



**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

September 7, 2022

Steve Jackson, Managing Member  
Troya Homes, LLC  
6300 Riverside Place, Suite 200  
Albuquerque, New Mexico 87120

**RE: Draft Discharge Permit Renewal, DP-1094, Prairie Hills Subdivision Wastewater Treatment Plant**

Dear Steve Jackson:

The New Mexico Environment Department (NMED) received multiple complaints from members of the public challenging the validity of the discharge permit application submitted by Troya Homes, LLC to NMED on October 19, 2019. The complaints specifically questioned the accuracy of Part I.3. of the application titled "Ownership and Real Property Agreements". NMED investigated these claims and determined that, pursuant to NMSA 1978, § 74-6-5(M)(2), Troya Homes, LLC did knowingly misrepresent a material fact on the application by omitting the legal ownership status of the discharge location. Troya Homes, LLC rectified the omission on November 16, 2021, with the submission to NMED of an Access and Utility Easement Agreement between Tri Star, LLC and Troya Homes, LLC. Therefore, NMED acknowledges that mitigating factors exist in this instance and has decided not to terminate the Discharge Permit for Prairie Hills Subdivision (DP-1094).

NMED hereby provides notice to Troya Homes, LLC of the proposed approval of Ground Water Discharge Permit Renewal, DP-1094, (copy enclosed), pursuant to Subsection H of 20.6.2.3108 NMAC. NMED will publish notice of the availability of the draft Discharge Permit in the near future for public review and comment and will forward a copy of that notice to you.

Prior to making a final ruling on the proposed Discharge Permit, NMED will allow 30 days from the date the public notice is published in the newspaper for any interested party, including the Discharge Permit applicant, i.e., yourself, to submit written comments and/or a request a public hearing. A hearing request shall set forth the reasons why a hearing is requested. NMED will hold a hearing in response to a timely hearing request if the NMED Secretary determines there is substantial public interest in the proposed Discharge Permit.

Please review the enclosed draft Discharge Permit carefully. Please be aware that this Discharge Permit may contain conditions that require the permittee to implement operational, monitoring or closure actions by a specified deadline.

Please submit written comments or a request for hearing to my attention at the address below, via email to [avery.young@state.nm.us](mailto:avery.young@state.nm.us) or to [pps.general@state.nm.us](mailto:pps.general@state.nm.us), or directly into the NMED Public Comment

**Steve Jackson**

September 7, 2022

Page 2 of 2

Portal at <https://nmed.commentinput.com/comment/search>. If NMED does not receive written comments or a request for hearing during the public comment period, the draft Discharge Permit will become final.

Thank you for your cooperation during the review process. Feel free to contact me with any questions at (505) 699-8564.

Sincerely,

Avery Young, Environmental Scientist

Encl: Draft Discharge Permit Renewal, DP-1094

cc: Jerry May, Martin/Martin Consulting Engineers, [jmay@martinmartin.com](mailto:jmay@martinmartin.com)  
Mike Butler, Rocky Mountain Water & Wastewater, LLC, [rmwater211@gmail.com](mailto:rmwater211@gmail.com)



**NEW MEXICO**  
**ENVIRONMENT DEPARTMENT**  
Ground Water Quality Bureau

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***Draft: September 7, 2022***

**GROUND WATER QUALITY BUREAU**  
**DISCHARGE PERMIT**  
**Issued under 20.6.2 NMAC**

**Facility Name:** Prairie Hills Subdivision Wastewater Treatment Plant  
**Discharge Permit Number:** DP-1094  
**Facility Location:** 31B Meadow Hill  
Edgewood, NM

**County:** Santa Fe

**Permittee:** Troya Homes, LLC  
**Mailing Address:** Steve Jackson, Managing Member  
6300 Riverside Place, Suite 200  
Albuquerque, NM 87120

**Facility Contact:** Mike Butler, Rocky Mountain Water and Wastewater, LLC  
**Telephone Number/Email:** (505) 228-6233/rmwater211@gmail.com

**Permitting Action:** Renewal  
**Permit Issuance Date:** DATE  
**Permit Expiration Date:** DATE

**NMED Permit Contact:** Avery Young  
**Telephone Number/Email:** (505) 699-8564/avery.young@state.nm.us or  
pps.general@state.nm.us

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**JUSTIN D. BALL**  
**Chief, Ground Water Quality Bureau**  
**New Mexico Environment Department**

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Date

## TABLE OF CONTENTS

I.	INTRODUCTION .....	1
II.	FINDINGS .....	2
III.	AUTHORIZATION TO DISCHARGE.....	3
IV.	CONDITIONS .....	3
A.	OPERATIONAL PLAN .....	3
	Operational Actions with Implementation Deadlines.....	4
	Operating Conditions .....	4
B.	MONITORING AND REPORTING .....	6
	Due Dates for Monitoring Reports .....	6
	Monitoring Actions with Implementation Deadlines.....	7
	Groundwater Monitoring Conditions .....	8
	Facility Monitoring Conditions .....	8
C.	CONTINGENCY PLAN .....	11
D.	CLOSURE PLAN.....	14
	Closure Actions with Implementation Deadlines.....	14
	Permanent Facility Closure Conditions.....	15
E.	GENERAL TERMS AND CONDITIONS .....	16

## ATTACHMENTS

Discharge Permit Summary  
New Mexico Environment Department Ground Water Quality Bureau Monitoring Well  
Construction and Abandonment Guidelines, Revision 1.1, March 2011 (Monitoring  
Well Guidance)

## **I. INTRODUCTION**

The New Mexico Environment Department (NMED) issues this groundwater discharge permit Renewal (Discharge Permit or DP-1094) to Troya Homes, LLC (Permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Ground and Surface Water Protection Regulations, 20.6.2 NMAC.

NMED's purpose in issuing this Discharge Permit, and in imposing the requirements and conditions specified herein, is to control the discharge of water contaminants from the Prairie Hills Subdivision Wastewater Treatment Plant (Facility) in order to protect groundwater and those segments of surface water gaining from groundwater inflow for present and potential future use as domestic and agricultural water supply and other uses, and to protect public health. It is NMED's determination in issuing this Discharge Permit that the Permittee has met the requirements of Subsection C of 20.6.2.3109 NMAC. The Permittee is responsible for complying with the terms and conditions of this Discharge Permit pursuant to Section 20.6.2.3104 NMAC; failure to do so may result in enforcement action by NMED (20.6.2.1220 NMAC).

Described below are the activities that produce the discharge, the location of the discharge, and the quantity, quality and flow characteristics.

A fixed film and activated sludge package plant receives and treats at a volume of up to 15,000 gallons per day (gpd). Individual septic tanks located at each home collect wastewater prior to discharging to the package plant. Treated wastewater discharges to a low-pressure dose disposal field.

The discharge may contain water contaminants or toxic pollutants elevated above the standards of Section 20.6.2.3103 NMAC and is not subject to the exemption at Subsection 20.6.2.3105.A NMAC.

