQ Groundwater Section along with a summary of the findings of the investigation, the cause of the exceedance, and actions taken to resolve the problem.
4. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.

2.6.2.2.1 Exceeding Permit Flow Limit

1. If the Alert Level (AL) for average monthly flow in Section 4.2, Tables IA, IB, IC, or ID has been exceeded, the permittee shall begin construction of the next phase of vadose zone wells or submit an application for an APP amendment to expand the recharge capacity or submit a report detailing the reasons that expansion is not necessary to the ADEQ Groundwater Section. Acceptance of the report instead of beginning the next phase of construction requires ADEQ approval.
2. Acceptance of the report instead of an application for expansion requires ADEQ approval.

2.6.2.2.2 Alert Levels for Indicator Parameters

No ALs have been established for indicator parameters.

2.6.2.2.3 Alert Levels for Pollutants with Numeric Aquifer Water Quality Standards

1. In the case of an exceedance of an AL for a pollutant set in Section 4.2, Table II the permittee may conduct verification sampling within five days of becoming aware of the exceedance. The permittee may use results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
2. If verification sampling confirms the AL exceedance or if the permittee opts not to perform verification sampling, then the permittee shall increase the frequency of monitoring for the pollutants set in Section 4.2, Table II as follows:

Specified Monitoring Frequency (Section 4.2, Table II)	Monitoring Frequency for AL Exceedance
Monthly	Weekly
Quarterly	Monthly
Semi-annually	Quarterly

In addition, the permittee shall immediately initiate an investigation of the cause of the AL exceedance, including inspection of all discharging units and all related pollution control devices, review of any operational and maintenance practices that might have resulted in an unexpected discharge, and hydrologic review of groundwater conditions including upgradient water quality.

3. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 5.0 and specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to an AL exceedance. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6. Alternatively, the permittee may submit a technical demonstration, subject to written approval by the Groundwater Section, that although an AL has been exceeded, pollutants are not reasonably expected to cause a violation of an AQL. The demonstration may propose a revised AL or monitoring frequency for approval in writing by the Groundwater Section.
4. Within 30 days after confirmation of an AL exceedance, the permittee shall submit the laboratory results to the Groundwater Section along with a summary of the findings of the investigation, the cause of the exceedance, and actions taken to resolve the problem

5. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.
6. The increased monitoring required as a result of an AL exceedance may be reduced to the monitoring frequency in Section 4.2, Table IIA if the results of four sequential sampling events demonstrate that no parameters exceed the AL.
7. If the increased monitoring required as a result of an AL exceedance continues for more than six sequential sampling events, the permittee shall submit a second report documenting an investigation of the continued AL exceedance within 30 days of the receipt of laboratory results of the sixth sampling event.

2.6.2.2.4 Alert Levels to Protect Downgradient Users from Pollutants Without Numeric Aquifer Water Quality Standards

Not required at time of issuance.

2.6.2.2.5 Alert Level for Groundwater Level

1. If monitoring indicates the groundwater level is not within the allowable range established by the Alert Level (AL) in Section 4.2, Table II, the permittee shall submit a written report within 30 days after becoming aware of the exceedance. The report shall document the following:
 - a. the as-built configuration of the well, including the screened interval;
 - b. all groundwater level measurements available for the well;
 - c. a discussion and analysis of any trends or seasonal variations in the groundwater level measurements;
 - d. information on groundwater recharge, withdrawal, or other hydrologic conditions in the vicinity of the well, and;
 - e. any other pertinent information obtained by the permittee.
2. If monitoring indicates the groundwater level is not within the allowable range established by the Alert Level (AL) in Section 4.2, Tables II for more than three (3) sequential sampling events, the permittee shall submit a second report which evaluates the cause(s) of the exceedance and recommends whether the well should be replaced pursuant to Section 2.5.4.1. The report shall discuss and demonstrate whether samples representative of the water quality of the relevant aquifer can be practicably obtained from the well.
3. Upon review of the submitted report, the Department may amend the permit to require replacement of the well, require additional permit conditions, or other actions.

2.6.3 Discharge Limitations Violations

1. If a DL set in Section 4.2, Tables IA, IB, IC or ID, has been violated, the permittee shall immediately investigate to determine the cause. The investigation shall include the following:
 - a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the violation;
 - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences;
 - c. If the investigation procedures indicated in (a) and (b) above fail to reveal the cause of the violation, the permittee shall sample individual waste streams composing the wastewater for the parameters in violation, as necessary to identify the cause of the violation.

The permittee also shall submit a report according to Section 2.7.3, which includes a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. The permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil,

surface water or groundwater, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ approved contingency plan, or separately approved according to Section 2.6.6.

2. The permittee shall comply with the flow monitoring requirements not to exceed per Section 4.2, Tables IA, IB, IC or ID.
3. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions, or other actions.

