

PETITIONER EXHIBITS

**PRIVATE ROAD MAINTENANCE, SEWER,
AND EFFLUENT
IRRIGATION AGREEMENT**

THIS AGREEMENT, made this 2nd day of January, 2025, by and between HEYBOURNE RANCH LLC, a Nevada limited liability company ("**HR**") and JONATHAN and JOSEPHINE YOUNG ("**Young**") (hereinafter collectively referred to as "**Owners**").

RECITALS:

A. WHEREAS, HR is the owner of that certain real property entirely situated in Douglas County, Nevada, comprising six parcels totaling approximately 223 acres, commonly known as Assessor's Parcel Numbers 1420-00-002-033, 1420-00-002-044, 1420-00-002-034, 1420-29-001-010, 1420-29-001-011, 1420-29-001-012 and 1420-29-001-007 as depicted in that certain Maps recorded in the Official Records of Douglas County, Nevada on October 11, 2023 as Document No 1001363 and October 19, 2025 as Document No 8616 (the "**Maps**"), (the "**HR Property**").

B. WHEREAS, Young is the owner of that certain real property entirely situated in Douglas County, Nevada, comprised of a parcel totaling approximately 19 acres, commonly known as Assessor's Parcel Number 1420-29-001-012 as depicted in the Map (the "**Young Property**"). The HR Property and the Young Property are herein collectively referred to as the "**Properties**".

C. WHEREAS, HR and Young and the HR Property and the Young Property are subject to that certain Effluent Agreement dated June 6, 2007 and recorded in the Official Records of Douglas County, Nevada on June 13, 2007 as Document No. 0703156, as the same has been amended and assigned from time to time (the "**Effluent Agreement**"), which is hereby incorporated by this reference as if fully set forth herein and whereby the owners of the HR Property and the Young Property are obligated to accept and Douglas County is permitted to deliver up to 750 acre-feet of effluent treated by Douglas County at the North Valley Wastewater Treatment Facility to the Property for irrigation reuse.

D. WHEREAS, the Owners intend by this Agreement to provide for their respective obligations with regard to the ongoing maintenance and repair of the private access roadway as depicted on Exhibit "A" attached hereto and incorporated by this reference as if fully set forth herein.

E. WHEREAS, the Owners additionally intend to provide for the mutually beneficial administration and application of the Effluent Agreement by and among each of the seven parcels that make up the HR Property and the Young Property in the best interests of any owners of said property.

F. WHEREAS, The Owners intend that this Agreement be memorialized by recordation of a Memorandum of Agreement that shall run with the HR Property and Young Property and all parts and parcels thereof and shall be binding on all parties having any rights, title or interest in such property and their heirs, successors, successors-in-title, and assigns and shall inure to the benefit of each owner. Each, all, and every one of the limitations, easements, uses, obligations, covenants, conditions, and restrictions herein imposed shall be deemed to be and construed as equitable servitudes enforceable by any of the owners of any portion of the HR Property and Young Property subject to the terms of this Agreement against any other owner, tenant, or occupant of said property or portion thereof similarly encumbered by this Agreement.

NOW, THEREFORE, the Parties, for good and valuable consideration and the mutual promises herein contained, the receipt and sufficiency of which are hereby acknowledged, do hereby agree as follows:

1. Heybourne Ranch Management Company. The Heybourne Ranch Management Company (“*HRMC*”) shall be incorporated under said name, or a similar name, as a non-profit corporation under NRS Chapter 82. The HRMC is created under Nevada law for the limited purpose of administration of the provisions of this Agreement and the Effluent Agreement and its application to the Properties; accordingly, pursuant to NRS 116.1201(2)(a), the HRMC shall be *EXEMPT* from NRS Chapter 116. Upon the Owners’ execution of this Agreement and recordation of the Memorandum of Agreement provided for below, subject to the consent of Douglas County, the Owners shall also cause to be recorded an assignment of the Effluent Agreement to the HRMC.

(a) The Duties, powers, and rights of the HRMC are those set forth in this Agreement as well as articles and bylaws to be adopted by HRMC, together with its general and implied powers as a non-profit corporation generally to do any and all things that such corporations organized under the laws of the State of Nevada may lawfully do which are necessary or proper in connection therewith.

(b) The Members of the HRMC shall be the owners of the Properties, with a one-seventh membership interest being appurtenant to each of the seven parcels making up the Properties. Each owner of a parcel of the Properties, upon acquiring title to such a parcel or any part of such a parcel¹, shall automatically become a member of the HRMC and shall remain a member until such time as his or her ownership of such a parcel ceases, at which time his or her membership automatically ceases. Memberships in the HRMC shall not be assignable, except to the person to which title to a parcel of the Properties has been transferred and each Membership shall be appurtenant to and may not be separated from the fee ownership of such parcel. Ownership of a parcel of the Properties shall be the sole qualification for Membership of the HRMC.

2. Road Easements and Road Maintenance. Attached hereto as Exhibit A and incorporated herein by this reference is a document depicting the Properties as well as depicting

¹ In the event that any of the Properties are further subdivided, such Property’s one-seventh membership interest in HRMC shall be divided in accordance with the number parcels is divided into. By way of example, if the Young Property is subdivided into two parcels, the subsequent owners of each such parcel shall each own a one-fourteenth membership in HRMC.

and describing various private access road easements (“*Easements*”) on the Properties, each of which serves some or all of the Properties as described in that certain document recorded in the Official Record of Douglas County, Nevada on August 10, 2023 as Document No. 658214. It is the Owners’ intent to construct and/or maintain roadways within such easements as described therein in accordance with the terms of this Agreement.

Each owner of any of the Properties burdened or served by an Easement and their successors are to be responsible for their share of reasonable cost of the maintenance and repair of the road to be constructed in the Easement, including, but not limited to, grading and the placement of material as necessary from time to time to maintain vehicle travel lanes as well as the clearing of brush, debris and any other material from ditches, culverts and any other drainage improvements in order to prevent damage to the roadway from drainage or runoff.

Each owner of any of the Properties acknowledges and agrees that any construction, maintenance, repair, or improvement of a road within the Easements shall preserve the rural character of the Properties as much as is practicable. Each such owner agrees they are responsible to assure that drainage from their respective parcels is handled in such a manner as to prevent unreasonable damage and erosion to the road to be constructed in the Easements. Each such owner agrees that no gates or other obstructions shall be placed within the Easements.

(a) Maintainer. For the purpose of implementing the maintenance and repairs to the Roadway provided for herein, the manager or president of HRMC shall have the right to determine when maintenance or repair work is necessary. It is the intention of the Owners that maintenance work be completed on a regular basis as necessary to avoid the need for major repairs as the result of a lack of routine maintenance. Prior to contracting for such work, HRMC shall obtain at least one written proposal from an appropriately licensed contractor for such work. Such proposal or proposals, in writing, will be provided to all of the owners of the Properties seeking the consent of such owner. If a majority of the owners of the Properties either provide HRMC with their written consent do not object in writing within ten (10) calendar days of receipt of any such proposal, HRMC may contract for the work and proceed to have the work completed. Owners of the Properties will pay for their portion of the amounts due for repair or maintenance work contracted for by HRMC within three (3) business days of receipt of written notice. Payment will be made to HRMC who shall then pay the contractor.

(b) Sharing of Costs. The parties agree that the owners of respective Properties described herein shall share in HRMC’s costs and expenses necessary to maintain the roadway within the Easement in accordance with the provisions of this Agreement in the following percentages:

Parcel A through C:	12%
Parcel D:	22%
Parcel E:	22%
Parcel F:	22%
Parcel G:	22%

(c) Emergency Work. An owner of any of the Properties shall have the authority to contract for emergency repairs to the roadways in the Easements on behalf of the remaining owners. The other owners of the Properties will pay their portion of the amounts due for such emergency work within three (3) business days of receipt of written notice of such work.

3. Effluent Irrigation.

(a) Each owner of a parcel of the Properties hereby grants to the HRMC a nonexclusive easement across the Properties per Exhibit B to allow the HRMC to accomplish its purpose of maintaining the installed underground irrigation water lines and valves and to take any action authorized herein, including without limitation, a non-exclusive easement for underground irrigation lines per Exhibit B.

(b) The Membership held by any owner of a parcel that is part of Properties shall not be transferred, pledged, or alienated in any way, except upon the sale or encumbrance of such owner's parcel, and then only to the purchaser or mortgagee of such parcel. Any attempt to make a prohibited transfer is void and will not be reflected upon the books and records of the HRMC. The HRMC shall assess and collect a transfer fee against a new owner of a parcel that is part of the Properties in such amount as the HRMC determines, from time to time, to be necessary to accomplish the purposes of the HRMC.

(c) The HRMC shall adopt and/or ratify articles of incorporation and bylaws, which shall set forth the purposes and powers of the HRMC, consistent with this Agreement, and which shall provide for management of the HRMC by a board of directors, who may only regulate the HRMC's affairs and may not regulate any other part of the Properties. Said bylaws shall provide for the owner of the largest parcel to have a permanent seat on the board of directors.

(d) The HRMC shall administer and apply the terms of the Effluent Agreement as set forth below:

A. For purposes of this Agreement, the seven parcels making up the Properties and depicted on Exhibit A shall be labeled and are generally described as follows:

Parcel A APN 1420-29-001-008(101.36 acres, northernmost parcel of the Properties)

Parcel B APN 1420-00-002-034 (25.94 acres, immediately south of Parcel A)

Parcel C APN 1420-00-002-044 (39.48 acres, immediately south of Parcel B)

Parcel D APN 1420-29-001-010 (19 acres, nearest west parcel immediately south of Parcel C)

Parcel E APN 1420-29-001-011 (19 acres, middle parcel immediately south of Parcel C)

Parcel F APN 1420-29-001-012 (19 acres, further east parcel immediately south of Parcel C)Parcel

G APN 1420-29-001-008 (24 acres, southernmost parcel of the Properties)

B. Irrigation of the Properties with effluent provided by Douglas County under the Effluent Agreement shall begin the first Monday in May unless, in the discretion of the owner of Parcel A (e.g., if there is snow on the ground or forecast on or about the first Monday in May) a later start date would be prudent.

- C. The water rotation schedule shall be as follows, beginning on the start date:
- i. Parcel A shall receive water during the window from 8am on Day 1 to 8am on Day 3.
 - ii. Parcel B shall receive water during the window from 8am to 8pm on Day 3.
 - iii. Parcel C shall receive water during the window from 8am to 8pm on Day 4.
 - iv. Parcel D shall receive water during the window from 8am to 12pm on Day 5.
 - v. Parcel E shall receive water during the window from 12pm to 4pm on Day 5.
 - vi. Parcel F shall receive water during the window from 4pm to 8pm on Day 5.
 - vii. Parcel G shall receive water during the window from 8am to 12pm on Day 6.
- D. Water shall be delivered according to this rotation until Douglas County informs the HRMC effluent is no longer available for discharge for the year. It shall be permitted, however, so long as Douglas County allows under the Effluent Agreement, for each parcel to receive the equivalent of up to one additional rotation of water between the months of October to February each season.
- E. If a person owns more than one parcel of the Properties, said owner shall have the right to take his or her rotations on any of his or her parcels.
- F. An owner of a parcel that is part of the Properties may decline to take water during the window in which that parcel is scheduled to take water so long as, in the HRMC board's judgment, the other parcels that are part of the Properties are receiving enough water to comply with the terms of the Effluent Agreement and applicable NDEP permits.
- G. Except where the HRMC board has determined, from time to time, the parcels receiving effluent under the Effluent Agreement are taking enough water to ensure the HRMC is in compliance with the terms of the Effluent Agreement and applicable NDEP permits, every owner of a parcel that is part of the Properties is responsible to install and maintain appropriate irrigation infrastructure (i.e. alfalfa bubblers, etc.) on the water distribution lines currently existing on the Properties for the purpose of delivering effluent to his or her parcel and receiving and maintaining the effluent in compliance with the Effluent Agreement and applicable NDEP permits. An owner who, as authorized by the HRMC board, elects not to receive water may cap the water distribution lines serving his or her parcel at such owner's sole expense. The HRMC board shall review the situation described herein no less frequently than every three years and an owner who has not installed appropriate water

discharge apparatus may, in the discretion of the HRMC board, be directed to do so. Should a Member fail to install or maintain the infrastructure required by this paragraph, the HRMC shall undertake to fulfill such Member's responsibility and assess such Member the actual costs incurred by the HRMC to do so.

- H. An owner may be required, as determined by the HRMC board of directors, to accept water on his or her parcel during his or her rotation even if not wanted, if to do so would be necessary to ensure compliance with the Effluent Agreement and applicable NDEP permits.
- I. If there is enough effluent under the Effluent Agreement that irrigation reuse is required beyond the rotation schedule windows set forth above, said windows shall be expanded, generally on a pro rata basis, to accommodate the additional effluent required.
- J. The HRMC shall assess and collect fees from its members in pro rata amounts necessary to cover the fees charged by Douglas County under Section 1 of the Effluent Agreement and by NDEP under applicable NDEP permits.
- K. The HRMC must ensure that up to 90% of the acreage making up the Properties has the capability to receive a discharge of effluent, as required by the Effluent Agreement, and the Members responsible for a breach of such requirement shall indemnify HRMC in any action brought by Douglas County to enforce the same.
- L. Parcel F shall have the ability to reduce the number of acres allowable to be discharged on by 2.1 Acres and Parcels A, B, and/or C shall take on the additional acres necessary to be covered by effluent if necessary.

The costs and expenses of HRMC associated with the use of effluent irrigation on the Properties shall be allocated to the owners of the Properties based upon the percentage of the total amount of effluent utilized by the owner of each parcel of the Properties in the previous irrigation season.

The provisions of this Paragraph 3 are subject to revision by the affirmative consent of the owners of a majority of the outstanding membership interest in HRMC.

4. Sewer Connection

- a) A sewer line shall be installed along the Southernmost boundary of lots D, E, and F for the purposes of tying into the public sewer system.
- b) Each owner that the County will allow to tie into the system shall pay a

- c) Owners of parcels D, E, F, and G may connect to the HRMC private sewer line at a cost equal to one forth the price paid at time of installation.

5. Miscellaneous.

(a) Covenant Running with the Land; Memorandum of Agreement. This Agreement shall be binding upon and shall inure to the benefit of the owners of the Properties and their respective successors and assigns. All of the easements, rights, obligations, duties and privileges set forth herein shall be appurtenant to and shall run with the Properties, which is both hereby burdened and benefited thereby. Any conveyance of any parcel that is part of the Properties shall also convey the rights, privileges, duties and obligations contained in this Agreement appurtenant to the parcel in question, regardless of whether specific mention is made of this Agreement, and regardless of whether a specific conveyance is made of, or subject to, said rights, privileges, duties and obligations herein.

This Agreement shall not be recorded, but the Owners covenant and agree to execute a memorandum of this Agreement in recordable form which shall be recorded in the office of the Recorder in Douglas County, Nevada as soon as reasonably possibly after full execution of this Agreement.

(b) Lien Rights.

(i) Any claim for reimbursement and any claim for amounts payable under this Agreement will, insofar as permissible by law, constitute a lien against the defaulting parcel and improvements thereon, and the person or entity to whom payment is owed shall be permitted to unilaterally record a notice of such lien against the defaulting parcel in the Official Records of Douglas County, Nevada if such amount is not paid within thirty days after delivery of written notice to the defaulting party of its failure to pay. Any lien claimed under this paragraph may be enforced in any judicial proceedings allowed by law, including without limitation, suit in the nature of a suit to foreclose a lien under the applicable provisions of the laws of the State of Nevada.

(ii) The lien rights of each Party hereunder are and shall be subject and subordinate to any mortgage now or hereafter placed on the Parcel(s) owned by the other Party. Each Party shall confirm such subordination by executing a recordable subordination agreement in form and content reasonably satisfactory to such Party within ten (10) days after receiving a request for such subordination agreement from the other Party or its lender.

(c) Cumulative Remedies. No remedy herein or otherwise conferred upon or reserved hereunder shall be considered exclusive of any other remedy, but the same shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing at law or in equity, and every power and remedy given by this Agreement may be exercised, from time to time, as often as occasion therefor may arise or as may be deemed expedient. No delay or omission by a person to exercise any right or power arising from any breach by another of any term or condition of this Agreement shall impair any such right or power or shall

be construed to be a waiver of any such breach or an acquiescence therein; nor shall the exercise, delay or nonexercise of any such right or remedy impair the rights granted hereunder or be construed as a waiver of such right or remedy or as a waiver, acquiescence in or consent to any further or succeeding breach of the same or any other covenant.

(d) Attorneys' Fees and Costs. In the event any action or proceeding is commenced among or between any entity, committee, or owners of a parcel that is part of the Properties with respect to the subject matter hereof or to enforce any obligation hereunder, the prevailing party or parties shall be entitled to recover from the other party or parties, as part of any judgment rendered, reasonable attorneys' fees and costs as determined by the Court or other adjudicating body.

(e) Severability. If any term, covenant or condition of this Agreement or the application thereof to any person, entity or circumstances shall, to any extent be invalid or unenforceable, the remainder of this Agreement, and the application of such term, covenant or condition to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby and each term, covenant or condition of this Agreement shall be valid and be enforced to the fullest extent permitted by law.

(f) Binding on Successors/Run With the Land. This Agreement shall be binding upon and shall inure to the benefit of the owners of the Properties and their respective successors and assigns. All of the easements, rights, obligations, duties and privileges set forth herein shall be appurtenant to and shall run with the Properties, which is both hereby burdened and benefited thereby. Any conveyance of any parcel that is part of the Properties shall also convey the rights, privileges, duties and obligations contained in this Agreement appurtenant to the parcel in question, regardless of whether specific mention is made of this Agreement, and regardless of whether a specific conveyance is made of, or subject to, said rights, privileges, duties and obligations herein.

(g) Amendment. Neither this Agreement nor any provision hereof may be changed, waived, discharged or terminated orally, but only by an instrument in writing and approved by owners of more than two-thirds of the parcels that make up the Properties, with each parcel entitled to be represented by a single vote.

(h) Force Majeure. Notwithstanding any other provision hereof, in the event that any owner of a parcel that is part of the Properties shall be delayed or hindered in or prevented from the performance of any covenant, agreement, work, service or other act required under this Agreement to be performed by such owner, and such delay or hindrance is due to cause entirely beyond its control such as riots, insurrections, martial law, civil commotion, war, fire, flood, earthquake or other casualty or acts of God, the performance of such covenant, agreement, work, service or other act shall be excused for the period of delay and the time period for performance shall be extended by the same number of days in the period of delay.

(i) Additional Documentation. The Owners and any subsequent purchaser and owner of any parcel that is part of Properties hereby agree that they shall execute and deliver any

documents reasonably required to effectuate this Agreement, and that they shall take whatever steps are reasonably required to carry out both the letter and the spirit of this Agreement.

[Signature Page Follows]

IN WITNESS WHEREOF, the Owners has executed this Agreement on the day and year first above written.

HR:
HEYBOURNE RANCH, LLC

By: _____
MATT CARTER, Managing Member

Buyer:

JONATHAN YOUNG

JOSEPHINE YOUNG

STATE OF NEVADA)
 : ss.
COUNTY OF _____)

On _____, 2024, _____ personally appeared before me, a notary public, MATT CARTER, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document, who acknowledged to me that he executed the foregoing document.

NOTARY PUBLIC

STATE OF NEVADA)
 : ss.
COUNTY OF _____)

On _____, 2024, personally appeared before me, a notary public, JONATHAN YOUNG, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document, who acknowledged to me that he executed the foregoing document.