The Facility is located off County Road 7 at 31B Meadow Hill Road, approximately one mile south of Edgewood, in Section 34, Township 10N, Range 07E, in Santa Fe County. A discharge at the Facility is most likely to affect groundwater at a depth of approximately 215 feet and having a pre-discharge total dissolved solids (TDS) concentration of approximately 465 milligrams per liter.

NMED issued the original Discharge Permit to the Permittee on October 28, 1996, and subsequently renewed the Permit on April 29, 2002, and October 17, 2007, modified the Permit on March 18, 2009, and renewed the Permit on April 17, 2015. The application (i.e., discharge plan) associated with this Discharge Permit consists of the materials submitted by the Permittee dated October 19, 2019, and November 16, 2021, and materials contained in the administrative record prior to issuance of this Discharge Permit.

The Permittee shall manage the discharge in accordance with all conditions and requirements of this Discharge Permit.

NMED reserves the right to require a Discharge Permit modification in the event NMED determines that the Permittee is or may be violating, or is likely to violate in the future, the requirements of 20.6.2 NMAC or the standards of Section 20.6.2.3103 NMAC. NMED reserves this right pursuant to Section 20.6.2.3109 NMAC. An NMED requirement to modify the Discharge Permit may result from a determination by the department that structural controls and/or management practices approved under this Discharge Permit are insufficiently protective of groundwater quality and human health. NMED reserves the right to require the Permittee implement abatement of water pollution and remediate groundwater quality.

NMED issuance of this Discharge Permit does not relieve the Permittee of the responsibility to comply with the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

This Discharge Permit may use the following acronyms and abbreviations.

Abbreviation	Explanation	Abbreviation	Explanation
BOD <sub>5</sub>	biochemical oxygen demand (5-day)	NMED	New Mexico Environment Department
CAP	Corrective Action Plan	NMSA	New Mexico Statutes Annotated
CFR	Code of Federal Regulations	NO <sub>3</sub> -N	nitrate-nitrogen
CFU	colony forming unit	NTU	nephelometric turbidity units
Cl	chloride	QA/QC	Quality Assurance/Quality Control
EPA	United States Environmental Protection Agency	TDS	total dissolved solids
gpd	gallons per day	TKN	total Kjeldahl nitrogen
LAA	land application area	total nitrogen	= TKN + NO <sub>3</sub> -N
LADS	Land Application Data Sheet(s)	TRC	total residual chlorine
mg/L	milligrams per liter	TSS	total suspended solids
mL	milliliters	WQA	New Mexico Water Quality Act
MPN	most probable number	WQCC	Water Quality Control Commission
NMAC	New Mexico Administrative Code	WWTF	Wastewater Treatment Facility

## II. FINDINGS

In issuing this Discharge Permit, NMED finds the following.

1. The Permittee is discharging effluent or leachate from the Facility so that such effluent or leachate may move into groundwater of the State of New Mexico that has an existing concentration of 10,000 mg/L or less of TDS, within the meaning of Subsection A of 20.6.2.3101 NMAC, without exceeding standards of 20.6.2.3103 NMAC for any water contaminant.
2. The Permittee is discharging effluent or leachate from the Facility directly or indirectly into groundwater pursuant to this Discharge Permit and Sections 20.6.2.3000 through 20.6.2.3114 NMAC.
3. The discharge from the Facility is not subject to any of the exemptions of Section 20.6.2.3105 NMAC.

### III. AUTHORIZATION TO DISCHARGE

The Permittee is responsible for ensuring that discharges authorized by this Discharge Permit are consistent with the terms and conditions herein pursuant to 20.6.2.3104 NMAC.

This Discharge Permit authorizes the Permittee to receive and treat up to 15,000 gpd of domestic wastewater using a WestTech STM-Aerotator package plant. This Discharge Permit authorizes the Permittee to collect wastewater in individual septic tanks located at each home within the subdivision prior to discharging to the package plant. This Discharge Permit also authorizes the Permittee to discharge treated wastewater to a subsurface low-pressure dose disposal field.

[20.6.2.3104 NMAC, Subsection C of 20.6.2.3106 NMAC, Subsection D of 20.6.2.3109 NMAC]

### IV. CONDITIONS

NMED issues this Discharge Permit for the discharge of water contaminants subject to the following conditions.

#### A. OPERATIONAL PLAN

#	Terms and Conditions
1.	The Permittee shall implement the following operational plan to ensure compliance with Title 20, Chapter 6, Parts 2 and 4 NMAC.  [Subsection C of 20.6.2.3109 NMAC]
2.	The Permittee shall operate in a manner that does not violate standards and requirements of Sections 20.6.2.3101 and 20.6.2.3103 NMAC.  [20.6.2.3101 NMAC, 20.6.2.3103 NMAC, Subsection C of 20.6.2.3109 NMAC]

***Operational Actions with Implementation Deadlines***

#	Terms and Conditions
3.	<p>Within 30 days of the issuance date of this Discharge Permit (<b>by DATE</b>), the Permittee shall post signs indicating that the wastewater at the Facility is not potable. The Permittee shall post signs at the Facility entrance and other areas where there is potential for public contact with wastewater. Posted signs shall be in English and Spanish and shall be legible during the term of this Discharge Permit.</p> <p>The Permittee shall submit documentation demonstrating sign installation that consists of date stamped photographs to NMED in the next required periodic monitoring report.</p> <p>[Subsections B and C of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.D]</p>

***Operating Conditions***

#	Terms and Conditions
4.	<p>The Permittee shall ensure that treated wastewater discharged from the effluent lift station does not exceed the following discharge limit.</p> <p><b>Total Nitrogen: 20 mg/L</b></p> <p>[Subsection C of 20.6.2.3109 NMAC]</p>
5.	<p>The Permittee shall maintain fences around the Facility to restrict access by the general public and animals. The fences shall consist of a minimum of six-foot chain link or field fencing and locking gates. The Permittee shall maintain the fences to serve the stated purpose throughout the term of this Discharge Permit.</p> <p>[Subsections B and C of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.D]</p>
6.	<p>The Permittee shall visually inspect the area above the low-pressure dose disposal field (disposal system) semi-annually to ensure proper maintenance. The Permittee shall correct any conditions that indicate damage to the disposal system. The Permittee shall ensure conditions corrected include erosion damage, animal activity/damage, woody shrubs evidence of seepage, or any other condition indicating damage.</p> <p>The Permittee shall keep a log of the inspections that includes a date of the inspection, any findings and repairs, and the name of the inspector. The Permittee shall make the log available to NMED upon request.</p>