2.6.4 Aquifer Quality Limit Violation

1. If an AQL set in Section 4.2 Table II has been exceeded, the permittee may conduct verification sampling within 5 days of becoming aware of an AQL exceedance. The permittee may use the results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
2. If verification sampling confirms that the AQL is violated for any parameter or if the permittee opts not to perform verification sampling, then the permittee shall increase the frequency of monitoring to monthly. In addition, the permittee shall immediately initiate an evaluation for the cause of the violation, including inspection of all discharging units and all related pollution control devices, and review of any operational and maintenance practices that might have resulted in unexpected discharge.

The permittee also shall submit a report according to Section 2.7.3, which includes a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. A verified exceedance of an AQL will be considered a violation unless the permittee demonstrates within 90 days or a longer time period if agreed to by ADEQ that the exceedance was not caused or contributed to by pollutants discharged from the facility. Unless the permittee has demonstrated that the exceedance was not caused or contributed to by pollutants discharged from the facility, the permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil, surface water or groundwater, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ approved contingency plan, or separately approved according to Section 2.6.6.

3. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, or other actions.

2.6.5 Emergency Response and Contingency Requirements for Unauthorized Discharges pursuant to A.R.S. §49-201(12) and pursuant to A.R.S. § 49-241 That Are Not Addressed Elsewhere in Section 2.6

2.6.5.1 Duty to Respond

The permittee shall act immediately to correct any condition resulting from a discharge pursuant to A.R.S. § 49-201(12) if that condition could pose an imminent and substantial endangerment to public health or the environment.

2.6.5.2 Discharge of Hazardous Substances or Toxic Pollutants

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of suspected hazardous substances (A.R.S. § 49-201(19)) or toxic pollutants (A.R.S. § 49-243(I)) on the facility site, the permittee shall promptly isolate the area and attempt to identify the discharged material. The permittee shall record information, including name, nature of exposure and follow-up medical treatment, if necessary, on persons who may have been exposed during the incident. The permittee shall notify the ADEQ Groundwater Section within 24 hours upon discovering the discharge of hazardous material which (a) has the potential to cause an AWQS or AQL to be exceeded, or (b) could pose an endangerment to

public health or the environment.

2.6.5.3 Discharge of Non-hazardous Materials

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of non-hazardous materials from the facility, the permittee shall promptly attempt to cease the discharge and isolate the discharged material. Discharged material shall be removed and the site cleaned up as soon as possible. The permittee shall notify the ADEQ Groundwater Section within 24 hours upon discovering the discharge of non-hazardous material which (a) has the potential to cause an AQL to be exceeded, or (b) could pose an endangerment to public health or the environment.

2.6.5.4 Reporting Requirements

The permittee shall submit a written report for any unauthorized discharges reported under Sections 2.6.5.2 and 2.6.5.3 to ADEQ Groundwater Section within 30 days of the discharge or as required by subsequent ADEQ action. The report shall summarize the event, including any human exposure, and facility response activities and include all information specified in Section 2.7.3. If a notice is issued by ADEQ subsequent to the discharge notification, any additional information requested in the notice shall also be submitted within the time frame specified in that notice. Upon review of the submitted report, ADEQ may require additional monitoring or corrective actions.

2.6.6 Corrective Actions

Specific contingency measures identified in Section 2.6 have already been approved by ADEQ and do not require written approval to implement.

With the exception of emergency response actions taken under Section 2.6.5, the permittee shall obtain written approval from the Groundwater Section prior to implementing a corrective action to accomplish any of the following goals in response to exceeding an AL or violation of an AQL, DL, or other permit condition:

1. Control of the source of an unauthorized discharge;
2. Soil cleanup;
3. Cleanup of affected surface waters;
4. Cleanup of affected parts of the aquifer; and/or
5. Mitigation to limit the impact of pollutants on existing uses of the aquifer.

Within 30 days of completion of any corrective action, the operator shall submit to the ADEQ Groundwater Section, a written report describing the causes, impacts, and actions taken to resolve the problem.

2.7 Reporting and Recordkeeping Requirements

[A.R.S. § 49-243(K)(2) and A.A.C. R18-9-A206(B) and R18-9-A207]

2.7.1 Self-monitoring Report Form

1. The permittee shall complete the Self-monitoring Reporting Forms (SMRFs) provided by ADEQ, and submit the completed report to the Groundwater Section.
2. The permittee shall complete the SMRF to the extent that the information reported may be entered on the form. If no information is required during a reporting period, the permittee shall enter “not required” with an explanation on the SMRF and submit the report to ADEQ.
3. The tables contained in Section 4.2 list the monitoring parameters and the frequencies for reporting result on the SMRF:
 - Table IA, Phase I (flows to 4.5mgd) Discharge Monitoring
 - Table IB, Phase II (flows to 5.5mgd) Discharge Monitoring
 - Table IC, Phase III (flows to 6.5mgd) Discharge Monitoring

- Table ID, Phase IV (flows to 7.4mgd) Discharge Monitoring
- Table II, Routine Groundwater Quality Monitoring

The parameters listed in the above-identified tables from Section 4.2 are the only parameters for which SMRF reporting is required.