NOTARY PUBLIC

STATE OF NEVADA)
 : ss.
COUNTY OF _____)

On _____, 2024, _____ personally
appeared before me, a notary public, JOSEPHINE YOUNG, personally known (or proved) to me
to be the person whose name is subscribed to the foregoing document, who acknowledged to me
that he executed the foregoing document.

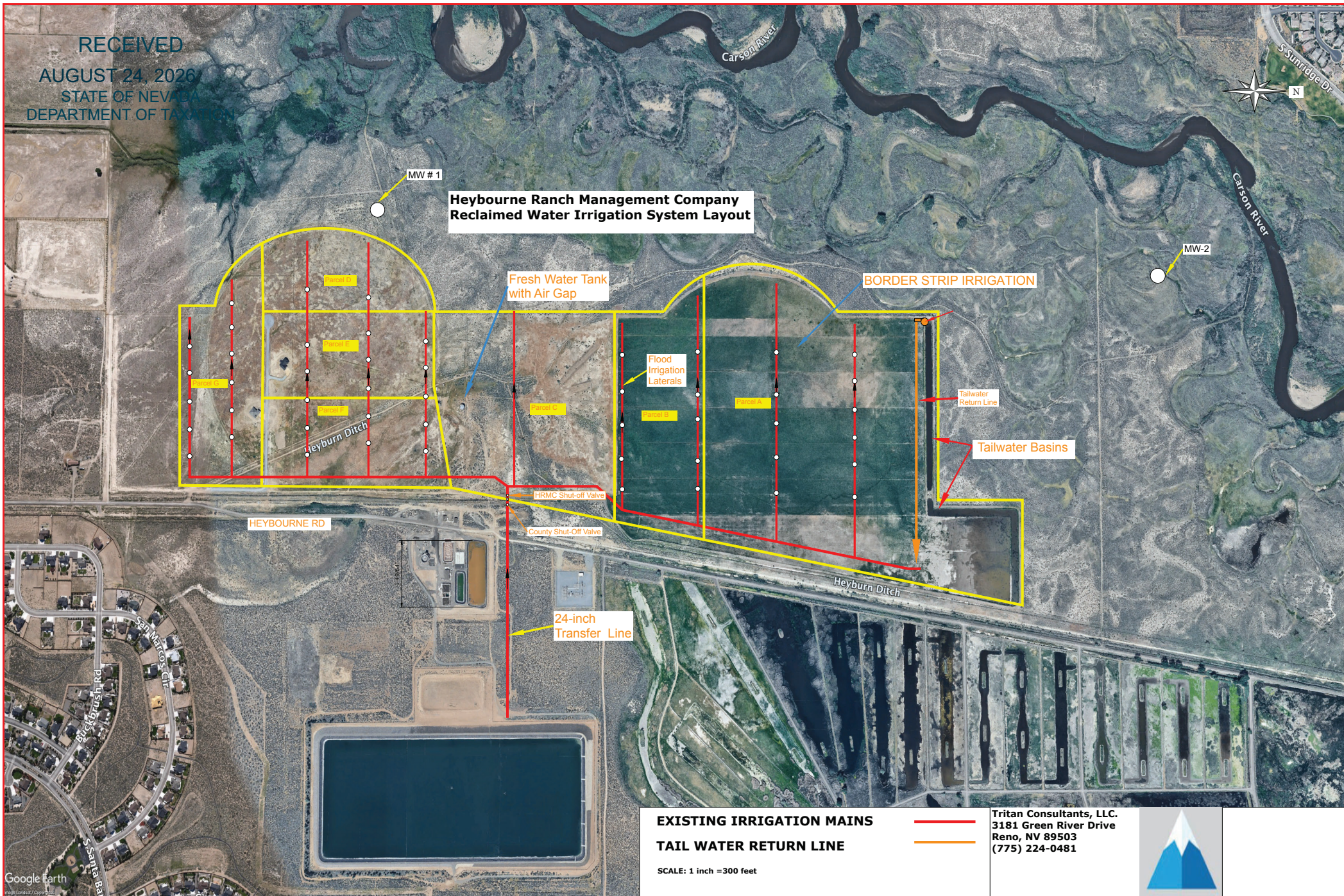
NOTARY PUBLIC

EXHIBIT “A”

=

EXHIBIT “B”

RECEIVED
AUGUST 24, 2026
STATE OF NEVADA
DEPARTMENT OF TAXATION



RECEIVED
AUGUST 24, 2026
STATE OF NEVADA
DEPARTMENT OF TAXATION

RECLAIMED WATER MANAGEMENT PLAN for the Kirman Tract Fields



Reuse Permit: # NS2002505

3000 Heybourne Road

Minden, NV 89423

Updated August 2026

PREPARED BY:

**TRITAN CONSULTING SERVICES, LLC.
3181 GREEN RIVER DRIVE
RENO, NEVADA 89503
(775) 224-0481**



PREPARED FOR:

**Heybourne Ranch Management Company
1320 U.S. Highway 395
Gardnerville, Nevada 89012**

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Acronyms and Abbreviations

BWPC	Bureau of Water Pollution Control at NDEP
CFU	Colony Forming Units (of Fecal Coliform in 100 mL sample)
HDPE	High-Density Polyethylene
EPA	U.S. Environmental Protection Agency
ft	Foot
FC	Fecal Coliform
gpd	Gallons per day
gpm	Gallons per minute
gpm/ft²	Gallons per minute per square foot
GPS	Global Positioning System
HDPE	High Density Polyethylene (Liner Material)
in.	Inches
MGD	Million gallons per day
mg/L	Milligrams per liter
MSDS	Material Safety Data Sheet
mV	Millivolts
NaOCL	Sodium Hypochlorite (Liquid Based Chlorine Solution)
NVWWTF	North Valley Wastewater Treatment Facility
NDEP	Nevada Division of Environmental Protection
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
PPE	Personal Protective Equipment
ppm	Parts per million
psi	Pounds per square inch
PVC	Polyvinyl Chloride
RWMP	Reclaimed Water Management Plan
VFD	Variable Frequency Drive
TC	Total Coliform

I. Kirman Tract Reuse Program Overview

A. Reclaimed Water Management Plan Purpose

The purpose of the 2026 Reclaimed Water Management Plan (RWMP) is to provide the staff and managers of the Kirman Tract flood irrigation system guidance with reclaimed water regulations. This RWMP covers current state requirements for the use of Category C reclaimed water and will be updated, as necessary, for specific permit requirements listed in the renewed permit. Operational changes since this RWMP was last updated 2016 are discussed, including the agreements for irrigation among the individual property owners.

Items discussed in this RWMP include:

- Overview of the existing reclaimed water system, NDEP regulations, and communication procedures;
- Routine inspections and maintenance tasks for the reuse system components;
- Specific irrigation protocol for the parceled section of the Kirman Tract that were divided in 2025;
- NDEP Permit monitoring and reporting tasks, and
- Safety and Hygiene when working with reclaimed water.

Specific preventative maintenance and troubleshooting tasks on the irrigation system components (diesel pumps, irrigation valves, etc.) should be referenced in the vendor manuals for those items. This RWMP does provide a general summary of O &M items as a guide.

Finally, while this RWMP provides a summary on the operation of the reuse water system, it's understood that the sound professional judgement of the irrigation managers and property owners remains key regarding compliance with the NDEP reclaimed water permit. It is the expertise and knowledge of the managers that continues to allow for the effective operation of this reuse irrigation system.

B. Reclaim Water Overview at the Kirman Tract

The Kirman Tract (Tract) covers approximately 247 acres of irrigatable property and is a key disposal option for the reclaimed water produced from the Douglas County North Valley Wastewater Treatment Facility (NVWWTF). The Tract is currently divided into 7 Parcels and is managed by the Heybourne Ranch Management Company (HRMC). This company was formed a few years ago and is composed of each of the property owners at the Tract. The HRMC has the responsibility for ensuring that the reclaimed water irrigation operations meet the conditions of NDEP permit # NS2002505 and agreements with Douglas County.

The Carson River is the nearest surface water source to the Tract, at approximately 0.5 miles west from the fields. The Incline Village Improvement District (IVGID) reuse wetlands are located across from the northern portion of the Kirman Tract.



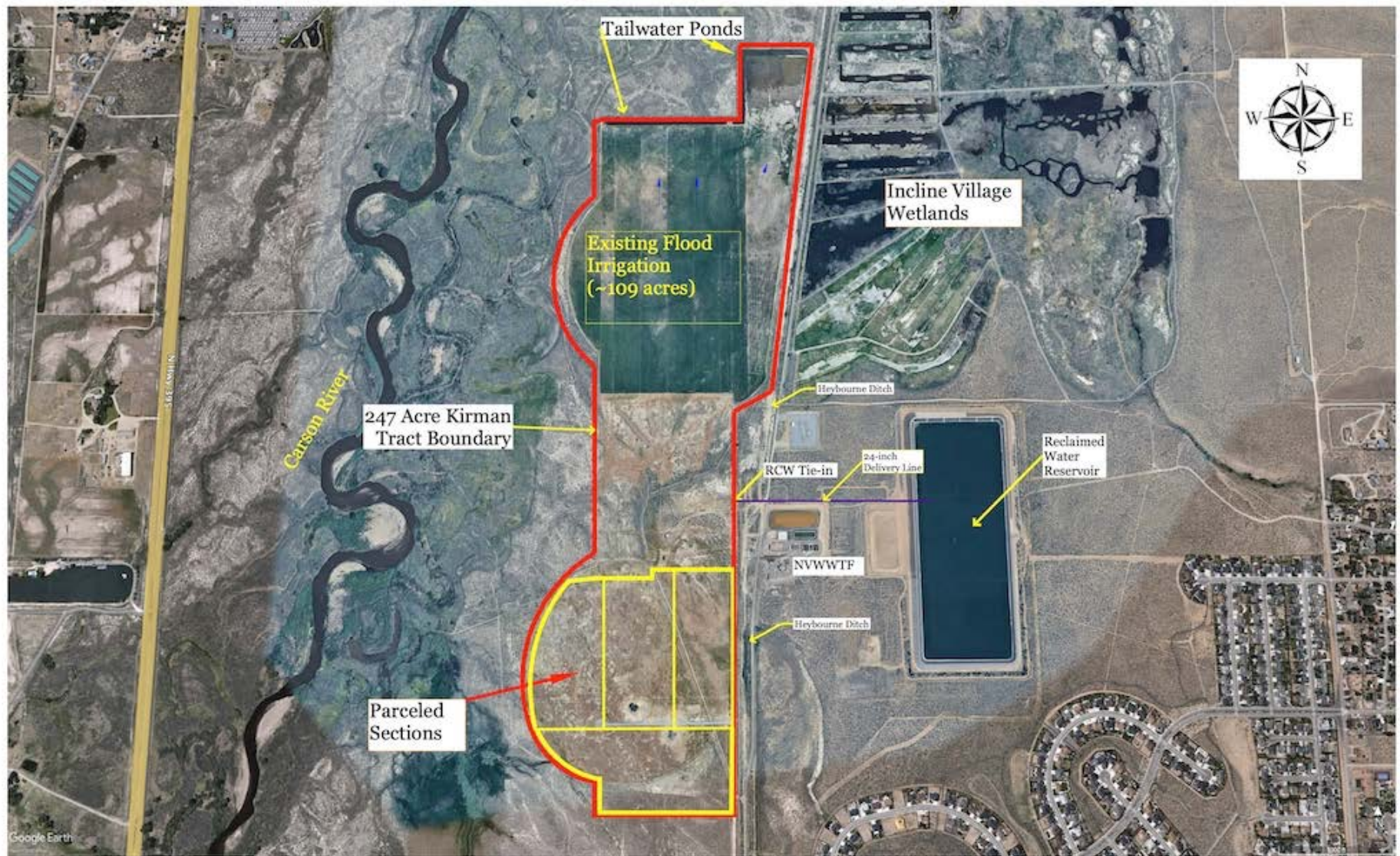
Vicinity Location of the Kirman Tract

Per a 2022 agreement with Douglas County (see agreement in Appendix 3), the HRMC must use up to 750 acre-feet per year of reclaimed water from the NVWWTF up to the year 2052. As a part of this agreement, the property owners must maintain 220 acres for the dedicated use of reclaim water irrigation from April 1st to October 31st each year. This agreement has the provision to reduce the acreage down to 200 acres provided NDEP accepts that 750 acre-feet of reclaimed water can be used over this 200 acres. As of 2026, the amount of acreage needed for reuse is 109 acres. This volume could be expected to increase if and when flows increase from the NVWWTF.

The reclaimed water that is provided by the County's treatment plant meets category C standards and is denitrified to a total nitrogen (TN) level of 10 mg/l. Reclaimed water is used solely for flood irrigation of pasture grasses at the Kirman Tract (see figure on following page for existing irrigation) and approximately three cuttings are done per season. A fresh water source from one well is used to augment irrigation. This water source is protected via an air-gap at the supply tank located in the center of the Tract.

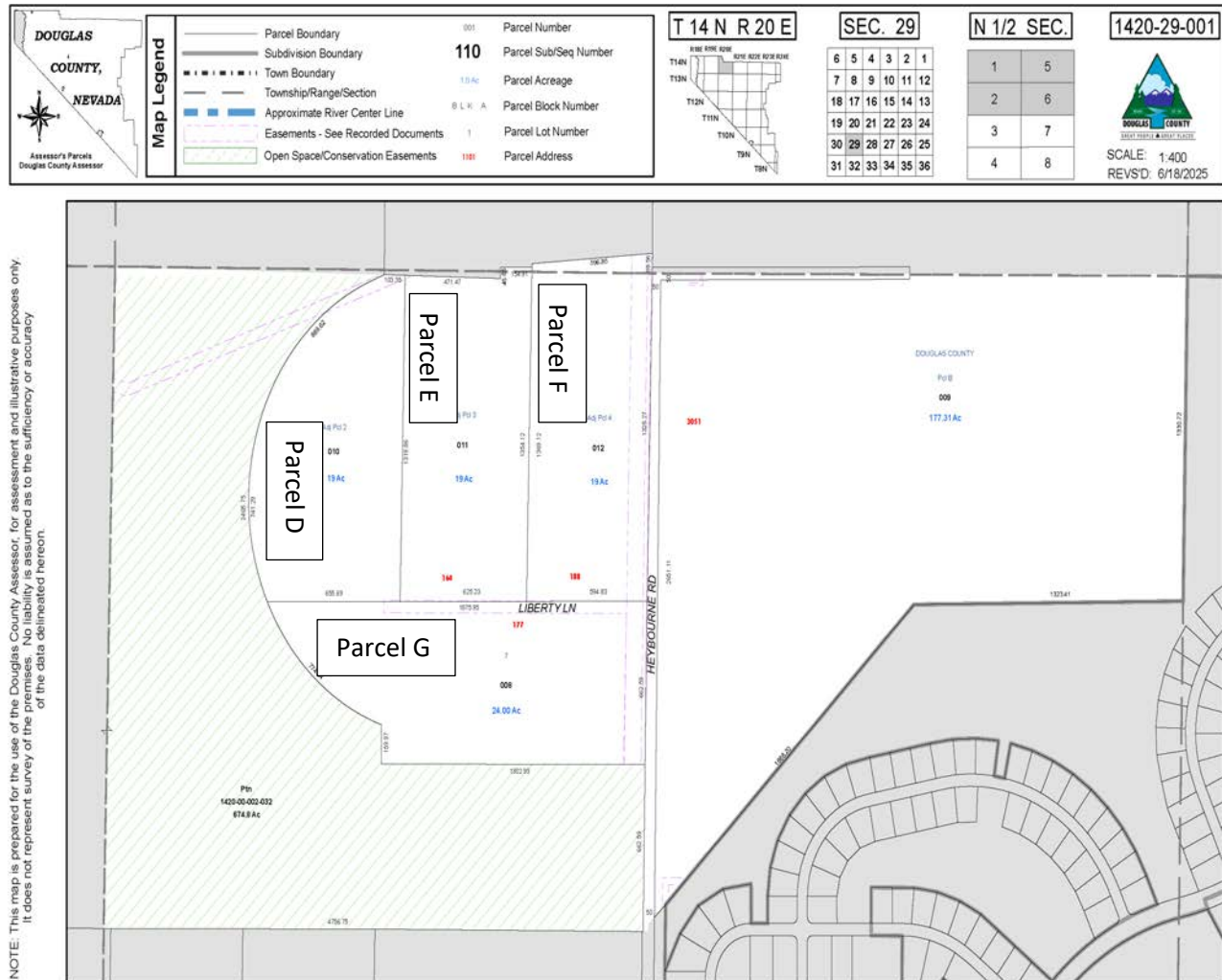
Reclaimed water is delivered from the NVWWTF reservoir via a 24-inch diameter reclaimed water (RCW) main, westward to a connection point near the property line. From this connection point, the reclaimed water is currently directed to the irrigation mains to the north but can also be fed to the south parcels in the future. Line pressure is provided from the elevation head of the effluent reservoir, so no booster pumps are used to feed the flood irrigation system.

The figured on the following page shows the boundary of the reclaim water system for the Kirman Tract as it is operating in 2026. Note that the ditch indicated along the eastern border is the abandoned Heybourne Ditch, which has been previously relocated parallel to Heybourne Road and is utilized to divert offsite stormwater around the reuse area.



HEYBOURNE RANCH MANAGEMENT COMPANY
2026 RWMP Update
Pemit # NS0060025

One significant change to the Kirman Tract operations since the last issuance of the permit was the division of the southern section of the 247-acre irrigation land into four land parcels for single family ranch homes. This parceling was approved by Douglas County in 2022 and is reflected in the figure below



To address the County requirement for maintaining reuse, the Heybourne Ranch Management Company was formed among the property owners and a 2025 agreement developed to provide irrigation requirements for each owner. This process is described in Section II of this RWMP.

C. Current NDEP Permit Overview

NDEP renewed Permit # NS2002505 in 2016. The permit authorizes the reuse of Category C reclaimed water for flood irrigation. Outfall (001) listed in the permit is the discharge onto the Kirman Tract with the metering location of the reclaim water near the connection point (see figure page 8). The criteria for Category C reclaimed water is highlighted in the table below:

NAC 445A.276 Reuse categories: Requirements for bacteriological quality of effluent. (NRS 445A.425)

1. Reclaimed water being used for an activity approved for a reuse category must meet the following requirements for bacteriological quality for that category:

	Total Coliform c.f.u. or mpn/100 ml	Fecal Coliform c.f.u. or mpn/100 ml			
Reuse Cat.	A	B	C	D	E
30-day geometric Mean	2.2	2.2	23	200	No Limit
Max. daily #	23	23	240	400	No Limit

As a part of the allowances for using reclaimed water meeting Category C standards for flood irrigation, NDEP does not require a set-back (buffer zone) from the edge of the course grass are to adjacent properties. A buffer zone would be required if spray irrigation was conducted in the future.

The 2026 permit maintains similar requirements as were in the previous permit, including the requirement for an annual summary of the total amount of nitrogen applied (lbs./year) and a comparison to the nitrogen requirement for the pasture grass acreage being irrigated. Because the reclaimed water has a total nitrogen below 10 mg/l and the pasture has a significant uptake of nitrogen, there should not be an issue with the over application of nitrogen. Monitoring Section 3 of this RWMP describes the steps on how to track the nitrogen application for the year.

It is anticipated that NDEP will renew this permit over the next six months and when this is completed, this section of the RWMP can be easily updated.

D. Staff Contacts and Communication Procedures

The property owners in the Heybourne Ranch Management Company (HRMC) and their staff are responsible for the daily operations and oversight of the Kirman Tract reclaim water irrigation system. This includes operating the flood irrigation valves, tailwater return system, and managing pasture grass harvesting.

The table below contains the contact information as of 2026. HRMC and Douglas County coordinate on a regular basis to ensure the smooth operation of this reuse system. As staffing changes, this table will be updated to remain current.