#	Terms and Conditions
	<p>In the event of a failure of the disposal system, the Permittee shall implement the Contingency Plan set forth in this Discharge Permit.</p> <p>[Subsections A and D of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
7.	<p>The Permittee shall properly manage all solids generated by the treatment system to maintain effective operation of the system by removing solids as necessary and in accordance with associated equipment manufacturer's specifications. The Permittee shall contain, transport and dispose of all solids removed from the treatment process in accordance with all local, state, and federal regulations.</p> <p>The Permittee shall maintain manifests for all solids transported from the treatment Facility for off-site disposal. The manifests shall identify the name of the hauler, the date of off-site shipment, the volume of solids removed, the disposal method, and disposal location.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
8.	<p>The Permittee shall inspect the septic tanks semi-annually for the accumulation of scum and solids. In the event that the scum layer exceeds three inches or the settled solids occupy 30% or more of the tank volume, the contents of the tanks shall be pumped by a septage pumper meeting the qualification requirements identified in Subsection D of 20.7.3.904 NMAC, Liquid Waste Disposal and Treatment Regulations.</p> <p>The Permittee shall create and maintain a log of all septic tank inspections which describes the findings, repairs, and removals, the date of the inspection, and the name of the person responsible for the inspection. The Permittee shall make the log available to NMED upon request.</p> <p>The Permittee shall maintain a record of solids removal and disposal, including the name of the septage hauler, date of off-site shipment, volume of solids removed, disposal method, and disposal location.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
9.	<p>The Permittee shall inspect and clean the lift station(s) as needed to prevent pump failure.</p> <p>The Permittee shall maintain a record of lift station inspections, repairs and cleanings. The Permittee shall make the record available to NMED upon request.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>

#	Terms and Conditions
10.	<p>The Permittee shall utilize operators, certified by the State of New Mexico at the appropriate level pursuant to 20.7.4 NMAC, to operate the wastewater collection, treatment and disposal systems. A certified operator or a direct supervisee of a certified operator shall perform the operations and maintenance of all or any part of the wastewater system.</p> <p>The Permittee shall notify the NMED within 24 hours if at any time the Permittee no longer has a certified operator maintaining the system.</p> <p>[Subsection C of 20.6.2.3109 NMAC, 20.7.4 NMAC]</p>

**B. MONITORING AND REPORTING**

#	Terms and Conditions
11.	<p>The Permittee shall conduct the monitoring, reporting, and other requirements listed below in accordance with the monitoring requirements of this Discharge Permit.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
12.	<p>METHODOLOGY – Unless otherwise specified by this Discharge Permit, or approved in writing by NMED, the Permittee shall use sampling and analytical techniques that conform with the references listed in Subsection B of 20.6.2.3107 NMAC.</p> <p>[Subsection B of 20.6.2.3107 NMAC]</p>

***Due Dates for Monitoring Reports***

#	Terms and Conditions
13.	<p>Quarterly monitoring - The Permittee shall perform monitoring and other Permit required actions during the following periods and shall submit quarterly reports to NMED by the following due dates:</p> <ul style="list-style-type: none"><li>• January 1<sup>st</sup> through March 31<sup>st</sup> – <b>due by May 1<sup>st</sup></b>;</li><li>• April 1<sup>st</sup> through June 30<sup>th</sup> – <b>due by August 1<sup>st</sup></b>;</li><li>• July 1<sup>st</sup> through September 30<sup>th</sup> – <b>due by November 1<sup>st</sup></b>; and</li><li>• October 1<sup>st</sup> through December 31<sup>st</sup> – <b>due by February 1<sup>st</sup></b>.</li></ul> <p>[Subsection A of 20.6.2.3107 NMAC]</p>

***Monitoring Actions with Implementation Deadlines***

#	Terms and Conditions
14.	<p>Within 60 days following the issuance date of this Discharge Permit (<b>by DATE</b>), the Permittee shall submit a written groundwater monitoring well location proposal for NMED review and approval. The proposal shall designate the installation location of the monitoring well required by Condition 15 of this Discharge Permit. The proposal shall include, at a minimum, the following information.</p> <ol style="list-style-type: none"><li>A map showing the proposed location of the monitoring well in relation to the boundary of the source it is intended to monitor.</li><li>A written description of the specific location proposed for the monitoring well including the distance (in feet) and direction of the monitoring well from the edge of the source it is intended to monitor. Examples include: 35 feet north-northwest of the northern berm of the synthetically lined impoundment; 45 feet due south of the leachfield; and 30 feet southeast of the reuse area 150 degrees from north.</li><li>A statement describing the groundwater flow direction beneath the Facility, and documentation and/or data supporting the determination.</li></ol> <p>The Permittee must have NMED's approval of all monitoring well locations prior to their installation.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
15.	<p>Within 120 days of the issuance date of this Discharge Permit (<b>by DATE</b>), the Permittee shall install the following new monitoring well.</p> <ul style="list-style-type: none"><li>One monitoring well (MW-1) located 20 to 50 feet hydrologically downgradient of the low-pressure dose disposal field.</li></ul> <p>The Permittee shall complete the well in accordance with the attached <i>Monitoring Well Guidance</i>.</p> <p>Unless otherwise noted in this Discharge Permit, the requirement to install a monitoring well downgradient of a source is <u>not</u> contingent upon construction of the Facility, or discharge of wastewater from the Facility.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>

**Groundwater Monitoring Conditions**

#	Terms and Conditions
16.	<p>The Permittee shall perform quarterly groundwater sampling in the following groundwater monitoring wells and analyze the samples for TKN, NO<sub>3</sub>-N, TDS and Cl.</p> <ul style="list-style-type: none"><li>• MW-1, located hydrologically downgradient of the low-pressure dose disposal field.</li></ul> <p>The Permittee shall perform groundwater sample collection, preservation, transport and analysis according to the following procedures.</p> <ol style="list-style-type: none"><li>a) Measure the depth-to-most-shallow groundwater from the top of the well casing to the nearest one-hundredth of a foot.</li><li>b) Purge three well volumes of water from the well prior to sample collection.</li><li>c) Obtain samples from the well for analysis.</li><li>d) Properly prepare, preserve and transport samples.</li><li>e) Analyze samples in accordance with the methods authorized in this Discharge Permit.</li></ol> <p>The Permittee shall submit the depth-to-most-shallow groundwater measurements and the laboratory analytical data results including the laboratory QA/QC summary report for each well, to NMED in the quarterly monitoring reports.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
17.	<p>NMED shall have the option to perform downhole inspections of all groundwater monitoring wells identified in this Discharge Permit. NMED shall establish the inspection date and provide at least a 60-day notice to the Permittee by certified mail. The Permittee shall remove any existing dedicated pumps at least 48 hours prior to NMED inspection to allow adequate settling time of sediment agitated from pump removal.</p> <p>Should the Permittee decide to install a pump in a monitoring well without a dedicated pump, the Permittee shall notify NMED at least 90 days prior to pump installation so that NMED can schedule a downhole well inspection(s) prior to pump placement.</p> <p>[Subsections A and D of 20.6.2.3107 NMAC]</p>

**Facility Monitoring Conditions**

#	Terms and Conditions
18.	<p>The Permittee shall on a monthly basis measure the volume of treated wastewater discharged from the treatment system to the low-pressure dose disposal field during the period.</p>