- Table III, Facility Inspection (Operational Monitoring) – Log Book

The parameters listed in the above-identified table from Section 4.2 are the only parameters shall record the inspection performance levels in a log book as per Section 2.7.2.

4. In addition to the SMRF, the information contained in A.A.C. R18-9-A206(B)(1) shall be included for exceeding an AL or violation of an AQL, DL, or any other permit condition being reported in the current reporting period.

2.7.2 Operation Inspection / Log Book Recordkeeping

A signed copy of this permit shall be maintained at all times at the location where day-to-day decisions regarding the operation of the facility are made. A log book (paper copies, forms, or electronic data) of the inspections and measurements required by this permit shall be maintained at the location where day-to-day decisions are made regarding the operation of the facility. The log book shall be retained for ten years from the date of each inspection, and upon request, the permit and the log book shall be made immediately available for review by ADEQ personnel. The information in the log book shall include, but not be limited to, the following information as applicable:

1. Name of inspector;
2. Date and time inspection was conducted;
3. Condition of applicable facility components;
4. Any damage or malfunction, and the date and time any repairs were performed;
5. Documentation of sampling date and time; and
6. Any other information required by this permit to be entered in the log book.

Monitoring records for each measurement shall comply with A.A.C. R18-9-A206(B)(2).

2.7.3 Permit Violation and Alert Level Status Reporting

1. The permittee shall notify the Groundwater Section in writing within five days (except as provided in Section 2.6.5) of becoming aware of an AL exceedance, or violation of any permit condition, AQL, or DL.
2. The permittee shall submit a written report to the Groundwater Section within 30 days of becoming aware of the violation of any permit condition, AQL, or DL. The report shall document all of the following:
 - a. Identification and description of the permit condition for which there has been a violation and a description of the cause;
 - b. The period of violation including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue;
 - c. Any corrective action taken or planned to mitigate the effects of the violation, or to eliminate or prevent a recurrence of the violation;
 - d. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an AWQS;
 - e. Proposed changes to the monitoring which include changes in constituents or increased frequency of monitoring; and
 - f. Description of any malfunction or failure of pollution control devices or other equipment or processes.

2.7.4 Operational, Other or Miscellaneous Reporting

The permittee shall record the information as required in Table III in the facility log book as per Section 2.7.2, and report to ADEQ any violations or exceedances as per Section 2.7.3.

2.7.5 Reporting Location

All Self-Monitoring Report Forms (SMRFs) shall be submitted to:

Arizona Department of Environmental Quality
Groundwater Section
Mail Code 5415B-3
1110 West Washington Street
Phoenix, Arizona 85007
Phone (602) 771-4571

Or

Through the myDEQ portal accessible on the ADEQ website at:
<http://www.azdeq.gov/welcome-mydeq>

All documents required by this permit to be submitted to the Groundwater Section shall be directed to:

Arizona Department of Environmental Quality
Groundwater Section
Mail Code: 5415B-3
1110 West Washington Street
Phoenix, Arizona 85007
Phone (602) 771-4999

Permit was routed for signature, update the database, final billing and prepared file for records. Wrote letter and sent permit to applicant

2.7.6 Reporting Deadline

The following table lists the quarterly report due dates:

Monitoring conducted during quarter:	Quarterly Report due by:
January-March	April 30
April-June	July 30
July-September	October 30
October-December	January 30

The following table lists the semi-annual and annual report due dates:

Monitoring conducted:	Report due by:
Semi-annual: January-June	July 30
Semi-annual: July-December	January 30
Annual: January-December	January 30

2.7.7 Changes to Facility Information in Section 1.0

The Groundwater Section, shall be notified within ten days of any change of facility information including Facility Name, Permittee Name, Mailing or Street Address, Facility Contact Person, or Emergency Telephone Number.

2.8 Temporary Cessation [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A209(A)]

The permittee shall give written notice to the Groundwater Section before ceasing operation of the facility for a period of 60 days or greater. The permittee shall take the following measures upon temporary cessation:

At the time of notification the permittee shall submit for ADEQ approval a plan for maintenance of discharge control systems and for monitoring during the period of temporary cessation. Immediately following ADEQ's approval, the permittee shall implement the approved plan. If necessary, ADEQ shall amend permit conditions to incorporate conditions to address temporary cessation. During the period of temporary cessation, the permittee shall provide written notice to the Groundwater Section of the operational status of the facility every three years. If the permittee intends to permanently cease operation of any facility, the permittee shall submit closure notification, as set forth in Section 2.9 below.

2.9 Closure [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9-A209(B)]

For the facility addressed under this permit, the permittee has incorporated all closure and post closure activities for the VIP into the City of Good Year 157th Avenue WRF (Inventory No. P-101324).

2.9.1 Closure Plan

Not Applicable. Closure shall be completed under APP No. P-101324

2.9.2 Closure Completion

Not Applicable. Closure shall be completed under APP No. P-101324

2.10 Post-closure [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9-A209(C)]

Not Applicable. Closure shall be completed under APP No. P-101324

3.0 COMPLIANCE SCHEDULE [A.R.S. § 49-243(K)(5) and A.A.C. R18-9-A208]

For each compliance schedule item listed below, the permittee shall submit the required information, including a cover letter that lists the compliance schedule items, to the Groundwater Section.