Staffing Contacts

NAME	POSITION	Phone	Email
Matt Carter	HRMC President		matt@thecartergroupe.com
Jonanthan Young	HRMC Member	(775) 552-3608	jyoung@dtsnv.com
Adrian Johnson	NVWWTF Operator	(775) 783-6480	Ajohnson@douglasnv.us
Jill Sutherland, P.E.	Compliance Consultant	(775) 883-1600	jill@rci-nv.com
Philip Ritger	Douglas County Public Works	(775) 783-6480	

The table below is provided to show some resource contacts for this reclaim water system to be used during an emergency or in the event of a release of reclaim water off the property.

Organization	Contact Name or Info	Phones
NDEP-- Bureau of Water Pollution Control	Main Office (Carson City).	(775) 687-4670
	Spill Hotline	1-888-331-6337
Douglas County Dispatch	After hours dispatch	(775) 782-5126
NV Energy		(775) 834-4100
Fire Department/Haz Mat	East Fork Fire Protection Dist.	911
Medical	Carson Valley Health	(775) 782-1500
Law Enforcement	Sherrif's Department	(775) 782-5126

To guide the HRMC on the reclaimed water system maintenance, a list of local suppliers and vendor contacts for the reuse system are provided below.

NOTE: This table should be updated as needed to keep the contacts up to date.

ITEM(TYPE)	Phone	Vendor
Piping Supplies	(775) 359-5800	Western Nevada Supply Co.
Pump Services	(775) 851-1600	Bruce Mackay

Communication Procedure

Communication between the HRMC and Douglas County is done via phone calls, texts, or emails. The dialog is key in coordinating a seamless delivery of reclaimed water into the flood irrigation system.

The operations staff at the County's NVWWTF will notify the HRMC staff whenever there is an exceedance of a daily maximum limit for fecal coliform so they are aware. They will then follow-up to let the HRMC staff know when the issue has been resolved.

Additionally, the County operations staff will regularly communicate with the HMRC team members on the delivery (supply) needs for irrigation from the reservoir. This key communication relationship has worked well for the last 10 years and will continue on with the new permit.

II. Reuse System Components and Operation

The reuse irrigation system for the Kirman Tract property includes several main components and protocols. These include:

- A. The RCW supply line with associated isolation valves and meter
- B. Flood irrigation system and a tailwater return system
- C. Flood irrigation management protocol amongst owners

A copy of the original irrigation system layout design from the 2016 RWMP is updated and is provided in the Appendix 2. This drawing shows the layout of the irrigation system piping, including the location of the control valves and main lines. Over the years, the irrigation system lines controllers have been upgraded to improve the system efficiency. However, much of the original PVC irrigation mains are still in use.

A. Reclaim water delivery line system

The reclaim water from NVWWTP is delivered to the Kirman Tract via a 24-inch diameter line that exits from the lined reservoir and traverses to the Tract connection point located at Latitude: 39° 03' 26 N" Longitude: 119° 45' 41.1"W. This location is at the property boundary between the County's treatment facility and the Kirman Tract and includes a metering vault with associated isolation valving.

As shown in the figure in Appendix 2, there are isolation valves located on both sides of the metering vault. One valve is located on County property and the other valve is located on the Kirman Tract property for control by the HRMC staff. A mag flow meter is installed in-line at the property boundary to track the totalized flows being delivered to the Tract. The meter readout is tracked by the County and the data provided to the HRMC team for completing the DMR's each quarter.

The mag meter is largely maintenance free and only requires routine checks to make sure it is operating. This includes checking for leaks at and around the meter and for signs of fittings corrosion. If the meter needs servicing, a qualified tech will be dispatched for this task.

B. Flood Irrigation System

After the connection point with the County RCW main, the reclaim water enters the distribution network for border strip (flood) irrigation. Earthen berms are in place to divide the individual fields for flooding. To control access to the fields, a four-strand barbed wire fence fully encloses the flood irrigation fields to prevent any unauthorized access. The fence is posted with signage stating that reclaim water is being used and no trespassing is allowed.

This network consists of PVC lines ranging from 8-inch diameter laterals to 20-inch mains. The distribution network covers the majority of the 247 acres of the Kirman Tract. The system distributes the reclaimed water to flood irrigation outlets that are spaced about 100 feet apart on laterals that are offset ¼ mile apart (see full figure in Appendix 2)

The current operating flood irrigation field in the north section is laser leveled with a gradual slope northward where the tailwater collection basins capture excess run-off. The entire north section field is designed to operate at just under 10 feet of hydraulic head at the release outlets to provide full flood irrigation of the field. All of the overland flow of irrigation water is effectively contained within the boundaries of the irrigated field with earthen berms.



Border Strip Berm on Parcel A at Kirman Tract

Per the agreement with Dougals County, irrigation will typically occur between April 1st and October 31st.

The Heybourne Ranch Management Company (HRMC) is aware of the permit requirements to use reclaimed water without generating runoff from the project site. To address this requirement, flood irrigation with reclaimed water will not be conducted prior to, during, and after a significant precipitation event. The area weather forecasts on the NOAA website will be checked regularly assess rain events.

The majority of the Kirman Tract reuse area is included in areas of “0.2 Percent Annual Chance Flood Hazard” or “Areas of Minimal Flood Hazard” (Zone X) per the Federal Emergency Management Agency Flood Insurance Rate Map (see map in Appendix 2). However, some base flood level elevations have been established for portions of the floodplain and new FEMA mapping indicates that certain portions of the Kirman Tract are located within “Special Flood Hazard Areas (SFHAs) subject to inundation by the 1% annual chance flood. As such, irrigation will stop several days prior to potential flood event on the Carson River. The irrigation system will be manually shut down when these conditions are observed.

After a flood event, a post-flood inspection will be conducted and necessary repairs made to the reuse site and the irrigation system components. In this situation, the irrigation system will be entirely shut down until floodwaters have receded, and irrigation with reclaimed water will not commence until critical items have been repaired.

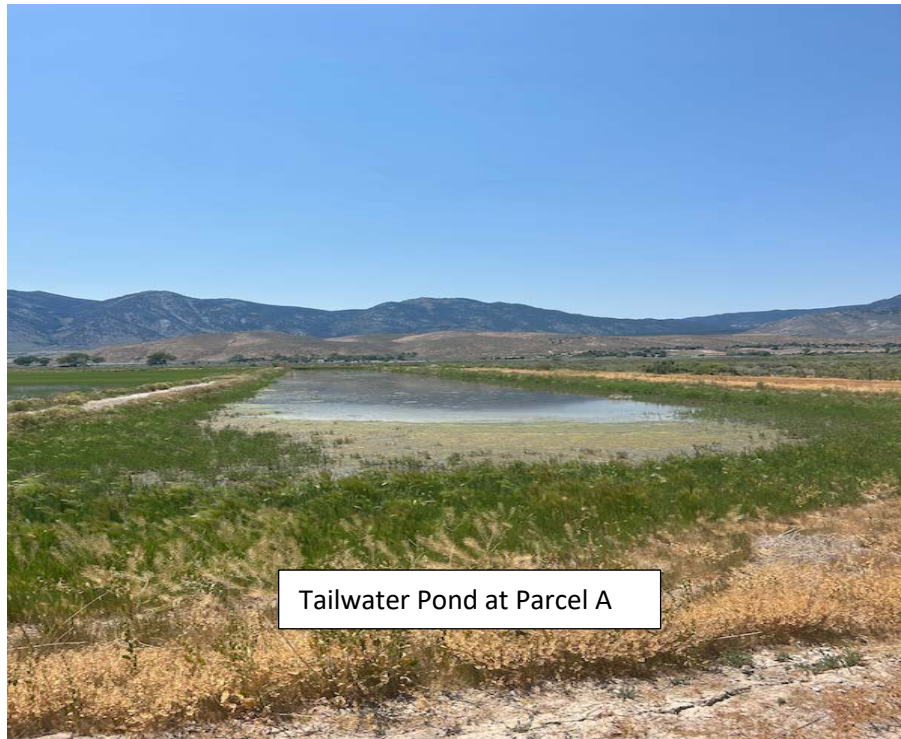
The irrigation system should always be operated to minimize potential surface runoff by considering ground conditions before irrigating. Unsuitable ground conditions for irrigation include:

- Frozen soils
- Saturated soils
- Flooded areas

The following procedures are used to collect tailwater from the project site when irrigating with reclaimed water:

1. Field irrigation is managed to optimize irrigation efficiency. The staff will watch over irrigation of fields to ensure that flows are stopped when irrigation demands have been met to avoid excess tailwater from fields.
2. Fields are designed so that tailwater from upper (southern) border strips flows onto lower fields.
3. All tailwater reaching the low end of the project area flows into a tailwater recovery area with a capacity of approximately ten acre-feet to prevent any surface discharge from the site when irrigating with reclaimed water.

4. Reclaimed tailwater will be pumped back into the irrigation system using an automatically controlled diesel pump.
5. In the event of an unauthorized discharge (i.e. tailwater not controlled on the property or other emergency), the HRMC shall notify NVWWTF and NDEP immediately and follow the procedures required in the Permit.



Maintaining a healthy pasture grass over the Kirman Tract acreage is important to provide uptake of the applied reclaimed water nutrients. The laser level field is designed to prevent excess ponding of water on the pasture grass and has resulted in a consistent good quality of pasture grass that provides at least three cuttings each year.

As issues are noted with the irrigation system operations, staff will handle most of the line repairs themselves using supplies kept at the shop. This ensures that necessary repairs are done in a timely manner. If material is not available on-site, it will be purchased from several different irrigation retailers in the Carson Valley.

Key maintenance tasks for the reclaim water irrigation include, but are not limited to:

- Checking the irrigation flood water distribution network to ensure the even distribution across the field. As issues are noted, the cause is investigated, and a plan of action is enacted.
- Repairing piping and irrigation appurtenances as needed
- Adjusting irrigation run times as the season progresses and weather conditions dictate.
- Regular inspection of containment berms and border strips to ensure waters are flowing within the boundary of the irrigated field(s). As needed, repair will be main to the strips and berms to restore the original specifications (heights, width, etc.).
- Checking on reclaim water signage at the course and restoring signs as needed.

As needed to maintain the freeboard in the tailwater basins, a portable diesel-powered irrigation pump will transport tailwater back up the header ditches of the fields for irrigation. The inlet line to the return pump has a metal screen box installed to capture debris that may impact the pump and control debris being loaded onto the fields.

As a part of the weekly routine, the staff will track the pump run times and pressure gage. The diesel fuel supply tank volume will be checked and refilled as needed to keep the pump ready for use. The operator will perform a visual inspection prior to operating the tailwater return pump, checking for any leaks or signs of damages. During the pump operation, a check for unusual noises or vibrations will occur which may indicate issues with the bearings.

Preventive maintenance for all of pumps is conducted following the vendor manuals for the pumps. Common tasks include lubrication of pump bearings and replacement of pump seals as needed.

Any Issue noted with the pump operations are recorded into a tracking system and if issues with the pump operations require outside assistance, the HRMC operators will call out a local pump system contractor for service.

As the reclaim water enters the tailwater basin on a regular basis during the irrigation season, there is a constant turnover of reclaim water via the return system. This helps to control odors problems that sometimes can occur in basins that are stagnant.

The tailwater basins are operated to maintain a two-foot freeboard. When there is a significant predicted storm event, the basins can be lowered ahead of time to provide extra stormwater capacity.

As part of routine inspections, staff will walk around the basin to check for bank erosion, berm vegetation, and burrowing animal activity. As needed, the interior berms will be re-armored with placed rocks.

If there is a need to drain a tailwater pond, this would be accomplished in the non-irrigation season by isolating that basin with the slide gate valves. The dewatering water would be run through the irrigation system.

Note: Specific O & M with part specifications are provided in the individual vendor manuals for the tailwater pump, irrigation valving, etc.)

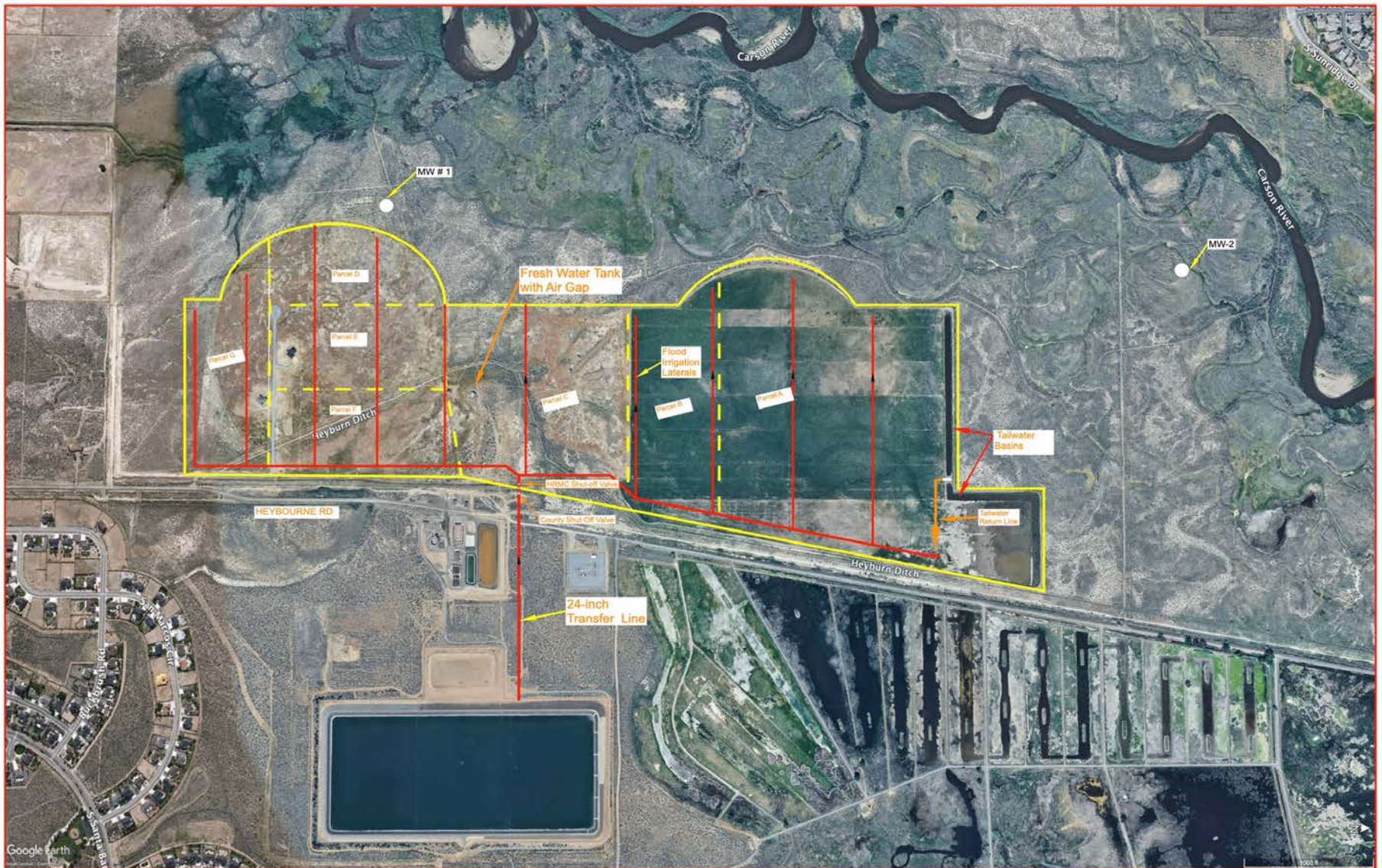
C. Flood Irrigation Management Protocol with parcels

A change that occurred since the last permit renewal in 2016 was the division of 77 acres in the southern section of the Kirman Tract into four single dwelling ranch parcels. This parcel map was approved in 2022 and included an agreement with Douglas County that the owners collectively would bear responsibility for keeping 220 acres of the 247-acre Kirman Tract available for flood irrigation. This equates to keeping about 90% of each parcel's land set aside for flood irrigation. A copy of this 2022 agreement is included in Appendix 3.

This task will be addressed by using the existing irrigation network lines (and additional new lines if necessary) and improving the flood irrigation fields that have been out of service for use. The same standard design standard details that are in use for the operating north section of the Kirman Tract will be deployed over the four parcels. This includes a laser leveled field check dams and containment berms. Tailwater collection basins with return pumping will be used either on each individual parcel or collectively with a centrally located tailwater basin. These basins will be enclosed within a fence to prevent access. Finally, as an additional condition required by NDEP, no flood irrigation will occur within 150 feet of the residences.

In an effort to ensure each of the four parcel owners will flood irrigate their parcels, a 2025 agreement was created with each of the owners in the Heybourne Ranch Management Company (HRMC). This agreement details a schedule for when each owner is expected to flood irrigate their parcels during the growing season (April to October).

The parceling of the Kirman Tract described in the 2025 agreement is shown in the figure on the following page.



An excerpt from the agreement that shows this scheduling is provided below:

The water rotation schedule shall be as follows, beginning on the start date:

- i. Parcel A shall receive water during the window from 8am on Day 1 to 8am on Day 3.*
- ii. Parcel B shall receive water during the window from 8am to 8pm on Day 3.*
- iii. Parcel C shall receive water during the window from 8am to 8pm on Day 4.*
- iv. Parcel D shall receive water during the window from 8am to 12pm on Day 5.*
- v. Parcel E shall receive water during the window from 12pm to 4pm on Day 5.*
- vi. Parcel F shall receive water during the window from 4pm to 8pm on Day 5.*
- vii. Parcel G shall receive water during the window from 8am to 12pm on Day 6.*

Water shall be delivered according to this rotation until Douglas County informs the HRMC effluent is no longer available for discharge for the year. It shall be permitted, however, so long as Douglas County allows under the Effluent Agreement, for each parcel to receive the equivalent of up to one additional rotation of water between the months of October to February each season.

There are provisions in the agreement for other owners to use an allotment of water from another owner if it is declined on that rotation by the owner. This is important to keep up with the full use of reclaim water in the future as flows increase from the NVWWTF.

When an owner sales their property, the new owner will be required to enter into this agreement to keep effluent reuse going forward in accordance with the 2022 Douglas County Agreement and the NDEP permit.

III. Permit Tasks and Requirements

A. Monitoring and Reporting

The permit delineates the sampling and monitoring steps under two tables on pages four and five. An excerpt of the parameters to be tracked the permit tables is provided below:

Outfall 001:

Parameter	Base	Permit Limit	Frequency	Sample Type
Fecal Coliform	30-d geometric	23 CFU/100ml	Weekly	Discrete
	Daily Maximum	240 CFU/100ml		
Flow Rate	30-day average	M & R	Continuous	Meter
	Daily Maximum	6.5 MGD		
Total Nitrogen	Daily Maximum	M & R	Monthly	Discrete
Total Nitrogen	Annual Loading	Lbs./acre/year	Annually	Calculated
Total Nitrogen		% up taken	Annually	Calculated
BOD ₅ (mg/l)	30-day average	30 mg/l	Weekly	Composite
	Daily Maximum	45 mg/l		
TSS (mg/l)	30-day average	30 mg/l	Weekly	Composite
	Daily Maximum	45 mg/l		

Reclaim Water Quality Values

The lab data for fecal coliform, total nitrogen, BOD, and TSS is provided by County operators. These reclaim water samples are collected from the outfall of the activated sludge treatment plant after final clarification.

The purpose for tracking the fecal coliform data is to demonstrate the reclaimed water is meeting the Category C Standards for reuse. Total nitrogen data is used to track the nitrogen loading (application) onto the grass.

The consultant for the HRMC assists in entering this data into the NetDMR system each quarter. Then the DMRs are submitted and certified by the owners using the NetDMR system. Any reasons for water quality exceedance will be added to the explanation section of the NetDMR submittal to inform NDEP of the compliance matter.