#	Terms and Conditions
	<p>To determine the discharge volume, the Permittee shall obtain readings from a totalizing flow meter located at the effluent lift station on a monthly basis and calculate the monthly and average daily discharge volume.</p> <p>The Permittee shall submit the monthly meter readings, calculated monthly discharge volumes, and average daily discharge volumes to NMED in the quarterly monitoring reports.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]</p>
19.	<p>All flow meters shall be capable of having their accuracy verified under working (i.e., real-time in-the-field) conditions. The Permittee shall develop a field verification method for each flow meter and shall utilize that method to check the accuracy of each respective meter. The Permittee shall perform field calibrations, at a minimum once within 90 days of the issuance date of this Discharge Permit (<b>by DATE</b>). The Permittee shall also perform field calibrations upon repair or replacement of a flow measurement device.</p> <p>The Permittee shall calibrate each flow meter to its manufacturer's recommended specification which shall be no less accurate than plus or minus 10 percent of actual flow, as measured under field conditions. An individual knowledgeable in flow measurement shall perform field calibration and the installation/operation of the device in use. The Permittee shall prepare a flow meter calibration report for each flow measurement device calibration event. The flow meter calibration report shall include the following information.</p> <ol style="list-style-type: none"><li>The location and meter identification.</li><li>The method of flow meter field calibration employed.</li><li>The measured accuracy of each flow meter prior to adjustment indicating the positive or negative offset as a percentage of actual flow as determined by an in-field calibration check.</li><li>The measured accuracy of each flow meter following adjustment, if necessary, indicating the positive or negative offset as a percentage of actual flow of the meter.</li><li>Any flow meter repairs made during the previous year or during field calibration.</li><li>The name of the individual performing the calibration and the date of the calibration.</li></ol> <p>The Permittee shall maintain records of flow meter calibration(s) at a location accessible for review by NMED during Facility inspections.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]</p>

#	Terms and Conditions
20.	<p>The Permittee shall visually inspect flow meters on a monthly basis for evidence of malfunction. The Permittee shall maintain a log of the inspections that includes a date of the inspection, findings and repairs, and the name of the inspector. The Permittee shall make the log available to NMED upon request.</p> <p>If a visual inspection indicates a flow meter is not functioning as required by this Discharge Permit, the Permittee shall repair or replace the meter within 30 days of discovery. For <i>repaired</i> meters, the Permittee shall submit a report to NMED with the next monitoring report following the repair that includes a description of the malfunction; a statement verifying the repair; and a flow meter field calibration report completed in accordance with the requirements of this Discharge Permit. For <i>replacement</i> meters, the Permittee shall submit a report to NMED with the next monitoring report following the replacement that includes a design schematic for the device and a flow meter field calibration report completed in accordance with the requirements of this Discharge Permit.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
21.	<p>The Permittee shall collect samples of treated wastewater from the effluent lift station on a quarterly basis and analyze the samples for:</p> <ul style="list-style-type: none"><li>• TKN;</li><li>• NO<sub>3</sub>-N;</li><li>• TDS; and</li><li>• Cl.</li></ul> <p>The Permittee shall ensure the samples are properly prepared, preserved, transported, and analyzed in accordance with the methods authorized in this Discharge Permit. The Permittee shall submit the laboratory analytical data results, including the QA/QC summary and Chain of Custody, to NMED in the subsequent quarterly monitoring report.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]</p>
22.	<p>The Permittee shall submit records of solids disposal, including the volume of solids removed and copies of all manifests for the previous calendar year, to NMED annually in the monitoring report due by August 1<sup>st</sup> each year.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>

**C. CONTINGENCY PLAN**

#	Terms and Conditions
23.	<p>In the event that groundwater monitoring indicates that groundwater exceeds a standard identified in Section 20.6.2.3103 NMAC, the Permittee shall collect a confirmatory sample from the monitoring well within 15 days of receipt of the initial sampling results to confirm the initial sampling results.</p> <p>Within 60 days of confirmation of groundwater contamination, the Permittee shall submit to NMED a Corrective Action Plan (CAP) that proposes, at a minimum, contaminant source control measures and an implementation schedule. The Permittee shall implement the CAP as approved by NMED.</p> <p>Once this groundwater exceedance response condition is invoked whether during the term of this Discharge Permit or after the term of this Discharge Permit and prior to the completion of the Discharge Permit closure plan requirements, this condition shall apply until the Permittee has fulfilled the requirements of this condition and groundwater monitoring confirms for a minimum of eight (8) consecutive quarterly samples that groundwater does not exceed the standards of Section 20.6.2.3103 NMAC.</p> <p>Violation of the groundwater standard beyond 180 days after the confirmation of groundwater contamination may cause NMED to require the Permittee to abate water pollution consistent with the requirements and provisions of Section 20.6.2.4101, Section 20.6.2.4103, Subsections C and E of 20.6.2.4106, Section 20.6.2.4107, Section 20.6.2.4108 and Section 20.6.2.4112 NMAC.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection E of 20.6.2.3109 NMAC]</p>
24.	<p>In the event that information available to NMED indicates that a well is not constructed in a manner consistent with the attached Monitoring Well Guidance; contains insufficient water to effectively monitor groundwater quality; or is otherwise not completed in a manner that is protective of groundwater quality, the Permittee shall install a replacement well(s) within 120 days following notification from NMED.</p> <p>The Permittee shall install replacement wells at locations approved by NMED prior to installation and shall complete replacement wells in accordance with the attached <i>Monitoring Well Guidance</i>. The Permittee shall submit well construction and lithologic logs to NMED within 60 days following well completion.</p> <p>The Permittee shall properly plug and abandon a monitoring well requiring replacement upon completion of the replacement monitoring well. The Permittee shall complete the well plugging and abandonment, and shall document the abandonment procedures, in</p>

#	Terms and Conditions
	<p>accordance with the attached <i>Monitoring Well Guidance</i> and all applicable local, state, and federal regulations. The Permittee shall submit a copy of the well abandonment documentation to NMED within 60 days following the replacement well completion.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
25.	<p>In the event that analytical results of a treated wastewater sample indicate an exceedance of the total nitrogen discharge limit set in this Discharge Permit, the Permittee shall collect and submit for analysis a second sample within 48 hours of the receipt of the initial sampling results. In the event the second sample results indicate an exceedance of the discharge limit, the Permittee shall implement the following contingencies.</p> <ul style="list-style-type: none"><li>a) Within 7 days of the second sample analysis date indicating exceedance of the discharge limit, the Permittee shall:<ul style="list-style-type: none"><li>i) notify NMED that the Permittee is implementing the Contingency Plan; and</li><li>ii) submit a copy of the first and second analytical results indicating an exceedance to NMED.</li></ul></li><li>b) The Permittee shall increase the frequency of total nitrogen wastewater sampling and analysis of treated wastewater to once per month.</li><li>c) The Permittee shall examine the operation and maintenance log, required by the Record Keeping conditions of this Discharge Permit, for improper operational procedures.</li><li>d) The Permittee shall conduct a physical inspection of the treatment system to detect abnormalities. The Permittee shall correct any abnormalities discovered. The Permittee shall submit a report to NMED detailing the corrections within 30 days of correction.</li><li>e) In the event that any analytical results from monthly wastewater sampling indicate an exceedance of the total nitrogen discharge limit, the Permittee shall submit a CAP to NMED for approval proposing to modify operational procedures and/or upgrade the treatment process to achieve the total nitrogen limit. The Permittee shall submit the CAP including a schedule for completion of corrective actions and within 90 days of receipt of the analytical results of the second sample indicating that the discharge limit is continuing to be exceeded. The Permittee shall initiate implementation of the CAP following approval by NMED.</li></ul> <p>When analytical results from three consecutive months of wastewater sampling do not exceed the discharge limit, the Permittee may request NMED authorize a return to a quarterly monitoring frequency.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>