No.	Description	Due by:	Permit Amendment Required?
3.1	The permittee shall submit the Phase I vadose zone wells (9) Engineers Certification of Completion reports to the department for review.	Within 90 days of completion of construction of the final well.	No
3.2	The permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department that confirms that the recharge basins # 3 and #4 were constructed according to the Department-approved design report or plans and specifications, as applicable.	Within 90 days of completion of construction of Basins # 3 and #4.	No
3.3	The permittee shall submit the Phase II vadose zone wells (2) Engineers Certification of Completion reports to the department for review.	Within 90 days of completion of construction of the final well.	No
3.4	The permittee shall submit the Phase III vadose zone wells (2) Engineers Certification of Completion reports to the department for review.	Within 90 days of completion of construction of the final well.	No
3.5	The permittee shall submit the Phase IV vadose zone wells (2) Engineers Certification of Completion reports to the department for review.	Within 90 days of completion of construction of the final well.	No
3.6	The permittee shall submit the Contingency wells (2) Engineers Certification of Completion reports to the department for review.	Within 90 days of completion of construction of the final well.	No

4.0 TABLES OF MONITORING REQUIREMENTS

4.1 PRE-OPERATIONAL MONITORING (or CONSTRUCTION REQUIREMENTS)

Not applicable

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

- Table IA, Phase I (flows to 4.5mgd) Discharge Monitoring
- Table IB, Phase II (flows to 5.5mgd) Discharge Monitoring
- Table IC, Phase III (flows to 6.5mgd) Discharge Monitoring
- Table ID, Phase IV (flows to 7.4mgd) Discharge Monitoring
- Table II, Routine Groundwater Quality Monitoring
- Table III, Facility Inspection (Operational Monitoring) – Log Book

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IA - PHASE I
ROUTINE DISCHARGE MONITORING I (flows up to 4.5 mgd) ⁵**

Sampling Point Number	Sampling Point Identification		Latitude		Longitude
1	Downstream of the reuse booster pump station at the 157th WRF		33° 23' 59.1" N		112° 24' 3.8" W
Parameter	AL ⁶	DL ⁷	Units	Sampling Frequency	Reporting Frequency
Total Flow ⁸ : Daily ⁹	NE ¹⁰	NE	mgd ¹¹	Daily or Everyday	Quarterly
Total Flow to the Recharge Basins ¹²	3.8	4.0	mgd	Daily or Everyday	Quarterly
Flow: Annual Average ¹³	NE	4.5	mgd	Annual Calculation	Annually

VADOSE ZONE INJECTION WELL MONITORING¹⁴

Well Name	Latitude	Longitude	ADWR Registration No.	Screened Interval (ft bgs)
GY-VZ- 1	33°26' 56.199" N	112° 23' 33.062" W	55-226077	30-100
GY-VZ- 2	33°26' 51.375" N	112° 23' 33.115" W	55-226080	30-100
GY-VZ- 3	33°26' 46.598" N	112° 23' 33.084" W	55-226079	30-100
GY-VZ- 4	33°26' 42.333" N	112° 23' 33.141" W	55-226078	30-100

⁵ Upon transitioning from Phase I to Phase II, the permittee shall notify the Groundwater Section (see Section 2.7.5), discontinue monitoring under Table IA, and begin monitoring under Table IB.

⁶ AL = Alert Level

⁷ DL = Discharge Limit

⁸ Total Flow to the active vadose injection wells and the Recharge Basins.

⁹ Flow shall be measured using a continuous recording flow meter which totals the flow daily.

¹⁰ NE=Not Established means monitoring is required but no limits are specified.

¹¹ mgd = million gallons per day

¹² Total flow to the Recharge Basins cannot exceed 4.0 mgd.

¹³ Annual Average = Calculated value = Average of daily flow values in a year.

¹⁴ See Section 2.6.1.1. If water levels within one or more vadose zone injection wells rise to a level higher than 15 feet bgs, and that level persists for at least two (2) weeks, then injection operations within the affected well(s) shall cease. Recharge in the affected well(s) may resume only as per the requirements in Section 2.6.1.1. Depth to groundwater levels shall be measured monthly and reported quarterly.