Flow Monitoring

Flow rates are tracked continuously with the mag meter located at the connection point on the twenty-four-inch diameter main from the reservoir. This flow data is used to complete the Net DMR entries each quarter for the 30-day average flows and the daily maximum. Douglas County provides this data directly to the consultant.

This outfall (001 in the permit) has a daily limit of 6.5 MGD, which is based on the very peak irrigation demands for the summer months.

Annual Reporting

At the end of each calendar year, the permit requires HRMC to report the total amount of nitrogen applied from both the reclaimed water and fertilizer. The process for tracking this application can be done by using an excel spreadsheet tracking the data collected on fertilizer application plus reuse water. A tracking sheet example is provided in the appendix for reference. It's important to remember to include tracking results in the fourth quarter DMR that is due on January 28th each year.

Because the reclaim water from the County has a low nitrogen content, it is nearly impossible for pasture grass fields to exceed the uptake demand by using reclaimed water.

Sampling Point MW 1 and MW 2:

To track the trends in the shallow groundwater at the Kirman Tract, the permit has required the quarterly testing of two monitoring wells for the past two permit cycles and this continues with the current permit. These two wells (see figure on page 20) are located west of the irrigated fields between the Carson River and the Kirman Tract fields.

The monitoring wells are required in the permit to track the groundwater quality for in the shallow aquifer. Based upon the last few years of testing, the water table averages around 8 to 15 feet below the ground surface.

The table on the following page list the parameters to be tested per the permit:

Monitoring Well Sampling Parameters for MW-1 and MW-2

Parameter	Base	Permit Limit	Frequency	Sample Type
Chloride	Quarterly Maximum	M & R	Quarterly	Discrete
Total Nitrogen	Quarterly Maximum	10 mg/k	Quarterly	Discrete
Depth to GWL	Quarterly Maximum	M & R	Quarterly	Discrete
TDS	Quarterly Maximum	M & R	Quarterly	Discrete
Total Phosphorus	Quarterly Maximum	M & R	Quarterly	Discrete

These parameter are used to determine increasing trends in the groundwater chemistry. Specifically, the total nitrogen is tracked to ensure it remains below the NDEP standard of 10 mg/l.

This testing is typically done by a consultant for HRMC using the following protocol:

1. Document sampling on Field Data Sheet shown in the Appendix.
2. Measure depth to groundwater from the top of 2-inch casing.
3. Remove approximately three (3) well volumes with bailer or pump. Be careful not to contaminate the well or samples if using a bailer. If the well is known to recharge slowly, remove entire volume and sample the following day.
4. Obtain sample bottles with preservatives from the laboratory.
5. Collect samples and place immediately in a cooler with ice.
6. DELIVER TO LABORATORY UNDER STANDARD CHAIN-OF-CUSTODY REQUIREMENTS WITHIN THE ALLOWABLE HOLDING TIME.

Request the certified laboratory to filter and preserve samples. (Samples may also be filtered and preserved in the field per laboratory recommendations).

A check on whether a lab is certified for permit testing in Nevada are available at the following link:

<https://ab.qamanager.com/publicparameters/34>

B. Run-Off Controls and Spill Reporting

Nevada state regulations (NAC 445A.276) require all reuse sites prevent the run-off of reclaimed water from areas being irrigated and where the RCW is stored in ponds. This requirement is met at the tailwater by maintaining the required free board in the ponds and following the inspection schedule listed in this RWMP.

In order to ensure the operation of the flood irrigation system does not cause run-off of reuse water, the operators for the irrigation system will visually check the irrigation system when its operating in accordance with the task outlined in flood irrigation operations listed in Section II of this RWMP. Whenever the staff notices a flood irrigation issue, the system will be promptly evaluated to assess the proper corrective measure.

Staff also monitor for potential line breaks by detecting pressure drops in the irrigation system. Pressure gages on the lines will provide an immediate indication of a line break, allowing the crew to begin an investigation on the issue.

In the event there is a significant release of reuse water that leaves the property, staff will follow the mitigation and reporting requirements of the permit listed in section C.8. This includes:

1. *Immediately: Permittee shall be responsible for the timely notification of potentially impacted downstream users for the protection of human health and the environment.*
2. *Notifying the Division through the NDEP Spill Hotline, 1-888-331-6337, as soon as practicable after the dispatch of emergency respondents and mitigating actions and no later than twenty-four (24) hours from the time of discovery.*
3. *5-Day Report: A written report shall be submitted to the Division within five (5) days of the discovery of a diversion, bypass, spill, overflow, upset, or discharge detailing the entire incident including;*
 - a. *Time and date of discharge;*
 - b. *Exact location and estimated amount of discharge;*
 - c. *Flow path and any bodies of water which the discharge contacts;*
 - d. *The specific cause of the discharge; and*
 - e. *The preventive and/or corrective actions taken*

C. Public Contact measures

The permit requires steps be taken to minimize the public's contact with the reuse water. This requirement is met by maintaining the perimeter fence that encloses the irrigation field and the posting of notification signs in place on this perimeter fence.

The signs each clearly notify the public that reclaimed water is being used for irrigation and to avoid contact and entry. Whenever a staff member notes a sign is missing, they will replace the sign.



Signage on Fence at Kirman Tract

Finally, at the entrance onto the Kirman Tract, the informational sign has clear wording that reclaimed water is being used for irrigation.

Due to the nature of flood irrigation vs spray irrigation, this reuse operation has operated with no significant public contact incidences to date due to each these efforts listed above.

D. Water Balance

A water balance is conducted using Worksheet 1-A from NDEP's guidance document. Located in the Appendix is a sheet showing an irrigation demand of approximately 42 inches for the pasture grass. Based on the current area of just under 109 acres under irrigation, this equates to about 123 million gallons/year (381-acre feet/year) of irrigation demand.

This application rate tracks well with the agreement with Douglas County that ultimately requires that 750 acre-feet per year be used at the Kirman Tract.

E. Nitrogen Balance

The pasture has a calculated average annual nitrogen uptake demand of approximately 80 lbs/acre-year. Since the reclaim water has a nitrogen concentration just above 10 mg/l, this value would require an irrigation amount beyond the annual water requirement (117 inches vs. 42 inches).

In the fourth quarter DMR, the annual application total in lbs./year is provided to NDEP from the tabulated summary of the year's fertilization and irrigation. An example sheet showing this calculations process in the Appendix

Sample forms for both the consumptive use and nitrogen tracking are included in Appendix 4 of the RWMP. These forms can be used to assist on the quarterly and annual reporting required for the permit.

IV. Safety and Hygiene

The Kirman Tract follows standard agricultural guidelines for safety and hygiene practices. This includes the use of proper PPE when applicable.

Also, as a reminder, the Occupational Safety and Health Administration (OSHA) regulates safety compliance. Staff has the responsibility to perform tasks in accordance with the established safety procedures. A part of such a safety plan is the duty to report all observed hazards and injuries.

For staff that may be responsible for the RWMP, a general summary is listed below for items they may encounter while working at the course:

1. Electrical Equipment

An irrigation system worker is at risk of electrocution or shock because of the damp conditions they work in while using electrical equipment. To avoid accidents:

- Protect electrical equipment and wiring from deterioration.
- Be aware of wet areas nearby.
- Cover any live parts with fittings or enclosures to prevent contact.
- Only qualified individuals should be allowed to work with public water system electrical equipment.
- Install ground fault interrupter where needed.
- Use lock out/tag out procedures to clean, service, or adjust an electrical device.

2. Pumps

The danger with pumps derives from their moving parts. Pumps may include rotating and cross motions and back & forth movement. To reduce the risk of injury, pumps will have many of these moving parts covered.

Safety procedures for pumps should be followed during the performance of any maintenance. If a pump needs to be fixed or inspected, staff must identify all potential hazards prior to starting this task. If possible, all personnel not working on the pump should leave the area until the work is done.

3. Tailwater Storage

Storage basin can pose a drowning hazard to personnel. Care should be taken to never step on the inclined slope of the ponds, as it may give way. In certain settings, it may be good to have life preserver ring available and use a minimum of two-man crews with working at the basin.

4. Hygiene

Proper hygiene is important for the staff that is working on the irrigation system. Basic items that are important to remember are:

- a. Always be sure to wear latex, nitrile, or other suitable types of gloves when collecting samples.
- b. Wash your hands before eating, drinking, or smoking.
- c. Avoid having the reclaimed water contact bare skin and be sure all cuts are properly treated before working.

5. Other Chemicals

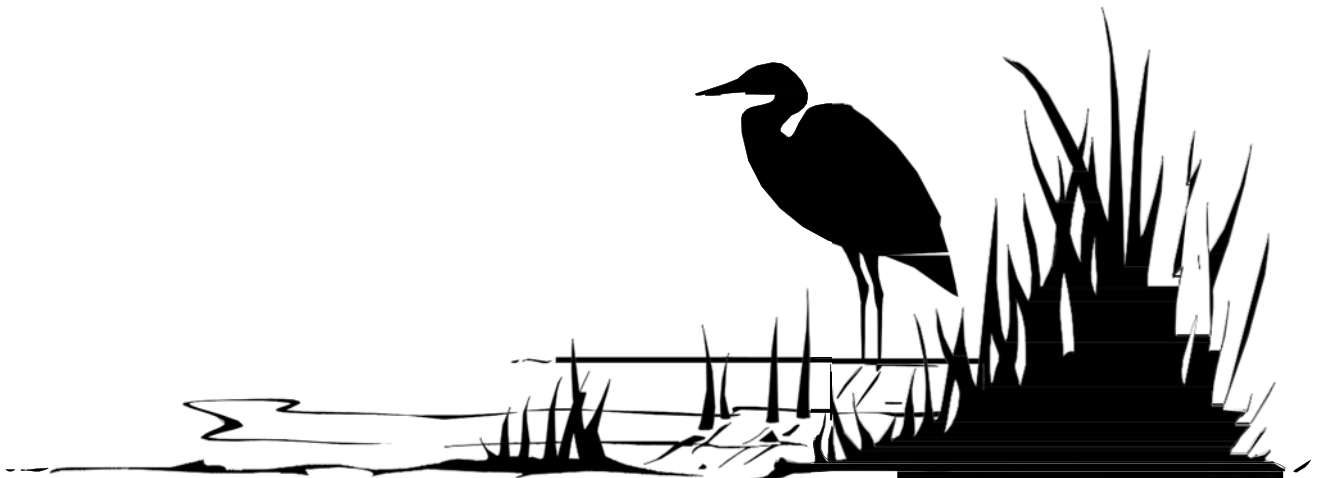
Chemicals have different dangers at different levels of exposure. The staff should be familiar with the chemical prior to working with it. Therefore, it is important to maintain Safety Data Sheets (SDS) for all chemicals handled at the golf course. An SDS contains information necessary to familiarize the staff with the chemicals located in their place of work.

WORKER HYGIENE FACT SHEET

The pasture fields at the Kirman Tract property are irrigated with a combination of reclaimed wastewater (treated effluent) and groundwater. The reclaimed wastewater comes from North Valley Wastewater Treatment Facility that is operated by the Douglas County. This denitrified reclaim water meets the standards required for this level of reuse via flood irrigation.

Potential risks of disease transmission from the use of the reclaimed water is very low; however, some general guidelines (listed below), should be followed to protect you from becoming ill when working with reclaimed water:

1. Do not drink the reclaimed water or use the reclaimed water for washing.
2. Always wash hands and face with clean water and soap before eating, smoking, or drinking.
3. Wear rubber gloves when working on the irrigation system.
4. Try to keep the irrigation water off your skin and clothes as much as possible.
5. Always treat cuts immediately before continuing with work on the irrigation system.
6. Make sure the area is clear of people that may get sprayed before running the irrigation system piping in case there is line break.
7. Report any problems to your supervisor that you feel could pose a risk.



APPENDICES

RECEIVED
AUGUST 24, 2026
STATE OF NEVADA
DEPARTMENT OF TAXATION

APPENDIX ONE
NDEP DISCHARGE PERMIT (NS2002505)

Permit Type: Groundwater Discharge

Permit No. NS2002505

Nevada Division of Environmental Protection

AUTHORIZATION TO DISCHARGE

In compliance with Chapter 445A of the Nevada Revised Statutes (NRS),

**HEYBOURNE MEADOWS, LLC
1320 U.S. HIGHWAY 395
GARDNERVILLE, NV - 89410**

is authorized to discharge from a facility located at:

**KIRMAN TRACT FIELD
3000 HEYBOURNE ROAD, MINDEN, NV - 89423
LATITUDE: 39.058333, LONGITUDE: -119.766667
TOWNSHIP: 14N, RANGE: 20E, SECTION: 17, 20, 29**

to receiving waters named:

GROUNDWATER OF THE STATE VIA EFFLUENT REUSE

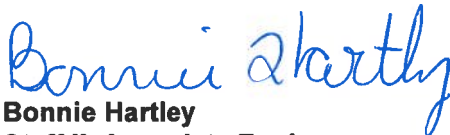
in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Sections A, B, and C hereof.

This permit shall become effective on April 01, 2016.

This minor modification shall become effective on July 05, 2022.

This permit and the authorization to discharge shall expire at midnight, March 31, 2021.

Signed this 5th day of July 2022.



Bonnie Hartley
Staff II, Associate Engineer
Bureau of Water Pollution Control

SECTION A

A.1. INTRODUCTION

- A.1.1.** Bently Ranch operates the Kirman Tract Field (KTF), a 1,560-acre agricultural field located in northern Douglas County, east of the Carson River. Approximately 247 acres of the KTF are flood irrigated using tertiary-treated, denitrified, disinfected effluent that meets Category C quality (NAC 445A.276) and is supplied by the North Valley Wastewater Treatment Facility (NS0060025). Reclaimed water usage for the KTF is estimated to be 750 acre-feet per year, discharged at a daily maximum flow rate of up to 6.5 million gallons per day.

MINOR MODIFICATIO (Effective July 2022):

A minor modification to the permit has been approved effective July 5, 2022. Previously, the Permittee was Bently Ranch; however, a new owner, Heybourne Meadows, LLC, has taken over.

A.2. EFFLUENT LIMITATIONS

- A.2.1.** There shall be no discharge from the facility property except as authorized by this permit.
- A.2.2.** There shall be no discharge of substances that would cause or contribute to an exceedance of water quality standards.
- A.2.3.** During the period beginning on the effective date of this permit, and lasting until the permit expires, the Permittee is authorized to:

discharge reclaimed water supplied by the NVWWTF for irrigation of the KTF.

Samples and measurements taken in compliance with the monitoring requirements specified below shall be taken at:

Sample Location	Location Type	Location Name
001	External Outfall	IRRIGATION
MW1	Monitoring Well	MW1
MW2	Monitoring Well	MW2

- A.2.4. Water Quality Standards:** There shall be no discharge of substances that would cause the groundwater quality to degrade below drinking water standards.
- A.2.5. Visibility Parameters:** There shall be no discharge of floating solids or visible foam in other than trace amounts.
- A.2.6. Solid Waste Management:** All solid, toxic, or hazardous waste shall be properly handled and disposed of pursuant to applicable laws and regulations. Any sludge generated during this operation shall be characterized and disposed of in accordance with local, State, and Federal regulations.
- A.2.7. Presumption of Possession and Compliance:** Copies of this permit, any subsequent modifications, and the O&M Manual shall be maintained at the permitted facility at all times.

-
- A.2.8. Records Retention:** All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation, shall be retained for a minimum of five (5) years, or longer if required by the Administrator.
- A.2.9. Prerogative to Reopen:** There shall be no discharge of substances that would cause a violation of water quality standards of the State of Nevada as defined by the permit. The permit may be reopened, and additional limits imposed, if it is determined that the discharge is causing a violation of ambient water quality standards of the State of Nevada.
- A.2.10.** The discharge shall be limited and monitored by the Permittee as specified below. As applicable, exceptions to standard language in this permit are identified and authorized in the Special Approvals / Conditions table.

Groundwater Monitoring Wells Table for Sample Location Mw1 (Monitoring Well) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Chloride (as Cl)	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Quarterly	DISCRT
Nitrogen, total	Quarterly Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	MW1	Quarterly	DISCRT
Depth to water level ft below landsurface	Quarterly Maximum	M&R Feet (ft)		Groundwater	MW1	Quarterly	VISUAL ^[1]
Solids, total dissolved	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Quarterly	DISCRT
Phosphorus, total (as P)	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Quarterly	DISCRT

Notes (Groundwater Monitoring Wells Table):

1. Field measurement

Groundwater Monitoring Wells Table for Sample Location Mw2 (Monitoring Well) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Chloride (as Cl)	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW2	Quarterly	DISCRT
Nitrogen, total	Quarterly Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	MW2	Quarterly	DISCRT
Phosphorus, total (as P)	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW2	Quarterly	DISCRT
Depth to water level ft below landsurface	Quarterly Maximum	M&R Feet (ft)		Groundwater	MW2	Quarterly	VISUAL ^[1]
Solids, total dissolved	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW2	Quarterly	DISCRT

Notes (Groundwater Monitoring Wells Table):

1. Field measurement

Re-use Discharge Limitations Table for Sample Location 001 (Irrigation) To Be Reported Monthly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	Daily Maximum	<= 6.5 Million Gallons per Day (Mgal/d)		Effluent Gross	001	Continuous	METER
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	001	Continuous	METER
BOD, carbonaceous, 05 day, 20 C ^[1]	Daily Maximum		<= 45 Milligrams per Liter (mg/L)	Effluent Gross	001	Weekly	COMPOS
Solids, total suspended ^[1]	Daily Maximum		<= 45 Milligrams per Liter (mg/L)	Effluent Gross	001	Weekly	COMPOS
Solids, total suspended ^[1]	30 Day Average		<= 30 Milligrams per Liter (mg/L)	Effluent Gross	001	Weekly	COMPOS
BOD, carbonaceous, 05 day, 20 C ^[1]	30 Day Average		<= 30 Milligrams per Liter (mg/L)	Effluent Gross	001	Weekly	COMPOS
Coliform, fecal, colony forming units ^[1]	Daily Maximum		<= 240 Colony Forming Units per 100ml T (CFU/100mL)	Effluent Gross	001	Weekly	DISCRT
Coliform, fecal, colony forming units ^[1]	30 Day Average		<= 23 Colony Forming Units per 100ml T (CFU/100mL)	Effluent Gross	001	Weekly	DISCRT
Nitrogen, total ^[1]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Weekly	DISCRT
Nitrogen, total ^[1]	30 Day Average		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Weekly	DISCRT

Re-use Discharge Limitations Table for Sample Location 001 (Irrigation) To Be Reported Monthly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
pH, maximum ^[1]	Daily Maximum		<= 9.0 Standard Units (SU)	Effluent Gross	001	Weekly	DISCRT
pH, minimum ^[1]	Daily Minimum		>= 6.0 Standard Units (SU)	Effluent Gross	001	Weekly	DISCRT

Notes (Re-use Discharge Limitations Table):

1. Sample results to be reported by the Permittee may be obtained from the North Valley Wastewater Treatment Facility (NS0060025).

A.3. Schedule of Compliance: The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Nevada Division of Environmental Protection (Division), including in said implementation and compliance, any additions or modifications, which the Division may make in approving the schedule of compliance. All compliance deliverables shall be addressed to the attention of the Bureau of Water Pollution Control.

A.3.1. The Permittee shall achieve compliance with the effluent limitations upon issuance of the Permit.