#	Terms and Conditions
26.	<p>In the event that the Permittee identifies failure of the low-pressure dose disposal field, such as surfacing wastewater, the Permittee shall implement the following Contingency Plan.</p> <ul style="list-style-type: none"> <li>a) Within 24 hours following the discovered failure, the Permittee shall: <ul style="list-style-type: none"> <li>i) Notify NMED of the failure in accordance with the notification requirements described in the Contingency Plan for unauthorized discharges; and</li> <li>ii) Restrict public access to the area.</li> </ul> </li> <li>b) The Permittee shall conduct a physical inspection of the treatment and disposal system to identify additional potential failures and record them in the inspection log.</li> <li>c) The Permittee shall propose actions to address the failure and methods of correction by submitting a CAP to NMED for approval within 15 days following the discovered failure. The Permittee shall ensure the CAP includes a schedule for completion of corrective actions. The Permittee shall initiate implementation of the CAP following NMED approval.</li> </ul> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
27.	<p>In the event that a release occurs that is not authorized under this Discharge Permit (commonly known as a “spill”), the Permittee shall take measures to mitigate damage from the unauthorized discharge and initiate the notifications and corrective actions required in Section 20.6.2.1203 NMAC and summarized below.</p> <p>Within <u>24 hours</u> following discovery of the unauthorized discharge, the Permittee shall verbally notify NMED and provide the following information.</p> <ul style="list-style-type: none"> <li>a) The name, address, and telephone number of the person or persons in charge of the Facility, as well as of the owner and/or operator of the Facility.</li> <li>b) The name and address of the Facility.</li> <li>c) The date, time, location, and duration of the unauthorized discharge.</li> <li>d) The source and cause of unauthorized discharge.</li> <li>e) A description of the unauthorized discharge, including its estimated chemical composition.</li> <li>f) The estimated volume of the unauthorized discharge.</li> <li>g) Any actions taken to mitigate immediate damage from the unauthorized discharge.</li> </ul> <p>Within <u>one week</u> following discovery of the unauthorized discharge, the Permittee shall submit written notification to NMED providing the information listed above and any pertinent updates.</p> <p>Within <u>15 days</u> following discovery of the unauthorized discharge, the Permittee shall submit a CAP to NMED describing any corrective actions previously taken and corrective</p>

#	Terms and Conditions
	<p>actions to be taken relative to the unauthorized discharge. The CAP shall include the following information.</p> <ul style="list-style-type: none"> <li>a) A description of proposed actions to mitigate damage from the unauthorized discharge.</li> <li>b) A description of proposed actions to prevent future unauthorized discharges of this nature.</li> <li>c) A schedule for completion of proposed actions.</li> </ul> <p>In the event that the unauthorized discharge causes or may with reasonable probability cause water pollution in excess of the standards and requirements of Section 20.6.2.4103 NMAC, and the water pollution will not be abated within 180 days after notice is required to be given pursuant to Paragraph (1) of Subsection A of 20.6.2.1203 NMAC, NMED may require the Permittee to abate water pollution pursuant to Sections 20.6.2.4000 through 20.6.2.4115 NMAC.</p> <p>The Permittee shall not construe anything in this condition as relieving them of the obligation to comply with all requirements of Section 20.6.2.1203 NMAC.</p> <p>[20.6.2.1203 NMAC]</p>
28.	<p>In the event that NMED or the Permittee identifies any failures of the discharge plan, i.e., the application, or this Discharge Permit not specifically noted herein, NMED may require the Permittee to submit a CAP and a schedule for completion of corrective actions to address the failure(s). Additionally, NMED may require a discharge permit modification to achieve compliance with 20.6.2 NMAC.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection E of 20.6.2.3109 NMAC]</p>

#### D. CLOSURE PLAN

##### *Closure Actions with Implementation Deadlines*

#	Terms and Conditions
29.	<p>Within 120 days following the issuance date of this Discharge Permit (<b>by DATE</b>), the Permittee shall properly plug and abandon the following monitoring wells.</p> <ul style="list-style-type: none"> <li>a) MW-East, located hydrologically downgradient and northeast of the low-pressure dose disposal field.</li> <li>b) MW-West, located hydrologically upgradient of the Facility.</li> </ul>

#	Terms and Conditions
	<p>The Permittee shall abandon monitoring wells in accordance with the attached <i>Monitoring Well Guidance</i>, and all applicable local, state, and federal regulations, including 19.27.4 NMAC.</p> <p>The Permittee shall submit documentation describing the well abandonment procedures in accordance with the above-mentioned Guidelines. The Permittee shall submit the well abandonment documentation to NMED within 60 days of completion of well plugging activities.</p> <p>[Subsection A of 20.6.2.3107 NMAC, 19.27.4 NMAC]</p>

***Permanent Facility Closure Conditions***

#	Terms and Conditions
30.	<p>The Permittee shall perform the following closure measures in the event the Facility, or a component of the Facility, is proposed to be permanently closed.</p> <p>Within <u>90 days</u> of ceasing to discharge to the treatment system, the Permittee shall complete the following closure measures.</p> <ul style="list-style-type: none"> <li>a) Plug the line leading to the system so that a discharge can no longer occur.</li> <li>b) Evaporate wastewater in the system components or drain and dispose of in accordance with all local, state, and federal regulations.</li> <li>c) Contain, transport, and dispose of solids removed from the treatment system in accordance with all local, state, and federal regulations, including 40 CFR Part 503. The Permittee shall maintain a record of all solids transported for off-site disposal.</li> </ul> <p>Within <u>180 days</u> of ceasing to discharge to the treatment system (or unit), the Permittee shall complete the following closure measures.</p> <ul style="list-style-type: none"> <li>a) Remove all lines leading to and from the treatment system, or permanently plug and abandon them in place.</li> <li>b) Remove or demolish all treatment system components, and re-grade the area with suitable fill to blend with surface topography, promote positive drainage and prevent ponding.</li> </ul> <p>The Permittee shall continue groundwater monitoring until the Permittee meets the requirements of this condition and groundwater monitoring confirms for a minimum of eight consecutive quarterly groundwater sampling events that groundwater does not exceed the standards of Section 20.6.2.3103 NMAC. This period is referred to as “post-closure.”</p>