GY-VZ- 5	33°26' 37.585" N	112° 23' 33.177" W	TBD	30-100
GY-VZ- 6	33°26' 32.488" N	112° 23' 33.116" W	TBD	30-100
GY-VZ- 7	33°26' 27.175" N	112° 23' 33.115" W	TBD	30-100
GY-VZ- 8	33°26' 22.644" N	112° 23' 32.999" W	TBD	30-100
GY-VZ- 9	33°26' 17.530" N	112° 23' 33.023" W	TBD	30-100

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IB - PHASE II
ROUTINE DISCHARGE MONITORING (flows up to 5.5 mgd) ¹⁵

Sampling Point Number	Sampling Point Identification		Latitude		Longitude
1	Downstream of the reuse booster pump station at the 157th WRF		33° 23' 59.1" N		112° 24' 3.8" W
Parameter	AL ¹⁶	DL ¹⁷	Units	Sampling Frequency	Reporting Frequency
Total Flow ¹⁸ ; Daily ¹⁹	NE ²⁰	NE	mgd ²¹	Daily or Everyday	Quarterly
Total Flow to the Recharge Basins ²²	3.8	4.0	mgd	Daily or Everyday	Quarterly
Flow: Annual Average ²³	NE	5.5	mgd	Annual Calculation	Annually

VADOSE ZONE INJECTION WELL MONITORING²⁴

Well Name	Latitude	Longitude	ADWR Registration No.	Screened Interval (ft bgs)
GY-VZ- 1	33°26' 56.199" N	112° 23' 33.062" W	55-226077	30-100
GY-VZ- 2	33°26' 51.375" N	112° 23' 33.115" W	55-226080	30-100
GY-VZ- 3	33°26' 46.598" N	112° 23' 33.084" W	55-226079	30-100
GY-VZ- 4	33°26' 42.333" N	112° 23' 33.141" W	55-226078	30-100

¹⁵ Upon transitioning from Phase II to Phase III, the permittee shall notify the Groundwater Section (see Section 2.7.5), discontinue monitoring under Table IB, and begin monitoring under Table IC.

¹⁶ AL = Alert Level

¹⁷ DL = Discharge Limit

¹⁸ Total Flow to the active vadose injection wells and the Recharge Basins.

¹⁹ Flow shall be measured using a continuous recording flow meter which totals the flow daily.

²⁰ NE=Not Established means monitoring is required but no limits are specified.

²¹ mgd = million gallons per day

²² Total flow to the Recharge Basins cannot exceed 4.0 mgd.

²³ Annual Average = Calculated value = Average of daily flow values in a year.

²⁴ See Section 2.6.1.1. If water levels within one or more vadose zone injection wells rise to a level higher than 15 feet bgs, and that level persists for at least two (2) weeks, then injection operations within the affected well(s) shall cease. Recharge in the affected well(s) may resume only as per the requirements in Section 2.6.1.1. Depth to groundwater levels shall be measured monthly and reported quarterly.

GY-VZ- 5	33°26' 37.585" N	112° 23' 33.177" W	TBD	30-100
GY-VZ- 6	33°26' 32.488" N	112° 23' 33.116" W	TBD	30-100
GY-VZ- 7	33°26' 27.175" N	112° 23' 33.115" W	TBD	30-100
GY-VZ- 8	33°26' 22.644" N	112° 23' 32.999" W	TBD	30-100
GY-VZ- 9	33°26' 17.530" N	112° 23' 33.023" W	TBD	30-100
GY-VZ- 10	33°26' 12.789" N	112° 23' 33.071" W	TBD	30-100
GY-VZ- 11	33°26' 7.821" N	112° 23' 28.906" W	TBD	30-100

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IC - PHASE III
ROUTINE DISCHARGE MONITORING (flows up to 6.5 mgd) ²⁵**

Sampling Point Number	Sampling Point Identification		Latitude		Longitude
1	Downstream of the reuse booster pump station at the 157th WRF		33° 23' 59.1" N		112° 24' 3.8" W
Parameter	AL ²⁶	DL ²⁷	Units	Sampling Frequency	Reporting Frequency
Total Flow ²⁸ ; Daily ²⁹	NE ³⁰	NE	mgd ³¹	Daily or Everyday	Quarterly
Total Flow to the Recharge Basins ³²	3.8	4.0	mgd	Daily or Everyday	Quarterly
Flow: Annual Average ³³	NE	6.5	mgd	Annual Calculation	Annually

VADOSE ZONE INJECTION WELL MONITORING³⁴

Well Name	Latitude	Longitude	ADWR Registration No.	Screened Interval (ft bgs)
GY-VZ- 1	33°26' 56.199" N	112° 23' 33.062" W	55-226077	30-100
GY-VZ- 2	33°26' 51.375" N	112° 23' 33.115" W	55-226080	30-100
GY-VZ- 3	33°26' 46.598" N	112° 23' 33.084" W	55-226079	30-100
GY-VZ- 4	33°26' 42.333" N	112° 23' 33.141" W	55-226078	30-100
GY-VZ- 5	33°26' 37.585" N	112° 23' 33.177" W	TBD	30-100
GY-VZ- 6	33°26' 32.488" N	112° 23' 33.116" W	TBD	30-100

²⁵ Upon transitioning from Phase III to Phase IV, the permittee shall notify the Groundwater Section (see Section 2.7.5), discontinue monitoring under Table IC, and begin monitoring under Table ID.

²⁶ AL = Alert Level

²⁷ DL = Discharge Limit

²⁸ Total Flow to the active vadose injection wells and the Recharge Basins.

²⁹ Flow shall be measured using a continuous recording flow meter which totals the flow daily.

³⁰ NE=Not Established means monitoring is required but no limits are specified.