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	The Permittee shall submit an updated Effluent Management Plan (EMP) to the Division. The EMP shall be prepared and wet-stamped by a Nevada Registered Professional Engineer in accordance with guidance document <i>WTS-1B: General Criteria for Preparing an Effluent Management Plan</i> .	7/28/2016

SA – Special Approvals / Conditions Table

There are no Special Approval / Condition items

DLV– Deliverable Schedule for Reports, Plans, and Other Submittals

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly Discharge Monitoring Report	Quarterly	7/28/2016
2	Annual Report	Annually	1/28/2017

SECTION B

Site specific requirements are on the following pages:

B.MW. Monitoring Wells:

- B.MW.1.** Discrete groundwater samples shall be collected to confirm the effective protection of groundwater under the established discharge conditions of this permit.
- B.MW.2.** All wells shall be monitored in accordance with the parameters identified in the Groundwater Monitoring Well Table(s).
- B.MW.3.** Increasing concentrations of total nitrogen as nitrogen (-N) in groundwater samples invoke the following response requirements:
- B.MW.3.1.** If the total nitrogen-N concentration increases to 7.0 mg/L, an alternate method of process wastewater and/or manure storage must be prepared and submitted to the Division for review and approval;
- B.MW.3.2.** If the total nitrogen-N concentration increases to 9.0 mg/L, construction of the approved alternate process wastewater and/or manure storage facility shall begin; and
- B.MW.3.3.** If the total nitrogen-N concentration increases to 10.0 mg/L, discharge to groundwater shall cease unless authorized with written approval from the Division.
- B.MW.4.** To continue discharges under the terms of this permit, the Permittee may submit for review and approval an alternative approach, stamped by a Nevada Registered Professional Engineer, that ensures no further degradation of waters of the State.
- B.MW.5.** Groundwater monitoring and data rendering activities shall be conducted by, or under the supervision of, an Environmental Manager certified in the State of Nevada, or other qualified person approved by the Division
- B.MW.6.** Groundwater monitoring wells shall be conspicuously labeled, capped to prevent migration of surface contaminants to the groundwater, and locked to restrict access.
- B.MW.7. Well Abandonment:** Abandonment of any groundwater monitoring wells shall be conducted under the approval of, and in accordance with the requirements established by, the Division and the Division of Water Resources.

B.RU. Reuse

- B.RU.1.** The facility shall be operated in accordance with the Division-approved Reclaimed Water Management Plan (RWMP).
- B.RU.2.** The reclaimed water reuse facility shall provide a copy of a brief document describing the possible hazards and proper hygiene of working with and around reclaimed water to all workers and other affected personnel. A copy shall be included in the RWMP.
- B.RU.3.** If the annual application volume exceeds the calculated annual application limit, the Permittee shall prepare a report that includes an evaluation of the application rates in the RWMP, an explanation of conditions (over seeding, reseeding, weather conditions, etc.) which led to the exceedance, and any planned changes the Permittee deems necessary. The evaluation shall be submitted with the fourth quarter Discharge Monitoring Report (DMR).
- B.RU.4.** The total nitrogen applied (lbs/year) shall not be greater than the maximum yearly nitrogen application rate defined in the RWMP.
- B.RU.5.** If the Permittee determines that the calculated nitrogen application rate has been exceeded in any one year, the Permittee shall prepare a report which includes an evaluation of the application rates in the approved RWMP, an explanation of conditions which led to the exceedance, and any planned changes the Permittee deems necessary. The evaluation shall be submitted with the fourth quarter DMRs.
- B.RU.6.** The reclaimed water irrigation system and storage ponds shall not cause objectionable odors on or off the site.
- B.RU.7.** The irrigation system, storage pond(s), and ancillaries shall be constructed in accordance with plans reviewed by the Division. All plans must be reviewed by the Division prior to the start of construction. Any significant system changes that result in the expansion of the areas of irrigation and/or change in the methods of reclaimed water application must be reviewed by the Division.
- B.RU.8.** Irrigation areas and ponds shall be posted with signs clearly stating that reclaimed water is in use and that contact with the reclaimed water should be avoided, where applicable. Pipe infrastructure conveying the reclaimed water must be identified by: (a) Color marking; or (b) A metal tag. All reclaimed water outlets, including, without limitation, hose connections, open ended pipes, and faucets, must be appropriately identified at the point of use.
- B.RU.9.** Irrigation shall be performed in such a manner as to reduce standing water to a minimum and to prevent runoff of reclaimed water from the site or into water courses.
- B.RU.10.** Ponds shall be designed and managed to meet conditions listed in this permit.
- B.RU.11.** All terms and conditions stated herein shall not supersede the requirements of the Nevada Division of Water Resources.
- B.RU.12.** The Permittee shall achieve compliance with the discharge limitations upon
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issuance of the permit.

B.RU.13. When applicable, monitoring wells shall be constructed in accordance with "WTS-4: Monitoring Well Design Requirements" (NDEP, February 1997), and shall be installed and sampled prior to irrigation.

B.RU.14. Reclaimed Water Management Plan (RWMP)

B.RU.14.1. The RWMP shall be prepared and stamped by a Nevada Registered Professional Engineer or by a qualified professional.

B.RU.14.2. Pursuant to Section A, the RWMP shall be prepared and submitted for review and approval in accordance with the Division's General Criteria for Preparing a Reclaimed Water Management Plan (WTS-1B).

B.RU.14.3. The irrigation storage pond(s), distribution system, and ancillary facilities shall be operated in accordance with the RWMP.

B.RU.14.4. The RWMP shall contain the information required to comply with this permit.

B.RU.14.5. As applicable, the RWMP shall detail the procedures for collecting monitoring samples required by this permit.

B.RU.14.6. The Permittee shall not use the reclaimed water prior to having an approved RWMP.

C.1. MONITORING AND REPORTING:

C.1.1. Schedule: Discharge Monitoring Reports (DMRs) shall be received by the 28th day of the month following the third month of each quarter (reporting period). Quarterly and annual reporting periods are based on the standard annual cycle, January 1 through December 31.

C.1.1.1 If required, all Annual, Biosolids Monitoring Report (BMR), Pretreatment, Total Inorganic Nitrogen (TIN), Salinity Control, and Whole Effluent Toxicity Testing (WET) annual reports are due as defined in the Deliverable Table (DLV).

C.1.1.2 An original signed copy of these, and all other reports required herein, shall be submitted to the State at the following address:

**Nevada Division of Environmental Protection
Bureau of Water Pollution Control
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701**

C.1.2. Annual Report: The fourth quarter report shall contain plots of concentration (y-axis) versus date (x-axis) for each analyzed constituent identified in the Monitoring Table. The plots shall include data from the preceding five years, if available. Plotting is not required for any constituent that have routinely been below the detection limit or if less than three data points exist. Any data point from the current year that is greater than the limits identified in the applicable tables and conditions above must be explained by a narrative.

Once reporting through the Nevada NetDMR system has been performed for a continuous five year period annual plots are no longer required.

C.1.3. Reporting: Monitoring results obtained in accordance to the requirements of the permit, supporting laboratory data, and supporting documents shall be submitted through the Nevada NetDMR system.

<https://netdmr.ndep.nv.gov/netdmr/public/home.htm>

C.1.4. Sampling and measurements: Samples and measurements taken when required shall be representative of the volume and nature of the monitored discharge and must comply with any Division approved sampling plan as required by the Schedule of Compliance. Analyses shall be performed by a Nevada certified laboratory. Results from this lab must accompany the DMR. If no discharge occurs during the reporting period, report "no discharge" shall be indicated on the submitted DMR.

C.1.5. Recording the Results: For each measurement or sample taken pursuant to the requirements of this permit, the Permittee shall record the following information:

C.1.5.1. The exact place, date, and time of sampling;

C.1.5.2. The dates the analyses were performed;

C.1.5.3. The person(s) who performed the analyses;

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- C.1.5.4.** The analytical techniques or methods used; and
- C.1.5.5.** The results of all required analyses.
- C.1.6. Additional Monitoring by Permittee:** If the Permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, and the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form. Such increased frequency shall also be indicated.
- C.1.7. Test Procedures:** Test procedures for the analysis of pollutants shall conform to regulations (40 CFR, Part 136) published pursuant to Section 304(h) of the CWA, under which such procedures may be required unless other procedures are approved by the Division. Other procedures used may be:
- C.1.7.1.** Selected from SW-846;
- C.1.7.2.** Selected from 40 CFR 503; or
- C.1.7.3.** An alternate test procedure approved by the Division, Environmental Laboratory Services.
- C.1.7.4.** All laboratory analyses conducted in accordance with this discharge permit must have detection at or below the permit limits.
- C.1.7.5.** All analytical results must be generated by analytical laboratories certified by the Nevada Laboratory Certification Program
- C.1.8. Reporting Limits:** Unless otherwise approved by the Division, the approved method of testing selected for analysis must have reporting limits which are:
- C.1.8.1.** Half or less of the discharge limit; or, if there is no limit,
- C.1.8.2.** Half or less of the applicable water quality criteria; or, if there is no limit or criteria,
- C.1.8.3.** The lowest reasonably attainable using an approved test method.
- C.1.8.4.** This requirement does not apply if a water quality standard is lowered after the issuance of this permit; however, the Permittee shall review methods used and by letter notify the Division if the reporting limit will exceed the new criterion, and if so the Division may reopen the permit to impose new monitoring requirements.
- C.2. Operations and Maintenance (O&M) Manual:**
- C.2.1.** An O&M Manual shall be prepared and submitted to the Division for review and approval in accordance with the Division Operations and Maintenance Manual guidance (WTS-2).
- C.2.2.** The Permittee shall inspect the site at the frequency prescribed in the O&M Manual.
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- C.2.3.** The Permittee shall maintain an operations logbook (hardcopy or electronic) on-site as referenced in the O&M Manual.
- C.2.3.1.** The logbook shall include the name of the operator, date, time, and general condition of the facility.
- C.3. Planned changes:** The Permittee shall give notice to the Division as soon as possible of any planned physical alterations or additions to the permitted facility and receive approval prior to commencing construction. Notice is required only when the alteration or addition to a permitted facility:
- C.3.1.** May meet one of the criteria for determining whether a facility is a new source (40 CFR 122.29 (b));
- C.3.2.** Could significantly change the nature or increase the quantity of pollutants discharged; or
- C.3.3.** Results in a significant change to the Permittee's sludge management practice or disposal sites.
- C.4. Anticipated non-compliance:** The Permittee shall give advance notice to the Division of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- C.5. Change in Discharge:** All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the Permit. Any anticipated facility expansions or treatment modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new application or, if such changes will not violate the effluent limitations specified in this Permit, by notice to the permit issuing authority of such changes. Any changes to the permitted treatment facility must comply with NAC 445A. The Permit may be modified to specify and limit any pollutants not previously limited.
- C.6. Facilities Operation-Proper Operation and Maintenance:** The Permittee shall at all times maintain in good working order and properly operate all treatment and control facilities, collection systems, and pump stations installed or used by the Permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures.
- C.7. Adverse Impact – Duty to Mitigate:** The Permittee shall take all reasonable steps to minimize the impact of releases to the environment resulting from noncompliance with any permit limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge. The Permittee shall carry out such measures, as reasonable, to prevent significant adverse impacts on human health or the environment. If the monitoring program (as required by this permit) identifies exceedances of ambient water quality standards at the boundary of any approved mixing zone, the Permittee
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shall notify the Division of the exceedances and describe any mitigation measures being implemented as part of the quarterly monitoring report requirements.

C.8. Noncompliance, Unauthorized Discharge, Bypass and Upset

C.8.1. Any diversion, bypass, spill, overflow or discharge of treated or untreated wastewater from a permitted facility under the control of the Permittee is prohibited except as authorized by this permit. The Division may take enforcement action for a diversion, bypass, spill, overflow, or discharge of treated or untreated wastewater except as authorized by this permit. In the event the Permittee has knowledge that a diversion, bypass, spill, overflow or discharge not authorized by this permit is probable or has occurred, the Permittee shall notify the Division.

C.8.2. Notification: The Permittee is responsible for carrying out notification in the event of a diversion, bypass, spill, overflow or discharge not authorized by this permit with the following schedule;

C.8.2.1. Immediately: Permittee shall be responsible for the timely notification of potentially impacted downstream users for the protection of human health and the environment.

C.8.2.2. Spill Hotline: Notifying the Division through the NDEP Spill Hotline, 1-888-331-6337, as soon as practicable after the dispatch of emergency respondents and mitigating actions and no later than twenty-four (24) hours from the time of discovery.

C.8.2.3. 5-Day Report: A written report shall be submitted to the Division within five (5) days of the discovery of a diversion, bypass, spill, overflow, upset, or discharge detailing the entire incident including;

C.8.2.3.1. Time and date of discharge;

C.8.2.3.2. Exact location and estimated amount of discharge;

C.8.2.3.3. Flow path and any bodies of water which the discharge contacts;

C.8.2.3.4. The specific cause of the discharge; and

C.8.2.3.5. The preventive and/or corrective actions taken.

C.8.3. The Permittee shall report all instances of noncompliance not reported under Section C.8. (Noncompliance, Unauthorized Discharge, Bypassing and Upset) at the time monitoring reports are submitted. The reports shall contain the information listed in Section C.8. (Noncompliance, Unauthorized Discharge, Bypassing and Upset).

C.8.4. Bypass not exceeding limitations: The Permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of the applicable Section of Section C.8. (Noncompliance, Unauthorized Discharge, Bypassing and Upset including Prohibition of Bypass).

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- C.8.5. Anticipated bypass:** If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least ten days before the date of bypass.
- C.8.6. Prohibition of Bypass:** Bypass is prohibited, and the Division may take enforcement action against a Permittee for bypass, unless:
- C.8.6.1.** Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- C.8.6.2.** There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
- C.8.6.3.** The Permittee submitted notices as required under Section C.8. (Noncompliance, Unauthorized Discharge, Bypassing and Upset).
- C.8.7. Approved Bypass:** The Division may approve an anticipated bypass, after considering its adverse effects, if the Division determines that it will meet the three conditions listed in Section C.8.6.
- C.8.8. Effect of an upset:** An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Section C.8 (Noncompliance, Unauthorized Discharge, Bypassing and Upset: Conditions necessary for a demonstration of an upset) are met.
- C.8.9. Conditions necessary for a demonstration of an upset:** A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, that:
- C.8.9.1.** An upset occurred and that the Permittee can identify the cause(s) of the upset;
- C.8.9.2.** The permitted facility was at the time being properly operated;
- C.8.9.3.** The Permittee submitted notice of the upset as required under this Section; and
- C.8.9.4.** The Permittee complied with any remedial measures required under Section C.8. (Noncompliance, Unauthorized Discharge, Bypassing and Upset).
- C.8.10. Enforcement:** In selecting the appropriate enforcement option, the Division shall consider whether or not the noncompliance was the result of an upset. The burden of proof is on the Permittee to establish that an upset occurred.
- C.9. Removed Substances:** Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be properly disposed as described in the SWMP.
- C.10. Right of Entry and Inspection:** The Permittee shall allow the Administrator and/or
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his authorized representatives, upon the presentation of credentials, to:

- C.10.1.** Enter at reasonable times upon the Permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit;
- C.10.2.** Have access to and copy any records required to be kept under the terms and conditions of this permit at reasonable times;
- C.10.3.** Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations required in this permit; and
- C.10.4.** Perform any necessary sampling or monitoring to determine compliance with this permit at any location for any parameter.
- C.11. **Transfer of Ownership or Control:**** In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the Permittee shall notify the succeeding owner or controller of the existence of this permit, by letter, a copy of which shall be forwarded to the Division. The Division may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary. The Division shall approve ALL transfers of permits.
- C.12. **Availability of Reports:**** Except for data determined to be confidential under NRS 445A.665, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of the Division. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in NRS 445A.710.
- C.13. **Furnishing False Information and Tampering with Monitoring Devices:**** Any person who intentionally or with criminal negligence makes any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained by the provisions of NRS 445A.300 to 445A.730, inclusive, or by any permit, rule, regulation or order issued pursuant thereto, or who falsifies, tampers with or knowingly renders inaccurate any monitoring device or method required to be maintained under the provisions of NRS 445A.300 to 445A.730, inclusive, or by any permit, rule, regulation or order issued pursuant thereto, is guilty of a gross misdemeanor and shall be punished by a fine of not more than \$10,000 or by imprisonment. This penalty is in addition to any other penalties, civil or criminal, provided pursuant to NRS 445A.300 to 445A.730, inclusive.
- C.14. **Penalty for Violation of Permit Conditions:**** NRS 445A.675 provides that any person who violates a permit condition is subject to administrative and judicial sanctions as outlined in NRS 445A.690 through 445A.705, inclusive.
- C.15. **Permit Modification, Suspension or Revocation:**** After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
 - C.15.1.** Violation of any terms or conditions of this permit;

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- C.15.2.** Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- C.15.3.** A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge;
- C.15.4.** A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination;
- C.15.5.** Material and substantial alterations or additions to the permitted facility or activity;
- C.15.6.** The Division has received new information;
- C.15.7.** The standards or regulations have changed; or
- C.15.8.** The Division has received notification that the permit will be transferred.
- C.16. **Minor Modifications:**** With the consent of the Permittee and without public notice, the Division may make minor modifications in a permit to:
- C.16.1.** Correct typographical errors;
- C.16.2.** Clarify permit language;
- C.16.3.** Require more frequent monitoring or reporting;
- C.16.4.** Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the permit and does not interfere with attainment of the final compliance date;
- C.16.5.** Allow for change in ownership;
- C.16.6.** Change the construction schedule for a new discharger provided that all equipment is installed and operational prior to discharge;
- C.16.7.** Delete an outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with permit limits; or
- C.16.8.** Reallocate the IWLA as long as the Σ IWLA does not change.
- C.17. **Toxic Pollutants:**** Notwithstanding Section C (Permit Modification, Suspension or Revocation), if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the Permittee so notified.
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- C.18. Liability:** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable Federal, State or local laws, regulations, or ordinances. However, except for any toxic effluent standards and prohibitions imposed under Section 307 of the CWA or toxic water quality standards set forth in NAC 445A.144, compliance with this permit constitutes compliance with CWA Sections 301, 302, 306, 307, 318, 403, 405(a) and (b), and with NRS 445A.300 through 445A.730, inclusive.
- C.19. Property Rights:** The issuance of this permit does not convey any property rights, in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.
- C.20. Severability:** The provisions of this permit are severable, and if any provision of this permit, or the application of any provisions 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.
- C.21. Duty to Comply:** The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the CWA and is grounds for enforcement action; permit termination; revocation and reissuance, or modification; or denial of a permit renewal application.
- C.22. Need to Halt or Reduce Activity Not a Defense:** It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit.
- C.23. Duty to Provide Information:** The Permittee shall furnish to the Division, within a reasonable time, any relevant information which the Division may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Division, upon request, copies of records required to be kept by this permit.
- C.24. Other information:** Where the Permittee becomes aware of failure to submit any relevant facts in a permit application or the submittal of incorrect information in a permit application or in any report to the Division, the Permittee shall promptly submit such facts or information.
- C.25. Reapplication:** If the Permittee desires to continue to discharge, he shall reapply not later than 180 days before this permit expires on the application forms then in use. The Permittee shall submit the sludge information listed in 40 CFR 501.15(a)(2) with the renewal application. The renewal application shall be accompanied by the fee required by NAC 445A.232.
- C.26. Signatures, Certification Required on Application and Reporting Forms:** All applications, reports, or information submitted to the Division shall be signed and certified by making the following certification. "I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly
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gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

C.26.1. All applications, reports or other information submitted to the Division shall be signed by one of the following:

C.26.2. A principal executive officer of the corporation (of at least the level of vice president) or his authorized representative who is responsible for the overall operation of the facility from which the discharge described in the application or reporting form originates;

C.26.3. A general partner of the partnership;

C.26.4. The proprietor of the sole proprietorship; or

C.26.5. A principal executive officer, ranking elected official or other authorized employee of the municipal, state or other public facility.