#	Terms and Conditions
	<p>If at any time monitoring results show an exceedance of a groundwater quality standard in Section 20.6.2.3103 NMAC, the Permittee shall implement the Contingency Plan required by this Discharge Permit.</p> <p>Following notification from NMED that the Permittee may cease post-closure monitoring, the Permittee shall plug and abandon the monitoring well(s) in accordance with the attached Monitoring Well Guidance.</p> <p>When the Permittee has met all closure and post-closure requirements and verified appropriate actions with date stamped photographic evidence or an associated NMED inspection, the Permittee may submit to NMED a written request, including photographic evidence, for termination of the Discharge Permit.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection D of 20.6.2.4103 NMAC, 40 CFR Part 503]</p>

**E. GENERAL TERMS AND CONDITIONS**

#	Terms and Conditions
31.	<p>RECORD KEEPING - The Permittee shall maintain a written record of the following:</p> <ul style="list-style-type: none"><li>• Information and data used to complete the application for this Discharge Permit;</li><li>• Information, data, and documents demonstrating completion of closure activities;</li><li>• Any releases (commonly known as “spills”) not authorized under this Discharge Permit and reports submitted pursuant to 20.6.2.1203 NMAC;</li><li>• The operation, maintenance, and repair of all facilities/equipment used to treat, store or dispose of wastewater;</li><li>• Facility record drawings (plans and specifications) showing the actual construction of the Facility and bear the seal and signature of a licensed New Mexico professional engineer;</li><li>• Copies of logs, inspection reports, and monitoring reports completed and/or submitted to NMED pursuant to this Discharge Permit;</li><li>• The volume of wastewater or other wastes discharged pursuant to this Discharge Permit;</li><li>• Groundwater quality and wastewater quality data collected pursuant to this Discharge Permit;</li><li>• Copies of construction records (well log) for all sampled groundwater monitoring wells pursuant to this Discharge Permit;</li></ul>

#	Terms and Conditions
	<ul style="list-style-type: none"> <li>• The maintenance, repair, replacement or calibration of any monitoring equipment or flow measurement devices required by this Discharge Permit; and</li> <li>• Data and information related to field measurements, sampling, and analysis conducted pursuant to this Discharge Permit, including: <ul style="list-style-type: none"> <li>○ the dates, location and times of sampling or field measurements;</li> <li>○ the name and job title of the individuals who performed each sample collection or field measurement;</li> <li>○ the sample analysis date of each sample</li> <li>○ the name and address of the laboratory, and the name of the signatory authority for the laboratory analysis;</li> <li>○ the analytical technique or method used to analyze each sample or collect each field measurement;</li> <li>○ the results of each analysis or field measurement, including raw data;</li> <li>○ the results of any split, spiked, duplicate or repeat sample; and</li> <li>○ a copy of the laboratory analysis chain-of-custody as well as a description of the quality assurance and quality control procedures used.</li> </ul> </li> </ul> <p>The Permittee shall maintain the written record at a location accessible to NMED during a Facility inspection for the lifetime of the Discharge Permit. The Permittee shall make the record available to the department upon request.</p> <p>[Subsections A and D of 20.6.2.3107 NMAC]</p>
32.	<p>SUBMITTALS – The Permittee shall submit both a paper copy and an electronic copy of all notification and reporting documents required by this Discharge Permit, e.g., monitoring reports. The Permittee shall submit paper and electronic documents to the NMED Permit Contact identified on the Permit cover page.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
33.	<p>INSPECTION and ENTRY – The Permittee shall allow NMED to inspect the Facility and its operations that are subject to this Discharge Permit and the WQCC regulations. NMED may upon presentation of proper credentials, enter at reasonable times upon or through any premises in which a water contaminant source is located or in which any maintained records required by this Discharge Permit, the regulations of the federal government, or the WQCC are located.</p> <p>The Permittee shall allow NMED to have access to and reproduce for their use any copy of the records, and to perform assessments, sampling or monitoring during an inspection for the purpose of evaluating compliance with this Discharge Permit and the WQCC regulations.</p>

#	Terms and Conditions
	<p>No person shall construe anything in this Discharge Permit as limiting in any way the inspection and entry authority of NMED under the WQA, the WQCC Regulations, or any other local, state or federal regulations.</p> <p>[Subsection D of 20.6.2.3107 NMAC, NMSA 1978, §§ 74-6-9.B and 74-6-9.E]</p>
34.	<p>DUTY to PROVIDE INFORMATION - The Permittee shall, upon NMED's request, allow for NMED's inspection/duplication of records required by this Discharge Permit and/or furnish to NMED copies of such records.</p> <p>[Subsection D of 20.6.2.3107 NMAC]</p>
35.	<p>MODIFICATIONS and/or AMENDMENTS – In the event the Permittee proposes a change to the Facility or the Facility's discharge that would result in a change in the volume discharged; the location of the discharge; or in the amount or character of water contaminants received, treated or discharged by the Facility, the Permittee shall notify NMED prior to implementing such changes. The Permittee shall obtain NMED's approval (which may require modification of this Discharge Permit) prior to implementing such changes.</p> <p>[Subsection C of 20.6.2.3107 NMAC, Subsections E and G of 20.6.2.3109 NMAC]</p>
36.	<p>PLANS and SPECIFICATIONS – In the event the Permittee proposes to construct a wastewater system or change a process unit of an existing system such that the quantity or quality of the discharge will change substantially from that authorized by this Discharge Permit, the Permittee shall submit construction plans and specifications of the proposed system or process unit to NMED for approval prior to the commencement of construction.</p> <p>In the event the Permittee implements changes to the wastewater system authorized by this Discharge Permit that result in only a minor effect on the character of the discharge, the Permittee shall report such changes (including the submission of record drawings where applicable) to NMED prior to implementation.</p> <p>[Subsections A and C of 20.6.2.1202 NMAC, NMSA 1978, §§ 61-23-1 through 61-23-32]</p>
37.	<p>CIVIL PENALTIES - Any violation of the requirements and conditions of this Discharge Permit, including any failure to allow NMED staff to enter and inspect records or facilities, or any refusal or failure to provide NMED with records or information, may subject the Permittee to a civil enforcement action. Pursuant to WQA 74-6-10(A) and (B), such action may include a compliance order requiring compliance immediately or in a specified time,</p>