³¹ mgd = million gallons per day

³² Total flow to the Recharge Basins cannot exceed 4.0 mgd.

³³ Annual Average = Calculated value = Average of daily flow values in a year.

³⁴ See Section 2.6.1.1. If water levels within one or more vadose zone injection wells rise to a level higher than 15 feet bgs, and that level persists for at least two (2) weeks, then injection operations within the affected well(s) shall cease. Recharge in the affected well(s) may resume only as per the requirements in Section 2.6.1.1. Depth to groundwater levels shall be measured monthly and reported quarterly.

GY-VZ- 7	33°26' 27.175" N	112° 23' 33.115" W	TBD	30-100
GY-VZ- 8	33°26' 22.644" N	112° 23' 32.999" W	TBD	30-100
GY-VZ- 9	33°26' 17.530" N	112° 23' 33.023" W	TBD	30-100
GY-VZ- 10	33°26' 12.789" N	112° 23' 33.071" W	TBD	30-100
GY-VZ- 11	33°26' 7.821" N	112° 23' 28.906" W	TBD	30-100
GY-VZ- 12	33°26' 7.782" N	112° 23' 23.405" W	TBD	30-100
GY-VZ- 13	33°26' 7.685" N	112° 23' 17.940" W	TBD	30-100

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE ID - PHASE IV
ROUTINE DISCHARGE MONITORING (flows up to 7.4 mgd) ³⁵**

Sampling Point Number	Sampling Point Identification		Latitude		Longitude
1	Downstream of the reuse booster pump station at the 157th WRF		33° 23' 59.1" N		112° 24' 3.8" W
Parameter	AL ³⁶	DL ³⁷	Units	Sampling Frequency	Reporting Frequency
Total Flow: Daily ³⁸	NE ³⁹	NE	mgd ⁴⁰	Daily or Everyday	Quarterly
Total Flow to the Recharge Basins ⁴¹	3.8	4.0	mgd	Daily or Everyday	Quarterly
Flow: Annual Average ⁴²	NE	7.4	mgd	Annual Calculation	Annually

VADOSE ZONE INJECTION WELL MONITORING ⁴³

Well Name	Latitude	Longitude	ADWR Registration No.	Screened Interval (ft bgs)
GY-VZ- 1	33°26' 56.199" N	112° 23' 33.062" W	55-226077	30-100
GY-VZ- 2	33°26' 51.375" N	112° 23' 33.115" W	55-226080	30-100
GY-VZ- 3	33°26' 46.598" N	112° 23' 33.084" W	55-226079	30-100
GY-VZ- 4	33°26' 42.333" N	112° 23' 33.141" W	55-226078	30-100
GY-VZ- 5	33°26' 37.585" N	112° 23' 33.177" W	TBD	30-100
GY-VZ- 6	33°26' 32.488" N	112° 23' 33.116" W	TBD	30-100
GY-VZ- 7	33°26' 27.175" N	112° 23' 33.115" W	TBD	30-100
GY-VZ- 8	33°26' 22.644" N	112° 23' 32.999" W	TBD	30-100
GY-VZ- 9	33°26' 17.530" N	112° 23' 33.023" W	TBD	30-100
GY-VZ- 10	33°26' 12.789" N	112° 23' 33.071" W	TBD	30-100
GY-VZ- 11	33°26' 7.821" N	112° 23' 28.906" W	TBD	30-100
GY-VZ- 12	33°26' 7.782" N	112° 23' 23.405" W	TBD	30-100
GY-VZ- 13	33°26' 7.685" N	112° 23' 17.940" W	TBD	30-100

³⁵ Permittee shall commence monitoring under this Table once the Groundwater Section (see Section 2.7.5), has been notified of discontinued monitoring under Table IC.

³⁶ AL = Alert Level

³⁷ DL = Discharge Limit

³⁸ Flow shall be measured using a continuous recording flow meter which totals the flow daily.

³⁹ NE=Not Established means monitoring is required but no limits are specified.

⁴⁰ mgd = million gallons per day

⁴¹ Total flow to the Recharge Basins cannot exceed 4.0 mgd.

⁴² Annual Average = Calculated value = Average of daily flow values in a year.

⁴³ See Section 2.6.1.1. If water levels within one or more vadose zone injection wells rise to a level higher than 15 feet bgs, and that level persists for at least two (2) weeks, then injection operations within the affected well(s) shall cease. Recharge in the affected well(s) may resume only as per the requirements in Section 2.6.1.1. Depth to groundwater levels shall be measured monthly and reported quarterly.