C.27. Changes to Authorization: If an authorization under Section C.25 (Signatures, Certification Required on Application and Reporting Forms) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Section C.25 (Signatures, Certification Required on Application and Reporting Forms) must be submitted to the Division prior to or together with any reports, information, or applications to be signed by an authorized representative.

C.28. Definitions:

25-year, 24-hour storm event means a precipitation event with a probable recurrence interval of once in twenty-five years, as defined by the National Weather Service in Technical Paper No. 40, “Rainfall Frequency Atlas of the United States,” May, 1961, or equivalent regional or State rainfall probability information developed from this source.

100-year, 24-hour storm event means a precipitation event with a probable recurrence interval of once in one hundred years, as defined by the National Weather Service in Technical Paper No. 40, “Rainfall Frequency Atlas of the United States,” May, 1961, or equivalent regional or State rainfall probability information developed from this source.

Acute Toxicity means the concentration that is lethal to 50 percent of the test organisms within 96 hours.

Agricultural land means land on which a food crop, a feed crop, or a fiber crop is grown. This includes rangeland and land used as pasture.

Agronomic rate means the whole sludge application rate (dry weight basis) designed: To provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop, or vegetation grown on the land; and to minimize the amount of nitrogen that passes below the root zone of the crop or vegetation grown on the

land to the groundwater.

Biosolids are non-hazardous sewage sludge or domestic septage.

Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

Chronic precipitation event means a series of wet weather conditions that precludes reducing the volume of properly designed, constructed, operated, and maintained waste storage and/or treatment facilities and that total a volume in excess of the 25-year, 24-hour storm event.

Composite Sample (for flow-rate measurements) sample means the arithmetic mean of no fewer than six individual measurements taken at equal time intervals for 24 hours, or for the duration of discharge, whichever is shorter.

Discrete sample means any individual sample collected in less than 15 minutes.

Feed crops means crops produced primarily for consumption by animals.

Food crops means crops consumed by humans. These include, but are not limited to, fruits, vegetables, and tobacco.

Land application means the spraying or spreading of sewage sludge onto the land surface; the injection of sewage sludge below the land surface; or the incorporation of sewage sludge into the soil so that the sewage sludge can either condition the soil or fertilize crops or vegetation grown in the soil.

Land application area means land under the control of the Permittee, whether it is owned, rented, or leased, to which manure or process wastewater from the production area is or may be applied.

Manure means animal excrement and is defined to include bedding, compost, and raw materials or other materials commingled with animal excrement or set aside for disposal.

Process wastewater means water directly or indirectly used in the operation of the facility.

Sewage sludge means solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works.

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not excuse noncompliance to the extent caused by operational error, improperly designed include treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

Vegetated buffer means a permanent strip of dense perennial vegetation

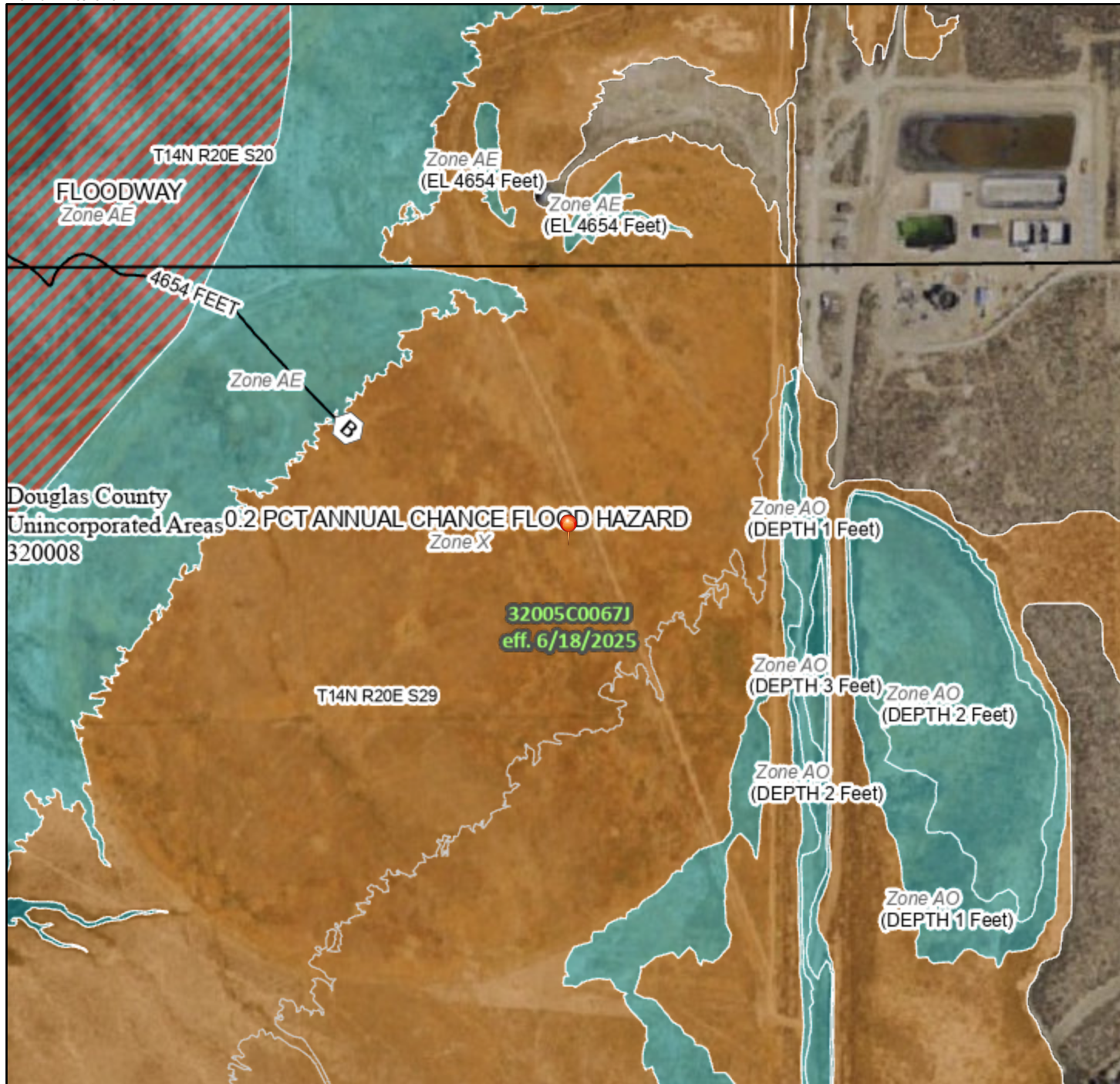
established parallel to the contours of and perpendicular to, the dominant slope for the purposes of slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential pollutants leaving being released.

APPENDIX TWO
SYSTEM FIGURES

National Flood Hazard Layer FIRMette



119°46'7"W 39°3'28"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

119°45'29"W 39°3'3"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
OTHER FEATURES		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
MAP PANELS		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/22/2026 at 7:05 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX THREE
REUSE AGREEMENTS

CONTRACT AMENDMENT NO. 03

To the Effluent Discharge Agreement – Kirman Tract

between Douglas County

and

Heybourne Meadows, LLC

This Third Amendment to the Effluent Discharge Agreement – Kirman Tract is entered into by and between Douglas County, Nevada (County) and Heybourne Meadows, LLC, a Nevada Limited Liability Company (Owner). County and Owner may at times be referred to herein individually as a “Party” or collectively as the “Parties.”

Whereas, County and Bently Family Limited Partnership originally entered into an Effluent Agreement on June 6 2007, which is Recorded with the Douglas County Recorder as Document No. 0703156 (Original Agreement); and

Whereas, the Original Agreement was first amended on February 4, 2010, and that amendment is recorded as Document No. 0758303 (First Amendment); and

Whereas, the Agreement was amended a second time, in Contract Amendment No. 2, adopted and approved by the County immediately preceding the adoption of this Amendment No. 3 on July 20, 2022 (Amendment 2); and

Whereas, the agreement pertains to Owner’s use of treated effluent for irrigation purposes on property located in the vicinity of the County’s North Valley Waste Water Treatment Facility; and

Whereas, the Parties desire to amend the Original Agreement, as amended, for the purpose of (1) decreasing the total available irrigation land acreage, and (2) increasing the overall term of the agreement.

NOW, THEREFORE, in consideration of the foregoing recitals and mutual consideration, the receipt of which is hereby acknowledged, the Parties agree as follows:

1. This amendment shall become effective on the date that it is last signed by all parties.
2. Paragraph 2 of the Original Agreement, as amended by Amendment #2, shall be deleted in its entirety and replaced with the following:

Owner will provide up to 220 acres of land on the Project for application of the County's effluent, and will accept up to 750 acre-feet annually (afa) of County-treated effluent for irrigation reuse. The County will not object to Owner's reduction of available acreage from 220 acres to as low as 200 acres, provided that Owner (at Owner's expense) obtains all necessary permissions and permits from regulating authorities (including NDEP)

confirming that the available acreage accommodates the 750 afa discharge.

3. Owner will be responsible for all costs associated with modifying the NDEP groundwater discharge permit for the updated available acreage.
4. The initial thirty (30) year term of the agreement shall be extended as follows:
 - o Pursuant to Paragraph 17 of the Original Agreement, the initial term is 30 years and is set to expire in 2037. The parties hereby agree to extend the initial term an additional 15 years, such that it instead expires on July 1, 2052. Thereafter, the 25 year option period described in Paragraph 17 of the Original Agreement will follow unless notice is given pursuant to the agreement.
5. Each natural person signing this instrument, for or on behalf of a legal entity party hereto, represents, warrants, assures and guarantees to each other such natural person, and to each other such legal entity, that he or she is duly authorized and has the legal power and authority to sign this instrument.

IN WITNESS WHEREOF, the said parties have hereunto set their hands, the County, by and through Patrick Cates, County Manager, as authorized by the Board of County Commissioners during a Public Meeting, and **Matt Carter, Managing Member of Heybourne Meadows, LLC** on the respective dates indicated below.

County:

Douglas County

By: *[Signature]* 07/20/22

Patrick Cates, County Manager (Date)

As authorized in a public meeting on 07/20/2022

Owner:

Heybourne Meadows LLC

By: Matt Carter, Managing Member

Signature: *[Signature]*

Date: 7-18-22

STATE OF NEVADA)

COUNTY OF DOUGLAS)

This instrument was acknowledged before me, a Notary Public, on the 18 day of July, 2022 by Matt Carter.

[Signature]

Notary Signature & Seal



**PRIVATE ROAD MAINTENANCE, SEWER,
AND EFFLUENT
IRRIGATION AGREEMENT**

THIS AGREEMENT, made this 2nd day of January, 2025, by and between HEYBOURNE RANCH LLC, a Nevada limited liability company (“**HR**”) and JONATHAN and JOSEPHINE YOUNG (“**Young**”) (hereinafter collectively referred to as “**Owners**”).

RECITALS:

A. WHEREAS, HR is the owner of that certain real property entirely situated in Douglas County, Nevada, comprising six parcels totaling approximately 223 acres, commonly known as Assessor’s Parcel Numbers 1420-00-002-033, 1420-00-002-044, 1420-00-002-034, 1420-29-001-010, 1420-29-001-011, 1420-29-001-012 and 1420-29-001-007 as depicted in that certain Maps recorded in the Official Records of Douglas County, Nevada on October 11, 2023 as Document No 1001363 and October 19, 2025 as Document No 8616 (the “**Maps**”), (the “**HR Property**”).

B. WHEREAS, Young is the owner of that certain real property entirely situated in Douglas County, Nevada, comprised of a parcel totaling approximately 19 acres, commonly known as Assessor’s Parcel Number 1420-29-001-012 as depicted in the Map (the “**Young Property**”). The HR Property and the Young Property are herein collectively referred to as the “**Properties**”.

C. WHEREAS, HR and Young and the HR Property and the Young Property are subject to that certain Effluent Agreement dated June 6, 2007 and recorded in the Official Records of Douglas County, Nevada on June 13, 2007 as Document No. 0703156, as the same has been amended and assigned from time to time (the “**Effluent Agreement**”), which is hereby incorporated by this reference as if fully set forth herein and whereby the owners of the HR Property and the Young Property are obligated to accept and Douglas County is permitted to deliver up to 750 acre-feet of effluent treated by Douglas County at the North Valley Wastewater Treatment Facility to the Property for irrigation reuse.

D. WHEREAS, the Owners intend by this Agreement to provide for their respective obligations with regard to the ongoing maintenance and repair of the private access roadway as depicted on Exhibit “A” attached hereto and incorporated by this reference as if fully set forth herein.

E. WHEREAS, the Owners additionally intend to provide for the mutually beneficial administration and application of the Effluent Agreement by and among each of the seven parcels that make up the HR Property and the Young Property in the best interests of any owners of said property.

F. WHEREAS, The Owners intend that this Agreement be memorialized by recordation of a Memorandum of Agreement that shall run with the HR Property and Young Property and all parts and parcels thereof and shall be binding on all parties having any rights, title or interest in such property and their heirs, successors, successors-in-title, and assigns and shall inure to the benefit of each owner. Each, all, and every one of the limitations, easements, uses, obligations, covenants, conditions, and restrictions herein imposed shall be deemed to be and construed as equitable servitudes enforceable by any of the owners of any portion of the HR Property and Young Property subject to the terms of this Agreement against any other owner, tenant, or occupant of said property or portion thereof similarly encumbered by this Agreement.

NOW, THEREFORE, the Parties, for good and valuable consideration and the mutual promises herein contained, the receipt and sufficiency of which are hereby acknowledged, do hereby agree as follows:

1. Heybourne Ranch Management Company. The Heybourne Ranch Management Company (“*HRMC*”) shall be incorporated under said name, or a similar name, as a non-profit corporation under NRS Chapter 82. The HRMC is created under Nevada law for the limited purpose of administration of the provisions of this Agreement and the Effluent Agreement and its application to the Properties; accordingly, pursuant to NRS 116.1201(2)(a), the HRMC shall be *EXEMPT* from NRS Chapter 116. Upon the Owners’ execution of this Agreement and recordation of the Memorandum of Agreement provided for below, subject to the consent of Douglas County, the Owners shall also cause to be recorded an assignment of the Effluent Agreement to the HRMC.

(a) The Duties, powers, and rights of the HRMC are those set forth in this Agreement as well as articles and bylaws to be adopted by HRMC, together with its general and implied powers as a non-profit corporation generally to do any and all things that such corporations organized under the laws of the State of Nevada may lawfully do which are necessary or proper in connection therewith.

(b) The Members of the HRMC shall be the owners of the Properties, with a one-seventh membership interest being appurtenant to each of the seven parcels making up the Properties. Each owner of a parcel of the Properties, upon acquiring title to such a parcel or any part of such a parcel¹, shall automatically become a member of the HRMC and shall remain a member until such time as his or her ownership of such a parcel ceases, at which time his or her membership automatically ceases. Memberships in the HRMC shall not be assignable, except to the person to which title to a parcel of the Properties has been transferred and each Membership shall be appurtenant to and may not be separated from the fee ownership of such parcel. Ownership of a parcel of the Properties shall be the sole qualification for Membership of the HRMC.

2. Road Easements and Road Maintenance. Attached hereto as Exhibit A and incorporated herein by this reference is a document depicting the Properties as well as depicting

¹ In the event that any of the Properties are further subdivided, such Property’s one-seventh membership interest in HRMC shall be divided in accordance with the number parcels is divided into. By way of example, if the Young Property is subdivided into two parcels, the subsequent owners of each such parcel shall each own a one-fourteenth membership in HRMC.

and describing various private access road easements (“*Easements*”) on the Properties, each of which serves some or all of the Properties as described in that certain document recorded in the Official Record of Douglas County, Nevada on August 10, 2023 as Document No. 658214. It is the Owners’ intent to construct and/or maintain roadways within such easements as described therein in accordance with the terms of this Agreement.

Each owner of any of the Properties burdened or served by an Easement and their successors are to be responsible for their share of reasonable cost of the maintenance and repair of the road to be constructed in the Easement, including, but not limited to, grading and the placement of material as necessary from time to time to maintain vehicle travel lanes as well as the clearing of brush, debris and any other material from ditches, culverts and any other drainage improvements in order to prevent damage to the roadway from drainage or runoff.

Each owner of any of the Properties acknowledges and agrees that any construction, maintenance, repair, or improvement of a road within the Easements shall preserve the rural character of the Properties as much as is practicable. Each such owner agrees they are responsible to assure that drainage from their respective parcels is handled in such a manner as to prevent unreasonable damage and erosion to the road to be constructed in the Easements. Each such owner agrees that no gates or other obstructions shall be placed within the Easements.

(a) Maintainer. For the purpose of implementing the maintenance and repairs to the Roadway provided for herein, the manager or president of HRMC shall have the right to determine when maintenance or repair work is necessary. It is the intention of the Owners that maintenance work be completed on a regular basis as necessary to avoid the need for major repairs as the result of a lack of routine maintenance. Prior to contracting for such work, HRMC shall obtain at least one written proposal from an appropriately licensed contractor for such work. Such proposal or proposals, in writing, will be provided to all of the owners of the Properties seeking the consent of such owner. If a majority of the owners of the Properties either provide HRMC with their written consent do not object in writing within ten (10) calendar days of receipt of any such proposal, HRMC may contract for the work and proceed to have the work completed. Owners of the Properties will pay for their portion of the amounts due for repair or maintenance work contracted for by HRMC within three (3) business days of receipt of written notice. Payment will be made to HRMC who shall then pay the contractor.

(b) Sharing of Costs. The parties agree that the owners of respective Properties described herein shall share in HRMC’s costs and expenses necessary to maintain the roadway within the Easement in accordance with the provisions of this Agreement in the following percentages:

Parcel A through C:	12%
Parcel D:	22%
Parcel E:	22%
Parcel F:	22%
Parcel G:	22%

(c) Emergency Work. An owner of any of the Properties shall have the authority to contract for emergency repairs to the roadways in the Easements on behalf of the remaining owners. The other owners of the Properties will pay their portion of the amounts due for such emergency work within three (3) business days of receipt of written notice of such work.

3. Effluent Irrigation.

(a) Each owner of a parcel of the Properties hereby grants to the HRMC a nonexclusive easement across the Properties per Exhibit B to allow the HRMC to accomplish its purpose of maintaining the installed underground irrigation water lines and valves and to take any action authorized herein, including without limitation, a non-exclusive easement for underground irrigation lines per Exhibit B.

(b) The Membership held by any owner of a parcel that is part of Properties shall not be transferred, pledged, or alienated in any way, except upon the sale or encumbrance of such owner's parcel, and then only to the purchaser or mortgagee of such parcel. Any attempt to make a prohibited transfer is void and will not be reflected upon the books and records of the HRMC. The HRMC shall assess and collect a transfer fee against a new owner of a parcel that is part of the Properties in such amount as the HRMC determines, from time to time, to be necessary to accomplish the purposes of the HRMC.

(c) The HRMC shall adopt and/or ratify articles of incorporation and bylaws, which shall set forth the purposes and powers of the HRMC, consistent with this Agreement, and which shall provide for management of the HRMC by a board of directors, who may only regulate the HRMC's affairs and may not regulate any other part of the Properties. Said bylaws shall provide for the owner of the largest parcel to have a permanent seat on the board of directors.