#	Terms and Conditions
	<p>assessing a civil penalty, modifying or terminating the Discharge Permit, or any combination of the foregoing; or an action in district court seeking injunctive relief, civil penalties, or both. Pursuant to WQA 74-6-10(C) and 74-6-10.1, civil penalties of up to \$15,000 per day of noncompliance may be assessed for each violation of the WQA 74-6-5, the WQCC Regulations, or this Discharge Permit, and civil penalties of up to \$10,000 per day of noncompliance may be assessed for each violation of any other provision of the WQA, or any regulation, standard, or order adopted pursuant to such other provision. In any action to enforce this Discharge Permit, the Permittee waives any objection to the admissibility as evidence of any data generated pursuant to this Discharge Permit.</p> <p>[20.6.2.1220 NMAC, NMSA 1978, §§ 74-6-10 and 74-6-10.1]</p>
38.	<p><b>CRIMINAL PENALTIES – No person shall:</b></p> <ul style="list-style-type: none"> <li>• Make any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document filed, submitted or maintained under the WQA;</li> <li>• Falsify, tamper with or render inaccurate any monitoring device, method or record maintained under the WQA; or</li> <li>• Fail to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation.</li> </ul> <p>Any person who knowingly violates or knowingly causes or allows another person to violate the requirements of this condition is guilty of a fourth-degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who is convicted of a second or subsequent violation of the requirements of this condition is guilty of a third-degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who knowingly violates the requirements of this condition or knowingly causes another person to violate the requirements of this condition and thereby causes a substantial adverse environmental impact is guilty of a third-degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who knowingly violates the requirements of this condition and knows at the time of the violation that he is creating a substantial danger of death or serious bodily injury to any other person is guilty of a second degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15.</p> <p>[20.6.2.1220 NMAC, NMSA 1978, §§ 74-6-10.2.A through 74-6-10.2.F]</p>
39.	<p><b>COMPLIANCE with OTHER LAWS -</b> Nothing in this Discharge Permit shall be construed in any way as relieving the Permittee of the obligation to comply with any other applicable federal, state, and/or local laws, regulations, zoning requirements, nuisance ordinances, permits or orders.</p>

#	Terms and Conditions
	[NMSA 1978, § 74-6-5.L]
40.	<p>RIGHT to APPEAL - The Permittee may file a petition for review before the WQCC on this Discharge Permit. Such petition shall be in writing to the WQCC within thirty days of the receipt of postal notice of this Discharge Permit and shall include a statement of the issues raised and the relief sought. Unless the Permittee files a timely petition for review, the decision of NMED shall be final and not subject to judicial review.</p> <p>[20.6.2.3112 NMAC, NMSA 1978, § 74-6-5.O]</p>
41.	<p>TRANSFER of DISCHARGE PERMIT - Prior to the transfer of any ownership, control, or possession of this Facility or any portion thereof, the Permittee shall:</p> <ul style="list-style-type: none"> <li>• Notify the proposed transferee in writing of the existence of this Discharge Permit;</li> <li>• Include a copy of this Discharge Permit with the notice; and</li> <li>• Deliver or send by certified mail to NMED a copy of the notification and proof that the proposed transferee has received such notification.</li> </ul> <p>The Permittee shall continue to be responsible for any discharge from the Facility, until both ownership and possession of the Facility have been transferred to the transferee.</p> <p>[20.6.2.3111 NMAC]</p>
42.	<p>PERMIT FEES – The Permittee shall be aware that the payment of permit fees is due at the time of Discharge Permit approval. The Permittee may pay the permit fees in a single payment or they may pay the fee in equal installments on a yearly basis over the term of the Discharge Permit. The Permittee shall remit single payments to NMED no later than 30 days after the Discharge Permit issuance date. The Permittee shall remit initial installment payments to NMED no later than 30 days after the Discharge Permit issuance date; with subsequent installment payments remitted to NMED no later than the anniversary of the Discharge Permit issuance date.</p> <p>Permit fees are associated with <u>issuance</u> of this Discharge Permit. No person shall construe anything in this Discharge Permit as relieving the Permittee of the obligation to pay all permit fees assessed by NMED. A Permittee that ceases discharging or does not commence discharging from the Facility during the term of the Discharge Permit shall pay all permit fees assessed by NMED. NMED shall suspend or terminate an approved Discharge Permit if the Permittee fails to remit an installment payment by its due date.</p> <p>[Subsection F of 20.6.2.3114 NMAC, NMSA 1978, § 74-6-5.K]</p>





## New Mexico Environment Department Ground Water Quality Bureau Discharge Permit Summary

### Facility Information

**Facility Name**  
**Discharge Permit Number**

Prairie Hill Subdivision Wastewater Treatment Plant  
DP-1094

**Legally Responsible Party**

Steven P. Jackson, Managing Member  
Troya Homes LLC  
6300 Riverside Plaza Place NW, Ste. 200  
Albuquerque, NM 87120  
(505) 263-3627

### Treatment, Disposal and Site Information

**Primary Waste Type**  
**Facility Type**

Domestic  
Subdivision

#### Treatment Methods

Type	Designation	Description & Comments
Package Treatment Plant	WestTech STM Aerotor	Activated sludge and Fixed film; capable of treating 15,000 gpd.
Effluent Tank	Dosing Tank/Lift Station	Treated wastewater sampling location; flow metered to low pressure dose disposal field.
Septic Tank	Anoxic Tank	Concrete; 1,000-gallon capacity; no baffles; receives wastewater from septic tanks located at individual residences and flows to package treatment plant.
Septic Tanks	ST specific to each home.	There is a septic tank located outside each home. They are pumped on a scheduled rotation as part of the wastewater system O&M.

#### Discharge Locations

Type	Designation	Description & Comments
Injection Well / UIC	Low Pressure Disposal Field- East	Six trenches estimated to be 124 linear feet each.
Injection Well / UIC	Low Pressure Disposal Field-West	Six trenches estimated to be 124 linear feet each.

#### Flow Metering Locations

Type	Designation	Description & Comments
Totalizing Flow Meter	Effluent Meter	Located in the effluent dosing tank/lift station.

#### Ground Water Monitoring Locations



## New Mexico Environment Department Ground Water Quality Bureau Discharge Permit Summary

Type	Designation	Description & Comments
Monitoring Well	MW-#1	To be installed hydrologically downgradient of the low-pressure dose disposal field.
Monitoring Well	MW-East	Located hydrologically downgradient and northeast of the low-pressure dose disposal field. To be plugged and abandoned during this permit term.
Monitoring Well	MW-West	Located hydrologically upgradient of the Facility. To be plugged and abandoned during this permit term.

Depth-to-Ground Water 215 feet  
Total Dissolved Solids (TDS) 449 mg/L

### Permit Information

<b>Original Permit Issued</b>	October 28, 1996
<b>Permit Renewal</b>	April 29, 2002
<b>Permit Renewal</b>	October 17, 2007
<b>Permit Modification</b>	March 18, 2009
<b>Permit Renewal</b>	April 17, 2015
<b>Current Action</b>	<b>Renewal</b>
Application Received	October 9, 2019, and November 16, 2021
Public Notice Published	[not yet published]
Permit Issued (Issuance Date)	[issuance date]
Permitted Discharge Volume	15,000 gallons per day

### NMED Contact Information

<b>Mailing Address</b>	Ground Water Quality Bureau P.O. Box 5469 Santa Fe, New Mexico 87502-5469
<b>GWQB Telephone Number</b>	(505) 827-2900
<b>NMED Lead Staff</b>	Avery Young
<b>Lead Staff Telephone Number</b>	(505) 699-8564
<b>Lead Staff Email</b>	avery.young@state.nm.us or pps.general@state.nm.us

**NEW MEXICO ENVIRONMENT DEPARTMENT  
GROUND WATER QUALITY BUREAU  
MONITORING WELL CONSTRUCTION AND ABANDONMENT GUIDELINES**

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**Purpose:** These guidelines identify minimum construction and abandonment details for installation of water table monitoring wells under groundwater Discharge Permits issued by the NMED's Ground Water Quality Bureau (GWQB) and Abatement Plans approved by the GWQB. Proposed locations of monitoring wells required under Discharge Permits and Abatement Plans and requests to use alternate installation and/or construction methods for water table monitoring wells or other types of monitoring wells (e.g., deep monitoring wells for delineation of vertical extent of contaminants) must be submitted to the GWQB for approval prior to drilling and construction.