GY-VZ- 14	33°26' 7.762" N	112° 23' 13.048" W	TBD	30-100
GY-VZ- 15	33°26' 7.622" N	112° 23' 8.053" W	TBD	30-100
Contingency Wells⁴⁴				
GY-VZ-16	TBD	TBD	TBD	30-100
GY-VZ-17	TBD	TBD	TBD	30-100

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE II
ROUTINE GROUNDWATER MONITORING**

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
2	POC Well #1 Approximately 600 feet north-northwest of the intersection of West Yuma Road and South Estrella Parkway			33° 26' 14.6" N	112° 23' 37.2" W
3	POC Well #2 Downgradient of SAT site recharge basins- located approximately 75 feet northwest of SAT Basin #3			33° 26' 17.6" N	112° 23' 36.8" W
Parameter	AL ⁴⁵	AQL ⁴⁶	Units	Sampling Frequency	Reporting Frequency
Depth to Water	30 - 105	Reserved	feet bgs ⁴⁷	Monthly	Quarterly
Total Nitrogen ⁴⁸ :	8.0	10.0	mg/l ⁴⁹	Monthly Calculation	Quarterly
Nitrate-Nitrite as N	8.0	10.0	mg/l	Monthly Calculation	Quarterly
Nitrate as N	8.0	10.0	mg/l	Monthly	Quarterly
Nitrite as N	0.8	1.0	mg/l	Monthly	Quarterly
Total Kjeldahl Nitrogen (TKN)	Not Established ⁵⁰	Not Established	mg/l	Monthly	Quarterly
Total Coliform	Absence	Absence	P/A ⁵¹	Monthly	Quarterly
Metals (total):					
Antimony	0.0048	0.006	mg/l	Quarterly	Quarterly
Arsenic	0.04	0.05	mg/l	Quarterly	Quarterly
Barium	1.60	2.00	mg/l	Quarterly	Quarterly
Beryllium	0.0032	0.004	mg/l	Quarterly	Quarterly
Cadmium	0.004	0.005	mg/l	Quarterly	Quarterly
Chromium	0.08	0.1	mg/l	Quarterly	Quarterly
Cyanide (as free cyanide)	0.16	0.2	mg/l	Quarterly	Quarterly
Fluoride	3.2	4.0	mg/l	Quarterly	Quarterly
Lead	0.04	0.05	mg/l	Quarterly	Quarterly
Mercury	0.0016	0.002	mg/l	Quarterly	Quarterly

⁴⁴ Contingency Vadose Zone Injection Wells consist of wells approved for installation as replacement wells and/or to increase recharge in this well field.

⁴⁵ AL = Alert Level

⁴⁶ AQL = Aquifer Quality Limit

⁴⁷ bgs = below ground surface

⁴⁸ Total Nitrogen is equal to Nitrate as N plus Nitrite as N plus TKN.

⁴⁹ mg/l = milligrams per liter

⁵⁰ Not Established means monitoring is required, but no limits are specified.

⁵¹ P/A = Presence or absence of total coliform in a 100-milliliter sample.

Nickel	0.08	0.1	mg/l	Quarterly	Quarterly
Selenium	0.04	0.05	mg/l	Quarterly	Quarterly
Thallium	0.0016	0.002	mg/l	Quarterly	Quarterly

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE II
ROUTINE GROUNDWATER MONITORING (Continued)

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
2	POC Well #1 Approximately 600 feet north-northwest of the intersection of West Yuma Road and South Estrella Parkway			33° 26' 14.7" N	112° 23' 36.8" W
3	POC Well #2 Downgradient of SAT site recharge basins-located approximately 75 feet northwest of SAT Basin #3			33° 26' 17.6" N	112° 23' 36.8" W
Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
Volatile and Semi-Volatile Organic Compounds (VOCs and SVOCs):					
Benzene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Carbon tetrachloride	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
o-Dichlorobenzene	0.48	0.6	mg/l	Semi-Annually	Semi-Annually
para-Dichlorobenzene	0.06	0.075	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,1-Dichloroethylene	0.0056	0.007	mg/l	Semi-Annually	Semi-Annually
cis-1,2-Dichloroethylene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually
trans-1,2-Dichloroethylene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Dichloromethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloropropane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Ethylbenzene	0.56	0.7	mg/l	Semi-Annually	Semi-Annually
Hexachlorobenzene	0.0008	0.001	mg/l	Semi-Annually	Semi-Annually
Hexachlorocyclopentadiene	0.04	0.05	mg/l	Semi-Annually	Semi-Annually
Monochlorobenzene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Styrene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Tetrachloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Toluene	0.8	1.0	mg/l	Semi-Annually	Semi-Annually
Trihalomethanes (total) ⁵²	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
1,1,1-Trichloroethane	0.16	0.2	mg/l	Semi-Annually	Semi-Annually

⁵² Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

1,2,4 - Trichlorobenzene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually
1,1,2 - Trichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Trichloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Vinyl Chloride	0.0016	0.002	mg/l	Semi-Annually	Semi-Annually
Xylenes (Total)	8.0	10.0	mg/l	Semi-Annually	Semi-Annually

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE III
FACILITY INSPECTION (OPERATIONAL MONITORING) - LOG BOOK⁵³

Pollution Control Structure/Parameter	Performance Level	Inspection Frequency
Pump integrity	Good working condition	Weekly
Vadose-zone Wells	Good working condition No biofouling No clogging	Weekly
Recharge Basin Freeboard	1 foot	Weekly
Recharge Basins	No visible structural damage, breach, or erosion	Weekly
Facility Piping	Good working condition	Weekly
Flowmeter	Good working condition	Monthly

⁵³ The permittee shall record the inspection performance levels in a log book as per Section 2.7.2, and report any violations or exceedances as per Section 2.7.3. In the case of an exceedance, identify which structure exceeds the performance level in the log book.