(d) The HRMC shall administer and apply the terms of the Effluent Agreement as set forth below:

A. For purposes of this Agreement, the seven parcels making up the Properties and depicted on Exhibit A shall be labeled and are generally described as follows:

Parcel A APN 1420-29-001-008(101.36 acres, northernmost parcel of the Properties)

Parcel B APN 1420-00-002-034 (25.94 acres, immediately south of Parcel A)

Parcel C APN 1420-00-002-044 (39.48 acres, immediately south of Parcel B)

Parcel D APN 1420-29-001-010 (19 acres, nearest west parcel immediately south of Parcel C)

Parcel E APN 1420-29-001-011 (19 acres, middle parcel immediately south of Parcel C)

Parcel F APN 1420-29-001-012 (19 acres, further east parcel immediately south of Parcel C)

Parcel G APN 1420-29-001-008 (24 acres, southernmost parcel of the Properties)

B. Irrigation of the Properties with effluent provided by Douglas County under the Effluent Agreement shall begin the first Monday in May unless, in the discretion of the owner of Parcel A (e.g., if there is snow on the ground or forecast on or about the first Monday in May) a later start date would be prudent.

- C. The water rotation schedule shall be as follows, beginning on the start date:
- i. Parcel A shall receive water during the window from 8am on Day 1 to 8am on Day 3.
 - ii. Parcel B shall receive water during the window from 8am to 8pm on Day 3.
 - iii. Parcel C shall receive water during the window from 8am to 8pm on Day 4.
 - iv. Parcel D shall receive water during the window from 8am to 12pm on Day 5.
 - v. Parcel E shall receive water during the window from 12pm to 4pm on Day 5.
 - vi. Parcel F shall receive water during the window from 4pm to 8pm on Day 5.
 - vii. Parcel G shall receive water during the window from 8am to 12pm on Day 6.
- D. Water shall be delivered according to this rotation until Douglas County informs the HRMC effluent is no longer available for discharge for the year. It shall be permitted, however, so long as Douglas County allows under the Effluent Agreement, for each parcel to receive the equivalent of up to one additional rotation of water between the months of October to February each season.
- E. If a person owns more than one parcel of the Properties, said owner shall have the right to take his or her rotations on any of his or her parcels.
- F. An owner of a parcel that is part of the Properties may decline to take water during the window in which that parcel is scheduled to take water so long as, in the HRMC board's judgment, the other parcels that are part of the Properties are receiving enough water to comply with the terms of the Effluent Agreement and applicable NDEP permits.
- G. Except where the HRMC board has determined, from time to time, the parcels receiving effluent under the Effluent Agreement are taking enough water to ensure the HRMC is in compliance with the terms of the Effluent Agreement and applicable NDEP permits, every owner of a parcel that is part of the Properties is responsible to install and maintain appropriate irrigation infrastructure (i.e. alfalfa bubblers, etc.) on the water distribution lines currently existing on the Properties for the purpose of delivering effluent to his or her parcel and receiving and maintaining the effluent in compliance with the Effluent Agreement and applicable NDEP permits. An owner who, as authorized by the HRMC board, elects not to receive water may cap the water distribution lines serving his or her parcel at such owner's sole expense. The HRMC board shall review the situation described herein no less frequently than every three years and an owner who has not installed appropriate water

discharge apparatus may, in the discretion of the HRMC board, be directed to do so. Should a Member fail to install or maintain the infrastructure required by this paragraph, the HRMC shall undertake to fulfill such Member's responsibility and assess such Member the actual costs incurred by the HRMC to do so.

- H. An owner may be required, as determined by the HRMC board of directors, to accept water on his or her parcel during his or her rotation even if not wanted, if to do so would be necessary to ensure compliance with the Effluent Agreement and applicable NDEP permits.
- I. If there is enough effluent under the Effluent Agreement that irrigation reuse is required beyond the rotation schedule windows set forth above, said windows shall be expanded, generally on a pro rata basis, to accommodate the additional effluent required.
- J. The HRMC shall assess and collect fees from its members in pro rata amounts necessary to cover the fees charged by Douglas County under Section 1 of the Effluent Agreement and by NDEP under applicable NDEP permits.
- K. The HRMC must ensure that up to 90% of the acreage making up the Properties has the capability to receive a discharge of effluent, as required by the Effluent Agreement, and the Members responsible for a breach of such requirement shall indemnify HRMC in any action brought by Douglas County to enforce the same.
- L. Parcel F shall have the ability to reduce the number of acres allowable to be discharged on by 2.1 Acres and Parcels A, B, and/or C shall take on the additional acres necessary to be covered by effluent if necessary.

The costs and expenses of HRMC associated with the use of effluent irrigation on the Properties shall be allocated to the owners of the Properties based upon the percentage of the total amount of effluent utilized by the owner of each parcel of the Properties in the previous irrigation season.

The provisions of this Paragraph 3 are subject to revision by the affirmative consent of the owners of a majority of the outstanding membership interest in HRMC.

4. Sewer Connection

- a) A sewer line shall be installed along the Southernmost boundary of lots D, E, and F for the purposes of tying into the public sewer system.
- b) Each owner that the County will allow to tie into the system shall pay a

- c) Owners of parcels D, E, F, and G may connect to the HRMC private sewer line at a cost equal to one forth the price paid at time of installation.

5. Miscellaneous.

(a) Covenant Running with the Land; Memorandum of Agreement. This Agreement shall be binding upon and shall inure to the benefit of the owners of the Properties and their respective successors and assigns. All of the easements, rights, obligations, duties and privileges set forth herein shall be appurtenant to and shall run with the Properties, which is both hereby burdened and benefited thereby. Any conveyance of any parcel that is part of the Properties shall also convey the rights, privileges, duties and obligations contained in this Agreement appurtenant to the parcel in question, regardless of whether specific mention is made of this Agreement, and regardless of whether a specific conveyance is made of, or subject to, said rights, privileges, duties and obligations herein.

This Agreement shall not be recorded, but the Owners covenant and agree to execute a memorandum of this Agreement in recordable form which shall be recorded in the office of the Recorder in Douglas County, Nevada as soon as reasonably possibly after full execution of this Agreement.

(b) Lien Rights.

(i) Any claim for reimbursement and any claim for amounts payable under this Agreement will, insofar as permissible by law, constitute a lien against the defaulting parcel and improvements thereon, and the person or entity to whom payment is owed shall be permitted to unilaterally record a notice of such lien against the defaulting parcel in the Official Records of Douglas County, Nevada if such amount is not paid within thirty days after delivery of written notice to the defaulting party of its failure to pay. Any lien claimed under this paragraph may be enforced in any judicial proceedings allowed by law, including without limitation, suit in the nature of a suit to foreclose a lien under the applicable provisions of the laws of the State of Nevada.

(ii) The lien rights of each Party hereunder are and shall be subject and subordinate to any mortgage now or hereafter placed on the Parcel(s) owned by the other Party. Each Party shall confirm such subordination by executing a recordable subordination agreement in form and content reasonably satisfactory to such Party within ten (10) days after receiving a request for such subordination agreement from the other Party or its lender.

(c) Cumulative Remedies. No remedy herein or otherwise conferred upon or reserved hereunder shall be considered exclusive of any other remedy, but the same shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing at law or in equity, and every power and remedy given by this Agreement may be exercised, from time to time, as often as occasion therefor may arise or as may be deemed expedient. No delay or omission by a person to exercise any right or power arising from any breach by another of any term or condition of this Agreement shall impair any such right or power or shall

be construed to be a waiver of any such breach or an acquiescence therein; nor shall the exercise, delay or nonexercise of any such right or remedy impair the rights granted hereunder or be construed as a waiver of such right or remedy or as a waiver, acquiescence in or consent to any further or succeeding breach of the same or any other covenant.

(d) Attorneys' Fees and Costs. In the event any action or proceeding is commenced among or between any entity, committee, or owners of a parcel that is part of the Properties with respect to the subject matter hereof or to enforce any obligation hereunder, the prevailing party or parties shall be entitled to recover from the other party or parties, as part of any judgment rendered, reasonable attorneys' fees and costs as determined by the Court or other adjudicating body.

(e) Severability. If any term, covenant or condition of this Agreement or the application thereof to any person, entity or circumstances shall, to any extent be invalid or unenforceable, the remainder of this Agreement, and the application of such term, covenant or condition to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby and each term, covenant or condition of this Agreement shall be valid and be enforced to the fullest extent permitted by law.

(f) Binding on Successors/Run With the Land. This Agreement shall be binding upon and shall inure to the benefit of the owners of the Properties and their respective successors and assigns. All of the easements, rights, obligations, duties and privileges set forth herein shall be appurtenant to and shall run with the Properties, which is both hereby burdened and benefited thereby. Any conveyance of any parcel that is part of the Properties shall also convey the rights, privileges, duties and obligations contained in this Agreement appurtenant to the parcel in question, regardless of whether specific mention is made of this Agreement, and regardless of whether a specific conveyance is made of, or subject to, said rights, privileges, duties and obligations herein.

(g) Amendment. Neither this Agreement nor any provision hereof may be changed, waived, discharged or terminated orally, but only by an instrument in writing and approved by owners of more than two-thirds of the parcels that make up the Properties, with each parcel entitled to be represented by a single vote.

(h) Force Majeure. Notwithstanding any other provision hereof, in the event that any owner of a parcel that is part of the Properties shall be delayed or hindered in or prevented from the performance of any covenant, agreement, work, service or other act required under this Agreement to be performed by such owner, and such delay or hindrance is due to cause entirely beyond its control such as riots, insurrections, martial law, civil commotion, war, fire, flood, earthquake or other casualty or acts of God, the performance of such covenant, agreement, work, service or other act shall be excused for the period of delay and the time period for performance shall be extended by the same number of days in the period of delay.

(i) Additional Documentation. The Owners and any subsequent purchaser and owner of any parcel that is part of Properties hereby agree that they shall execute and deliver any

documents reasonably required to effectuate this Agreement, and that they shall take whatever steps are reasonably required to carry out both the letter and the spirit of this Agreement.

[Signature Page Follows]

IN WITNESS WHEREOF, the Owners has executed this Agreement on the day and year first above written.

HR:
HEYBOURNE RANCH, LLC

By: _____
MATT CARTER, Managing Member

Buyer:

JONATHAN YOUNG

JOSEPHINE YOUNG

STATE OF NEVADA)
 : ss.
COUNTY OF _____)

On _____, 2024, _____ personally appeared before me, a notary public, MATT CARTER, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document, who acknowledged to me that he executed the foregoing document.

NOTARY PUBLIC

STATE OF NEVADA)
 : ss.
COUNTY OF _____)

On _____, 2024, personally appeared before me, a notary public, JONATHAN YOUNG, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document, who acknowledged to me that he executed the foregoing document.

NOTARY PUBLIC

STATE OF NEVADA)
 : ss.
COUNTY OF _____)

On _____, 2024, _____ personally
appeared before me, a notary public, JOSEPHINE YOUNG, personally known (or proved) to me
to be the person whose name is subscribed to the foregoing document, who acknowledged to me
that he executed the foregoing document.

NOTARY PUBLIC

EXHIBIT “A”

=

EXHIBIT “B”

APPENDIX FOUR

WORKSHEETS FOR APPLICATION OF NITROGEN AND WATER

WTS-1B: APPENDIX ONE

PLANT CONSUMPTIVE USE WORKSHEET

The consumptive use equation for determining the crop's water requirement takes into account precipitation, evapotranspiration, the efficiency of the irrigation system, and the salt tolerance of the plant species. The salt tolerance of the plant species is used to calculate the leaching requirement (Lr) to remove excess salts from the root zone. Excess salts within the soil cause the plant cells to expend more energy adjusting the salt concentration within the plant tissues, and therefore, less energy is available for vigorous plant growth. The hydraulic loading rate and the TDS to ECw conversion equation included below are derived from Wastewater Engineering: Treatment, Disposal, and Reuse, (Metcalf and Eddy, 1991), the equation for the leaching requirement is from the Nevada Irrigation Guide, (USDA, Soil Conservation Service, 1981).

$$Lw_{(c)} = \frac{(ET-P)}{[E \times (1-Lr)]} \qquad Lr = \frac{ECw}{[(5 \times ECe) - ECw]}$$

where:

Lw_(c) = Allowable Hydraulic Loading Rate Based on Crop Water Needs (in/yr);

ET = Evapotranspiration Rate (in/yr);

P = Precipitation Rate (in/yr);

Lr = Leaching Requirement (%; expressed as a fraction);

E = Efficiency of Irrigation System (%; expressed as a fraction)

For example: 75% = 75/100 = 0.75; example efficiencies are included below;

ECe = Salinity Tolerance of Plant Crop (mmho/cm or dS/m)⁽¹⁾;

ECw = Salinity of Applied Effluent (mmho/cm); If TDS is supplied by the laboratory, see conversion below; and

TDS = Average Total Dissolved Solids in Applied Effluent (mg/l).

“ET” - Evapotranspiration

Evapotranspiration is defined as the “loss of water from the soil both by evaporation and by transpiration from the plants growing thereon” (Webster’s Dictionary, 1990). Since different plants transpire at different rates, a crop coefficient (Kc) can be used to modify the potential ET for a particular area. Values for Kc vary depending upon the geographical location of the crop, and the species grown. If a crop coefficient can be determined, when multiplied by the potential ET rate, the result is a more accurate estimate of ET for an irrigation site. The Division recommends that reusers contact local agriculture representatives identified in Appendix Five for further crop-specific and regional information.

“E” - Irrigation Efficiency

The irrigation system efficiency is related to how effective the method is in delivering the irrigation water equally to all parts of the crop. Example values for efficiency are⁽⁴⁾:

Sprinkler Irrigation Type	Application Efficiency	Surface Irrigation Type	Application Efficiency
Solid Set	0.70 - 0.80	Narrow Graded Border (< 15' wide)	0.65 - 0.85
Portable Hand Move		Wide Graded Border (<100' wide)	0.65 - 0.85
Wheel Roll		Level Border	0.75 - 0.90
Center Pivot or Traveling Lateral		Straight or Graded Contour Furrows	0.70 - 0.85
Traveling Gun		Drip	0.70 - 0.85

“ECe” - Salinity Tolerance of Plant Crop

The plant salt tolerance is crop-specific, and can be obtained from the local Extension Service, literature, or other reputable sources. The low end of the range identifies the ECe value, which would result in a 0% reduction of crop yield. The upper end of the range identifies the ECe value, which could result in a 25% reduction of crop yield⁽⁴⁾.

Example ECe's:

Annual Ryegrass ⁽²⁾	= 3 to 6 mmho/cm or dS/m
Perennial Ryegrass ^(2,4)	= 5.6 to 8.9 mmho/cm or dS/m
Bermudagrass ^(2,4)	= 6.9 to 10.8 mmho/cm or dS/m
Tall Fescue ^(2,4)	= 3.9 to 8.6 mmho/cm or dS/m
Alfalfa ^(3,4)	= 2.0 to 5.4 mmho/cm or dS/m

“ECw” - Salinity of Applied Effluent

Direct measurement of ECw is typically preferred. However, if the laboratory has supplied the reuser with a concentration of TDS, an approximate conversion⁽⁴⁾ is $ECw \approx TDS \div 640$. This conversion is considered accurate within 10%. The value for ECw or TDS is obtained from the treatment plant supplying the effluent. For site design, an average value can be used. For completion of the required annual balance report, the actual analytical results from Discharge Monitoring Reports should be used.

- (1) For clarity in this document, the unit for electrical conductivity (EC) is expressed as mmho/cm. However, EC can also be expressed in decisiemens per meter, dS/m.
1 mmho/cm = 1 dS/m
- (2) Wastewater Reuse for Golf Course Irrigation, US Golf Association, 1994.
- (3) Nevada Irrigation Guide, USDA Soil Conservation Service, 1981.
- (4) Wastewater Engineering: Treatment, Disposal, and Reuse, (Metcalf and Eddy, 1991)

Worksheet 1-A

CONSUMPTIVE USE REQUIREMENT WORKSHEET: Maximum Loading Rate Based on Plant Water Use Requirements

Page 1 of 2 Crop Type = Pasture Grasses

$$L_{w(c)} = \frac{(ET-P)}{TDS \div 640 [E \times (1-L_r)]}; \quad L_r = \frac{EC_w}{[(5 \times EC_e) - EC_w]}; \quad EC_w \approx$$

(A) Annual Evapotranspiration (ET, in/yr) = 42
(Multiply by Crop Coefficient (Kc) if value is known)

(B) Annual Precipitation (P, in/yr) = 8.5

(C) (A) - (B) = 33.5 (in/yr)

(D) Salinity of Applied Effluent (ECw, mmho/cm) or $\approx$ (TDS, mg/l) $\div$ 640 = 0.781 (based on TDS of 500 mg.l)

(E) Salinity Tolerance of Plant Crop (ECe, mmho/cm) = 3.1

(F) 5 x (E) = 15.5 (mmho/cm)

(G) (F) - (D) = 14.719 (mmho/cm)

(H) Leaching Requirement (Lr, %, expressed as a fraction) = (D) $\div$ (G) = 0.053

(I) 1 - (H) = 0.95

(J) Efficiency of Irrigation System (E, %, expressed as a fraction) = 0.70

(K) (J) x (I) = 0.665

(L) (C) $\div$ (K) = $L_{w(c)}$ = 50.38 (inches/year)

If the water use rate calculated in ("L") above is the lowest application volume calculated between the annual Consumptive Use Limit (This Worksheet) and the Nitrogen Limit (Worksheet 2-A), then fill out Worksheet 1-B to estimate the planned maximum daily flow for the site.

Worksheet 1-B

CONSUMPTIVE USE REQUIREMENT WORKSHEET: Maximum Loading Rate Based on Plant Water Use Requirements

Page 2 of 2 Crop Type = Pasture Grasses

$$Lw_{(c)} = \frac{(ET-P)}{TDS \div 640 [E \times (1-Lr)]}; \quad Lr = \frac{ECw}{[(5 \times E_{Ce}) - ECw]}; \quad ECw \approx$$

Monthly values for evapotranspiration are dependent on the crop type and regional area of the site, as well as the crop coefficient if known. Monthly precipitation is also regional. The values for ET and P can be obtained from the local extension service, literature, or other reputable source. Please see the explanation in the “WTS-1B: Appendix One” text for further discussion of crop coefficients.

To calculate the monthly value for $Lw_{(c)}$, perform the calculation for each month as outlined in Worksheet 1-A, and input the result in the table below. Since this form is crop-specific, a value of zero is acceptable when the crop is not in season; however, use of a zero should be explained.

$$\text{Million Gals/Mo} = Lw_{(c)} \text{ in/mo.} \times \text{ac} \div 12 \text{ in/ft} \times 43,560 \text{ ft}^2/\text{ac} \times 7.481 \text{ gals/ft}^3 \div 1,000,000$$

(Enter and use the number of acres for the crop type being irrigated)

$$\text{MGD (Million gallons/day)} = \text{M Gallons/mo} \div \text{Days/mo}$$

Month	Days/Mo	ET (in/mo)	P (in/mo)	$Lw_{(c)}$ (in/mo)	M Gals/Mo	MGD
Jan	31	0.55	1.47	0		
Feb	28	0.7	0.88	0		
Mar	31	1.6	0.79	1.2		
Apr	30	3.2	0.47	4		
May	31	5.2	0.65	6		
Jun	30	6.6	0.41	8		
Jul	31	7.7	0.32	10		
Aug	31	7.2	0.28	12		
Sep	30	4.6	0.21	6.7		
Oct	31	2.8	0.48	2.7		
Nov	30	1	1	0		
Dec	31	0.5	1.5	0		
Totals (in/yr):		8.5	42	50.4	Note: These totals should approximate the annual values calculated in Worksheet 1-A	

WTS-1B: APPENDIX TWO

NITROGEN LOADING LIMIT WORKSHEET

The nitrogen loading equation takes into account precipitation, evapotranspiration, plant nitrogen uptake, nitrogen content of the applied effluent, nitrogen denitrification and volatilization in the soils, and allowable percolate nitrogen concentration. The equation included below is from Wastewater Engineering: Treatment, Disposal, and Reuse, (Metcalf and Eddy, 1991)

$$L_{W(n)} = \frac{[(C_p, \text{mg/l}) \times (P-ET, \text{in/yr})] + [(U, \text{lb/acre-yr}) \times (4.4)]}{[(1-f) \times (C_n, \text{mg/l})] - (C_p, \text{mg/l})}$$

where:

$L_{W(n)}$ = Allowable Hydraulic Loading Rate Based on Nitrogen Loading rate (in/yr);

C_p = Total Nitrogen Concentration in Percolating Water (mg/l);

ET = Evapotranspiration Rate (in/yr);

P = Precipitation Rate (in/yr);

U = Nitrogen Uptake Rate by Crop (lb/acre-yr);

4.4 = Combined Conversion Factor;

C_n = Total Nitrogen Concentration in Applied Wastewater (mg/l); and

f = Fraction of Applied Total Nitrogen Removed by Denitrification and Volatilization.