**General Drilling Specifications:**

1. All well drilling activities must be performed by an individual with a current and valid well driller license issued by the State of New Mexico in accordance with 19.27.4 NMAC. Use of drillers with environmental well drilling experience and expertise is highly recommended.
2. Drilling methods that allow for accurate determinations of water table locations must be employed. All drill bits, drill rods, and down-hole tools must be thoroughly cleaned immediately prior to the start of drilling. The borehole diameter must be drilled a minimum of 4 inches larger than the casing diameter to allow for the emplacement of sand and sealant.
3. After completion, the well should be allowed to stabilize for a minimum of 12 hours before development is initiated.
4. The well must be developed so that formation water flows freely through the screen and is not turbid, and all sediment and drilling disturbances are removed from the well.

**Well Specifications (see attached monitoring well schematic):**

5. Schedule 40 (or heavier) polyvinyl chloride (PVC) pipe, stainless steel pipe, carbon steel pipe, or pipe of an alternate appropriate material that has been approved for use by NMED must be used as casing. The casing must have an inside diameter not less than 2 inches. The casing material selected for use must be compatible with the anticipated chemistry of the groundwater and appropriate for the contaminants of interest at the facility. The casing material and thickness selected for use must have sufficient collapse strength to withstand the pressure exerted by grouts used as annular seals and thermal properties sufficient to withstand the heat generated by the hydration of cement-based grouts. Casing sections may be joined using welded, threaded, or mechanically locking joints; the method selected must provide sufficient joint strength for the specific well installation. The casing must extend from the top of the screen to at least one foot above ground surface. The top of the casing must be fitted with a removable cap, and the exposed casing must be protected by a locking steel well shroud. The shroud must be large enough in diameter to allow easy access for removal of the cap. Alternatively, monitoring wells may be completed below grade. In this case, the casing must extend from the top of the screen to 6 to 12 inches below the ground surface; the monitoring wells must be sealed with locking, expandable well plugs; a flush-mount, watertight well vault that is rated to withstand traffic loads must be emplaced around the wellhead; and the cover must be secured with at least one bolt. The vault cover must indicate that the wellhead of a monitoring well is contained within the vault.
6. A 20-foot section (maximum) of continuous-slot, machine slotted, or other manufactured PVC or stainless steel well screen or well screen of an alternate appropriate material that has been approved for use by NMED must be installed across the water table. Screens created by cutting slots into solid casing with saws or other tools must not be used. The screen material selected for use must be compatible with the anticipated chemistry of the ground water and appropriate for the contaminants of interest at the facility. Screen sections may be joined using welded, threaded, or mechanically

- locking joints; the method selected must provide sufficient joint strength for the specific well installation and must not introduce constituents that may reasonably be considered contaminants of interest at the facility. A cap must be attached to the bottom of the well screen; sumps (i.e., casing attached to the bottom of a well screen) should not be installed. The bottom of the screen must be installed no more than 15 feet below the water table; the top of the well screen must be positioned not less than 5 feet above the water table. The well screen slots must be appropriately sized for the formation materials and should be selected to retain 90 percent of the filter pack. A slot size of 0.010 inches is generally adequate for most installations.
7. Casing and well screen must be centered in the borehole by placing centralizers near the top and bottom of the well screen.
  8. A filter pack must be installed around the screen by filling the annular space from the bottom of the screen to 2 feet above the top of the screen with clean silica sand. The filter pack must be properly sized to prevent fine particles in the formation from entering the well; clean medium to coarse silica sand is generally adequate as filter pack material for 0.010-inch slotted well screen. For wells deeper than 30 feet, the sand must be emplaced by a tremmie pipe. The well should be surged or bailed to settle the filter pack and additional sand added, if necessary, before the bentonite seal is emplaced.
  9. A bentonite seal must be constructed immediately above the filter pack by emplacing bentonite chips or pellets (3/8-inch in size or smaller) in a manner that prevents bridging of the chips/pellets in the annular space. The bentonite seal must be 3 feet in thickness and hydrated with clean water. Adequate time should be allowed for expansion of the bentonite seal before installation of the annular space seal.
  10. The annular space above the bentonite seal must be sealed with cement grout or a bentonite-based sealing material acceptable to the State Engineer pursuant to 19.27.4 NMAC. A tremmie pipe must be used when placing sealing materials at depths greater than 20 feet below the ground surface. Annular space seals must extend from the top of the bentonite seal to the ground surface (for wells completed above grade) or to a level 3 to 6 inches below the top of casing (for wells completed below grade).
  11. For monitoring wells finished above grade, a concrete pad (2-foot minimum radius, 4-inch minimum thickness) must be poured around the shroud and wellhead. The concrete and surrounding soil must be sloped to direct rainfall and runoff away from the wellhead. The installation of steel posts around the well shroud and wellhead is recommended for monitoring wells finished above grade to protect the wellhead from damage by vehicles or equipment. For monitoring wells finished below grade, a concrete pad (2-foot minimum radius, 4-inch minimum thickness) must be poured around the well vault and wellhead. The concrete and surrounding soil must be sloped to direct rainfall and runoff away from the well vault.

#### **Abandonment:**

12. Approval for abandonment of monitoring wells used for ground water monitoring in accordance with Discharge Permit and Abatement Plan requirements must be obtained from NMED prior to abandonment.
13. Well abandonment must be accomplished by removing the well casing and placing neat cement grout, bentonite-based plugging material, or other sealing material approved by the State Engineer for wells that encounter water pursuant to 19.27.4 NMAC from the bottom of the borehole to the ground surface using a tremmie pipe. If the casing cannot be removed, neat cement grout, bentonite-based plugging material, or other sealing material approved by the State Engineer must be placed in the well using a tremmie pipe from the bottom of the well to the ground surface.
14. After abandonment, written notification describing the well abandonment must be submitted to the NMED. Written notification of well abandonment must consist of a copy of the well plugging record submitted to the State Engineer in accordance with 19.27.4 NMAC, or alternate documentation containing the information to be provided in a well plugging record required by the State Engineer as specified in 19.27.4 NMAC.

**Deviation from Monitoring Well Construction and Abandonment Requirements:** Requests to construct water table monitoring wells or other types of monitoring wells for groundwater monitoring under groundwater Discharge Permits or Abatement Plans in a manner that deviates from the specified requirements must be submitted in writing to the GWQB. Each request must state the rationale for the proposed deviation from these requirements and provide detailed evidence supporting the request. The GWQB will approve or deny requests to deviate from these requirements in writing.