5.0 REFERENCES AND PERTINENT INFORMATION

The terms and conditions set forth in this permit have been developed based upon the information contained in the following, which are on file with the Department:

1. APP Application dated: June 22, 2016
2. Public Notice dated :
3. Public Hearing dated :
4. Responsiveness Summary dated :

6.0 NOTIFICATION PROVISIONS

6.1 Annual Registration Fees

The permittee is notified of the obligation to pay an Annual Registration Fee to ADEQ. The Annual Registration Fee is based upon the amount of daily influent or discharge of pollutants in gallons per day as established by A.R.S. § 49-242.

6.2 Duty to Comply [A.R.S. §§ 49-221 through 49-263]

The permittee is notified of the obligation to comply with all conditions of this permit and all applicable provisions of Title 49, Chapter 2, Articles 1, 2 and 3 of the Arizona Revised Statutes, Title 18, Chapter 9, Articles 1 through 4, and Title 18, Chapter 11, Article 4 of the Arizona Administrative Code. Any permit non-compliance constitutes a violation and is grounds for an enforcement action pursuant to Title 49, Chapter 2, Article 4 or permit amendment, suspension, or revocation.

6.3 Duty to Provide Information [A.R.S. §§ 49-243(K)(2) and 49-243(K)(8)]

The permittee shall furnish to the Director, or an authorized representative, within a time specified, any information which the Director may request to determine whether cause exists for amending 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.

6.4 Compliance with Aquifer Water Quality Standards [A.R.S. §§ 49-243(B)(2) and 49-243(B)(3)]

The permittee shall not cause or contribute to a violation of an aquifer water quality standard at the applicable point of compliance for the facility. Where, at the time of issuance of the permit, an aquifer already exceeds an aquifer water quality standard for a pollutant, the permittee shall not discharge that pollutant so as to further degrade, at the applicable point of compliance for the facility, the water quality of any aquifer for that pollutant.

6.5 Technical and Financial Capability

[A.R.S. §§ 49-243(K)(8) and 49-243(N) and A.A.C. R18-9-A202(B) and R18-9-A203(E) and (F)]

The permittee shall have and maintain the technical and financial capability necessary to fully carry out the terms and conditions of this permit. Any bond, insurance policy, trust fund, or other financial assurance mechanism provided as a demonstration of financial capability in the permit application, pursuant to A.A.C. R18-9-A203(D), shall be in effect prior to any discharge authorized by this permit and shall remain in effect for the duration of the permit.

6.6 Reporting of Bankruptcy or Environmental Enforcement [A.A.C. R18-9-A207(C)]

The permittee shall notify the Director within five days after the occurrence of any one of the following:

1. The filing of bankruptcy by the permittee.
2. The entry of any order or judgment not issued by the Director against the permittee for the enforcement of any environmental protection statute or rule.

6.7 Monitoring and Records [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A206]

The permittee shall conduct any monitoring activity necessary to assure compliance with this permit, with the applicable water quality standards established pursuant to A.R.S. §§ 49-221 and 49-223 and §§ 49-241 through 49-252.

6.8 Inspection and Entry [A.R.S. §§ 41-1009, 49-203(B) and 49-243(K)(8)]

In accordance with A.R.S. §§ 41-1009 and 49-203(B), the permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to enter and inspect the facility as reasonably necessary to ensure compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, and Title 18, Chapter 9, Articles 1 through 4 of the Arizona Administrative Code and the terms and conditions of this permit.

6.9 Duty to Modify [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A211]

The permittee shall apply for and receive a written amendment before deviating from any of the designs or operational practices specified by this permit.

6.10 Permit Action: Amendment, Transfer, Suspension & Revocation

[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]

This permit may be amended, transferred, renewed, or revoked for cause, under the rules of the Department.

The permittee shall notify the Groundwater Section in writing within 15 days after any change in the owner or operator of the facility. The notification shall state the permit number, the name of the facility, the date of property transfer, and the name, address, and phone number where the new owner or operator can be reached. The operator shall advise the new owner or operators of the terms of this permit and the need for permit transfer in accordance with the rules.

7.0 ADDITIONAL PERMIT CONDITIONS

7.1 Other Information [A.R.S. § 49-243(K)(8)]

Where 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, the permittee shall promptly submit the correct facts or information.

7.2 Severability

[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]

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 the remainder of this permit, shall not be affected thereby. The filing of a request by the permittee for a permit action does not stay or suspend the effectiveness of any existing permit condition.

7.3 Permit Transfer

This permit may not be transferred to any other person except after notice to and approval of the transfer by the Department. No transfer shall be approved until the applicant complies with all transfer requirements as specified in A.A.C. R18-9-A212(B) and (C).