“Cp” - Nitrogen in Percolating Water

A conservative value for Total N in the water that percolates past the root zone (C_p) is 7 mg/l, which is the first “red flag” value for Nitrate as N in monitoring well samples. Setting the C_p limit at a constant value aids in obtaining an hydraulic nitrogen loading rate ($L_{W(n)}$) which should be protective of groundwater resources. The drinking water standard for Nitrate as N is 10 mg/l, which would be the maximum allowable value for C_p .

“ET” - Evapotranspiration

Evapotranspiration is defined as the “loss of water from the soil both by evaporation and by transpiration from the plants growing thereon” (Webster’s Dictionary, 1990). Since different plants transpire at different rates, a crop coefficient (K_c) can be used to modify the potential ET for a particular area. Values for K_c vary depending upon the geographical location of the crop, and the species grown. If a crop coefficient can be determined, when multiplied by the potential ET rate, the result is a more accurate estimate of ET for an irrigation site. The Division recommends that reusers contact local agriculture representatives identified in Appendix Five for further crop-specific and regional information.

“U” - Crop Nitrogen Uptake

Plant nitrogen uptake rates (U) are crop-specific, and can be obtained from the local Extension Service, literature, or other reputable sources. Using the accepted value for U in this equation assumes that the harvested portion of the crop is removed from the site. If plant cuttings are not removed from the area, then the amount of nitrogen removed by uptake should be offset by the amount of nitrogen returned to the soil by decomposing cutting materials. If alfalfa, or another legume, is the site’s crop, then similar considerations should be made for atmospheric nitrogen, which is fixed into the soil by alfalfa. A discussion with the local agricultural extension service is recommended prior to finalizing a “U” value.

“Cn” - Nitrogen in Applied Wastewater

The total nitrogen in the applied effluent water (Cn) can be obtained from the treatment plant that is supplying the effluent. For site design, an average value can be used. For completion of the required annual balance report, the actual analytical results from Discharge Monitoring Reports shall be used.

“f” - Nitrogen lost to Denitrification and Volatilization

The amount of nitrogen lost to denitrification and volatilization varies depending upon the nitrogen characteristics of the applied wastewater and the microbial activity in the soil. Microbial denitrification, in soils with a sufficient carbon source for the biological activity, may account for as much as 15 to 25 percent of the applied nitrogen during warm, biologically active months. Volatilization of ammonia may be as much as 10 percent, depending upon the ammonia fraction in the total nitrogen applied. (Metcalf & Eddy, 1991) For arid climates, such as Nevada, the value typically used for the “f” term is 0.2.

Nitrogen Addition by Chemical Fertilizers

If the allowable reuse water application volume is limited by plant consumptive use (Worksheet 1-A), nitrogen may need to be added by commercial fertilizer. In the design of a reuse site, and preparation of an RWMP, this should be estimated to provide the site operator with a guideline for fertilizer application, in addition to the nitrogen being applied via the reclaimed water. **The application of fertilizer must then be incorporated into the required annual report to demonstrate that the application of commercial nitrogen and effluent nitrogen did not exceed the plant crop’s uptake rate.**

Worksheet 2-C is designed to be used to provide the Division with the required annual report of effluent and fertilizer usage. Reuse permits require that the annual evaluation of the effluent application include, “the total nitrogen in the applied wastewater, nitrogen from fertilizer applications, nitrogen uptake by plant materials, evapotranspiration rate, precipitation rate, and fraction of applied nitrogen removed by denitrification and volatilization.” While Worksheet 2-C does not take precipitation and evapotranspiration into account, the permittee should compare each year’s P and ET rates to those that were used during the site design and RWMP preparation phases to ensure that the original assumptions remain valid.

Worksheet 2-C can also be utilized as a site management tool to *estimate* the amount of commercial fertilizer, which may be required in an upcoming month. However, use of the worksheet in this manner does not preclude the responsible use of good irrigation and nutrient management practices.

Worksheet 2-B
WATER REQUIREMENT DESIGN WORKSHEET:
Maximum Hydraulic Loading Rate Based On Annual Nitrogen Balance Evaluation

Page 1 of 2 Crop Type = Pasture Grass

$$LW_{(n)} = \frac{[C_p \times (P-ET)] + (U \times 4.4)}{[(1-f) \times C_n] - C_p}$$

(A) Total Nitrogen in Percolating Water (C_p , mg/l) = 7 mg/l

(B) Annual Precipitation (P , in/yr) = 8.5

(C) Annual Evapotranspiration (ET , in/yr) = 42 (3.5 ft)

(Multiply by Crop Coefficient (K_c) if value is known)

(D) (B) - (C) = -33.5 (in/yr) (Note: In Nevada, P is less than ET ; therefore a negative number is correct to use in this worksheet.)

(E) (A) x (D) = -234.5

(F) Crop Nitrogen Uptake (U , lb/ac-yr) = 80

(G) (F) x 4.4 = 352

(H) (E) + (G) = 117.5

(I) Fraction of Applied Total Nitrogen Lost to Denitrification and Volatilization (f) = 0.20

(J) $1 - (I) =$ 0.80

(K) Total Nitrogen in Applied Effluent (C_n , mg/l) = 10

(L) (J) x (K) = 8

(M) (L) - (A) = 1

(N) (H) / (M) = $LW_{(n)}$ (inches/year) = 117.5 in/yr

If the Water Use Rate calculated in ("N") above is the lowest application volume calculated for the annual Consumptive Use Limit (Worksheet 1-A) or the Nitrogen Limit (This Worksheet), then fill out Worksheet 2-B to estimate the planned maximum daily flow for the site.

$$Lw_{(n)} = \frac{[Cp \times (P-ET)] + (U \times 4.4)}{[(1-f) \times Cn] - Cp}$$

Monthly values for evapotranspiration are dependent on the crop type and regional area of the site, as well as the crop coefficient if known. Monthly precipitation is also regional. The values for ET and P can be obtained from the local extension service, literature, or other reputable sources. Please see the explanation in the “WTS-1B: Appendix Two” text for further discussion of crop coefficients.

The monthly value of the crop nitrogen uptake (U) can be calculated according to the equation included on the Table. Please see the discussion in the “WTS-1B: Appendix Two” text regarding “U” values for alfalfa crops or sites that do not remove crop cuttings. If a different distribution of monthly “U” is used, due to circumstances such as germination or dormancy periods, then provide documentation explaining the difference.

To calculate the monthly value for $Lw_{(n)}$, perform the calculation for each month as outlined in Worksheet 2-A, using the monthly values for “U”, “P”, “ET”, and “Cn”, and input the result in the table below. Since this form is crop-specific, a value of zero is acceptable when the crop is not in season; however, use of a zero should be explained.

$$\text{Monthly U (lb/ac-mo)} = U \text{ (lb/ac-yr)} \times ET(\text{in/mo}) / ET \text{ (total in/yr)}$$

$$\text{Million Gallons} = Lw_{(n)} \text{ in/mo} \times \frac{80}{\text{Month}} \text{ #acres} / 12 \text{ in/ft} \times 43,560 \text{ ft}^2/\text{ac} \times 7.481 \text{ gallons/ft}^3 / 1,000,000 \text{ Per}$$

(ea. croptype)

$$\text{MGD (Million gallons/day)} = M \text{ Gallons/month} \div \text{Days/month}$$

Month	Days/Mo	P (in/mo)	ET (in/mo)	U (lb/ac-mo)	$Lw_{(n)}$ (in/mo)	Million Gallons/Month
Jan	31	1.47	0.55	1.0	1.54	
Feb	28/29	0.88	0.7	1.3	1.96	
Mar	31	0.79	1.6	3.0	4.48	
Apr	30	0.47	3.2	6.1	8.95	
May	31	0.65	5.2	9.9	14.55	
Jun	30	0.41	6.6	12.6	18.46	
Jul	31	0.32	7.7	14.7	21.54	
Aug	31	0.28	7.2	13.7	20.14	
Sep	30	0.21	4.6	8.8	12.87	
Oct	31	0.48	2.8	5.3	7.83	
Nov	30	1	1	1.9	2.8	
Dec	31	1.5	0.5	1.0	1.4	
Annual Totals:		8.5	42	80	117.5	Note: The totals for P, ET and $Lw_{(n)}$ should approximate the annual values used or calculated in Worksheet 2-A

Worksheet 2-C: *To be used to provide the NDEP with the required annual report of effluent and fertilizer nitrogen usage at Kirman Tract (NS2002505)*

$$\text{Effluent N Applied} = \frac{\text{MGD Applied} \times \text{Effluent N Conc. (mg/l)} \times 8.34}{\text{lb/ac-mo} \times \text{\# days/mo} \times \text{\# Acres}} \times (1 - \text{"f"}) \text{ (i.e. 0.2.)}$$

$$\text{Fertilizer N Applied} = \frac{\text{Monthly Fertilizer used (lbs/mo)} \times \text{\% N in Fertilizer (as a fraction)}}{\text{lb/ac-mo}} \div \text{acres}$$

Crop Name and Nitrogen Uptake Requirement = _____ (lbs/ac-yr)

Month	Days/Mo	Million Gallons Applied (mo)	MGD of Irrigation Water Applied	Effluent N Concentration (mg/l)	Effluent N Applied (lb/ac-mo)	Fertilizer N Applied (lb/ac-mo)	Total N Applied (Effl. N + Fert. N) (lb/ac-mo)
Jan	31						
Feb	28/29						
Mar	31						
Apr	30						
May	31						
Jun	30						
Jul	31						
Aug	31						
Sep	30						
Oct	31						
Nov	30						
Dec	31						
		Total** =					

EXAMPLE

Worksheet 2-C: To be used to provide the NDEP with the required annual report of effluent and fertilizer usage at Kirman Tract.

$$\text{Effluent N Applied (lb/ac-mo)} = \frac{0.75 \text{ MGD Applied} \times 7 \text{ Effluent N Conc. (mg/l)} \times 8.34 \times 30 \text{ \# days/mo}}{90 \text{ \# Acres}} \times (1 - f) \quad (f=0.2.)$$

$$\text{Fertilizer N Applied (lb/ac-mo)} = \frac{25 \text{ Monthly Fertilizer used (lbs/mo)} \times 35/100 \text{ \% N in Fertilizer (as a fraction)}}{90}$$

$$\text{Crop Name and Nitrogen Uptake Requirement} = 140 \text{ (lbs/ac-yr)}$$

Month	Days/Mo	Million Gallons Applied (mo)	MGD of Irrigation Water Applied	Effluent N Concentration (mg/l)	Effluent N Applied (lb/ac-mo)	Fertilizer N Applied (lb/ac-mo)	Total N Applied (Effl. N + Fert. N) (lb/ac-mo)
Jan	31						
Feb	28/29						
Mar	31						
Apr	30						
May	31						
Jun	30	22.5	0.75	7	14.6	0.10	14.7
Jul	31						
Aug	31						
Sep	30						
Oct	31						
Nov	30						
Dec	31						
		Total** =					

** The Total N Applied to the turf should be less than the crop's Nitrogen Uptake Requirement. Please see your permit for directions if it is not.

APPENDIX FIVE
REUSE REGULATIONS

NEVADA ADMINISTRATIVE CODE - REUSE REGULATIONS

Use of Reclaimed water for Irrigation

Use of Reclaimed water

NAC 445A.274 Definitions. (NRS 445A.425) As used in NAC 445A.274 to 445A.280, inclusive, unless the context otherwise requires, the words and terms defined in NAC 445A.2741 to 445A.2748, inclusive, have the meanings ascribed to them in those sections.

(Added to NAC by Environmental Comm'n by R063-04, eff. 10-6-2004)

NAC 445A.2741 "Area of use" defined. (NRS 445A.425) "Area of use" means a site, or an area of land, where reclaimed water is in use pursuant to NAC 445A.274 to 445A.280, inclusive.

(Added to NAC by Environmental Comm'n by R063-04, eff. 10-6-2004)

NAC 445A.2742 "Buffer zone" defined. (NRS 445A.425) "Buffer zone" means a bounded area adjacent to, and surrounding, an area of use, that is subject to the provisions of NAC 445A.2756.

(Added to NAC by Environmental Comm'n by R063-04, eff. 10-6-2004)

NAC 445A.2743 "Graywater" defined. (NRS 445A.425) "Graywater" has the meaning ascribed to it in NAC 444.7616.

(Added to NAC by Environmental Comm'n by R063-04, eff. 10-6-2004)

NAC 445A.2744 "Impoundment" defined. (NRS 445A.425) "Impoundment" means a lake, reservoir or lined holding basin.

(Added to NAC by Environmental Comm'n by R063-04, eff. 10-6-2004)

NAC 445A.2745 "Spray irrigation" defined. (NRS 445A.425) "Spray irrigation" means irrigation using sprinklers that are located above the ground surface.

(Added to NAC by Environmental Comm'n by R063-04, eff. 10-6-2004)

NAC 445A.2746 "Subsurface irrigation" defined. (NRS 445A.425) "Subsurface irrigation" means irrigation using an underground distribution system.

(Added to NAC by Environmental Comm'n by R063-04, eff. 10-6-2004)

NAC 445A.2747 "Surface irrigation" defined. (NRS 445A.425) "Surface irrigation" means irrigation using a flood irrigation system or a drip irrigation system. The term does not include spray irrigation.

(Added to NAC by Environmental Comm'n by R063-04, eff. 10-6-2004)

NAC 445A.2748 "Reclaimed water" defined. (NRS 445A.425) "Reclaimed water" means sewage that has been treated by a physical, biological or chemical process. The term does not include graywater.

(Added to NAC by Environmental Comm'n by R063-04, eff. 10-6-2004)

NAC 445A.2749 Limitation on meaning of "agricultural purposes." (NRS 445A.425) For the purposes of NAC 445A.274 to 445A.280, inclusive, the term "agricultural purposes" does not include the growing of crops for human consumption.

(Added to NAC by Environmental Comm'n by R063-04, eff. 10-6-2004)

NAC 445A.275 General requirements and restrictions. (NRS 445A.425)

1. A person shall not use reclaimed water unless:
 - (a) The person has:
 - (1) Received the approval of the Division of a plan for the management of effluent; and
 - (2) Obtained a permit pursuant to NAC 445A.228 to 445A.263, inclusive; and
 - (b) The reclaimed water has received at least secondary treatment.
 2. As used in this section:
 - (a) “Five-day inhibited biochemical oxygen demand” means the amount of dissolved oxygen required to stabilize the carbonaceous decomposable organic matter by aerobic bacterial action at 20 degrees centigrade for 5 days.
 - (b) “Plan for the management of effluent” means:
 - (1) An Reclaimed Water Management Plan; or
 - (2) A site specific management plan.
 - (c) “Secondary treatment” means the treatment of sewage until the sewage has, calculated as a 30-day average:
 - (1) A 5-day inhibited biochemical oxygen demand concentration of 30 milligrams per liter or less;
 - (2) A total suspended solids concentration of 30 milligrams per liter or less; and
 - (3) A pH of 6.0 to 9.0 SU.
- (Added to NAC by Environmental Comm’n, eff. 9-13-91; A by R063-04, 10-6-2004)

NAC 445A.2752 Signs: Required placement and contents. (NRS 445A.425)

1. A person using reclaimed water shall post signs along the outer perimeter of the:
 - (a) Area of use; and
 - (b) Buffer zone, if any.
 2. The signs must provide reasonable notice to the general public that:
 - (a) Reclaimed water is in use; and
 - (b) Contact with the effluent should be avoided.
- (Added to NAC by Environmental Comm’n by R063-04, eff. 10-6-2004)

NAC 445A.2754 Irrigation: Requirements and restrictions. (NRS 445A.425)

1. A person using reclaimed water for irrigation shall not:
 - (a) Allow the effluent to run off the site being irrigated.
 - (b) Except as otherwise provided in NAC 445A.2768, use reclaimed water to irrigate crops intended for human consumption.
 2. A person using reclaimed water for spray irrigation shall conduct the irrigation in a manner that inhibits the reclaimed water spray from drifting beyond the area of use or the buffer zone, if any.
- (Added to NAC by Environmental Comm’n by R063-04, eff. 10-6-2004)

NAC 445A.2756 Buffer zones: Size; boundaries; restriction. (NRS 445A.425)

1. Except as otherwise provided in NAC 445A.2766, 445A.2768 and 445A.2771, the Division will establish the size of a buffer zone.
2. The inner boundary of a buffer zone is determined by measuring a distance equal to the size of the buffer zone from:
 - (a)) A boundary line of the property on which the site is located;
 - (b) A sign posted pursuant to NAC 445A.2752 informing the public of the presence of reclaimed water; or
 - (c) Any point where the property is open to public access, as determined by the Division.
3. Except as otherwise provided in NAC 445A.2754, a buffer zone must be kept free of reclaimed water.

(Added to NAC by Environmental Comm'n by R063-04, eff. 10-6-2004)

NAC 445A.276 Reuse categories: Requirements for bacteriological quality of effluent. (NRS 445A.425)

1. Reclaimed water being used for an activity approved for a reuse category must meet the following requirements for bacteriological quality for that category:

	Total Coliform	Fecal Coliform			
	c.f.u. or mpn/100 ml	c.f.u. or mpn/100ml			
Reuse Category	A	B	C	D	E
30-day geometric mean	2.2	2.2	23	200	No Limit
Maximum daily number	23	23	240	400	No Limit

2. As used in this section, “c.f.u. or mpn/100ml” means colony forming units or most probable number per 100 milliliters of the reclaimed water.

(Added to NAC by Environmental Comm'n, eff. 9-13-91; A by R063-04, 10-6-2004)

NAC 445A.2762 Reuse category A: Approved uses. (NRS 445A.425) Reclaimed water that meets the requirements for bacteriological quality set forth in NAC 445A.276 for reuse category A may be used for:

1. Spray irrigation of land used as a cemetery, commercial lawn, golf course, greenbelt or park even if:
 - (a)) Public access to the area of use is not controlled; and
 - (b) Human contact with the reclaimed water can reasonably be expected to occur.
2. An impoundment in which swimming is prohibited even if:
 - (a)) Public access to the impoundment is not controlled; and
 - (b) Human contact with the reclaimed water can reasonably be expected to occur.
3. Any activity approved for reuse category B, C, D or E.
4. Any other use that is approved by the Division.

(Added to NAC by Environmental Comm'n by R063-04, eff. 10-6-2004)

NAC 445A.2764 Reuse category B: Approved uses. (NRS 445A.425) Reclaimed water that meets the requirements for bacteriological quality set forth in NAC 445A.276 for reuse category B may be used for:

1. Spray irrigation of land used as a cemetery, commercial lawn, golf course, greenbelt or park if:
 - (a)) Public access to the area of use is controlled; and
 - (b) Human contact with the reclaimed water cannot reasonably be expected to occur.
2. Subsurface irrigation of land used as a commercial lawn, greenbelt or park.
3. Cooling water in an industrial process.