



FACTSHEET
(pursuant to NAC 445A.236)

Permittee Name: COTTONWOOD DAIRY
640 W. CORKILL LN.
FALLON, NV - 89406

Permit Number: NV0024224

Location: COTTONWOOD DAIRY, CHURCHILL
4848 ALLEN RD, FALLON, NV - 89406
LATITUDE: 39.4160, LONGITUDE: -118.8048

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Outfall City	Outfall State	Outfall Zip	Outfall County	Latitude	Longitude	Receiving Water
001	DAIRY TOTALS	Internal Outfall		FALLON	NV	89406	CHURCHILL	39.4160	-118.8048	WATERS OF THE STATE AND WATERS OF THE U.S.
002	DAIRY LAGOON	Internal Outfall		FALLON	NV	89406	CHURCHILL	39.4160	-118.8048	WATERS OF THE STATE AND WATERS OF THE U.S.
003	MONITORING WELL	Monitoring Well		FALLON	NV	89406	CHURCHILL	39.4160	-118.8048	WATERS OF THE STATE AND WATERS OF THE U.S.
004	STORMWATER DISCHARGE	External Outfall		FALLON	NV	89406	CHURCHILL	39.4160	-118.8048	WATERS OF THE STATE AND WATERS OF THE U.S.
005	CORRAL/SEPARATOR MANURE TESTING AND TRANSFER	External Outfall		FALLON	NV	89406	CHURCHILL	39.4160	-118.8048	WATERS OF THE STATE AND WATERS OF THE U.S.

General:

The Permittee, Cottonwood Dairy, has applied for a new National Pollutant Discharge Elimination System (NPDES) permit NV0024224, to discharge manure and process wastewater to waters of the State via irrigation percolation and Carson Lake and tributaries to Carson Lake via stormwater overflow in the event of a 25-year, 24-hour storm or chronic precipitation event. The Cottonwood Dairy is located in the rural area south of the city of Fallon at 4848 Allen Road.

Cottonwood Dairy is defined as a concentrated animal feeding operation (CAFO) because the dairy reports to confine at least 700 mature dairy cows for 30 days or more in a 12-month period in an area devoid of vegetation during the normal growing season. As a CAFO, Cottonwood Dairy is required to contain, without discharge, all manure and process wastewater from the production area. CAFOs that land apply manure and/or process wastewater are required to comply with a Nutrient Management Plan (NMP). CAFOs are regulated primarily through adherence to these nutrient application rates and NMP compliance items.

Cottonwood Dairy is currently in the process of updating their facility to a new double 30 milking parlor and associated waste management facilities. The current dated milking barn will be taken out of service once the new milking barn is operational. The dairy construction is industry typical with open corrals constructed

with pipe and cables, concrete feed aprons and feed bunks, feed alleys and cow movement alleys, feed storage areas and associated storage structures, maintenance facilities and waste management structures. The Permittee has reported that it will confine approximately 1650 cows and 500 heifers. The NMP developed by Natural Resources Conservation Service (NRCS) was based on a population of 1500 milking cows, 150 dry cows, and 1500 replacement heifers. Manure generated by the dairy in excess of crop production needs and land availability will be stockpiled or composted within the footprint of the production area in a manner that is compliant with all permit requirements. Manure may be transferred to other agricultural users as well. Routine mortalities are picked up regularly by a commercial rendering facility. There are 460 acres of land application area identified in the NMP and owned by the Permittee. Manure applications are based on soil and manure testing and on crop nutrient uptake as outlined in the Division-reviewed NMP.

Discharge Characteristics:

Cottonwood Dairy has requested a 30-day average discharge limit of 15,000 gallons per day (gpd) from the dairy production area to a lined storage lagoon. The newly constructed waste storage facilities, to include the manure separation basins and the lined lagoon, and storage calculations were prepared and designed by Nevada NRCS. Process wastewater/manure generated by the dairy operations will flow via pipeline to dual concrete "weeping wall" manure settling basins. When wastewater/manure is added to the basins, liquids drain through the weeping wall into a decant area while retaining solids in the basin. The liquid is then directed to the 60-mil high-density polyethylene (HDPE) lined pond. The newly constructed pond has a total net storage capacity of 2,753,603 gallons. The pond storage period is defined conservatively as November through April. Storage capacity of the pond is based on the amount of wastewater produced by the dairy, seasonal precipitation minus evaporation, the 25-year, 24-hour design storm, and 2-foot required freeboard.

Receiving Water:

The Permittee will use a combination of evaporation and land application to re-use the process wastewater generated by the facility. The Permittee will discharge to groundwater via irrigation and may discharge manure and process wastewater in response to storm events or chronic rainfall event that exceed the 25-year, 24-hour storm design, provided that the facility and its production areas are properly designed constructed, operated and maintained to contain manure, pollutants, direct precipitation and the runoff from a 25-year 24-hour storm event. Any surface water discharge would be to existing irrigation channels which terminate south of Fallon in a basin area known as Carson Lake.

Summary of Changes From Previous Permit:

This is a new permit application.

Proposed Effluent Limitations:

There shall be no discharge of manure or process wastewater pollutants from the production area to waters of the State, with the exception of pollutants in overflow that may be discharged when a storm greater than the 25-year 24-hour storm event or a chronic rainfall event causes an overflow from the production area.

During the period beginning on the effective date of this permit, and lasting until the permit expires, the Permittee is authorized to discharge manure and process wastewater to: 1) Land application areas, reported at 460 acres, in accordance with a Division-reviewed Nutrient Management Plan; and 2) Waters of the State in response to storm events or chronic rainfall events that exceed the 25-year 24-hour storm design, provided that the facilities and their production areas are properly designed, constructed, operated and maintained to contain manure, pollutants, direct precipitation, and the runoff from a 25-year 24-hour storm event.

CAFO Discharge Limitations Table for Sample Location 001 (Dairy Totals) To Be Reported Monthly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	30 Day Average	<= .0015 Million Gallons per Day (Mgal/d)		Internal Monitoring Point	001	Weekly	METER
Animals, total estimated no. of	30 Day Average		M&R Number (#)	Internal Monitoring Point	001	Monthly	CALCTD

CAFO Discharge Limitations Table for Sample Location 001 (Dairy Totals) To Be Reported Quarterly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Manure, wet tons total	30 Day Average		M&R Tons (ton)	Internal Monitoring Point	001	Quarterly	ESTIMA
Manure, wet tons removed	30 Day Average		M&R Tons (ton)	Internal Monitoring Point	001	Quarterly	ESTIMA

CAFO Discharge Limitations Table for Sample Location 002 (Dairy Lagoon) To Be Reported Semi Annually

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
pH	Value		M&R Standard Units (SU)	Prior to Irrigation	002	Semiannual	DISCRT
Nitrogen, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Prior to Irrigation	002	Semiannual ^[1]	DISCRT
Phosphorus, total (as P)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Prior to Irrigation	002	Semiannual ^[1]	DISCRT
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Prior to Irrigation	002	Semiannual ^[1]	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Prior to Irrigation	002	Semiannual ^[1]	DISCRT
Solids, total suspended	Daily Maximum		M&R Milligrams per Liter (mg/L)	Prior to Irrigation	002	Semiannual ^[1]	DISCRT
BOD, 5-day	Daily Maximum		M&R Milligrams per Liter (mg/L)	Prior to Irrigation	002	Semiannual ^[1]	DISCRT

Notes (CAFO Discharge Limitations Table):

1. Semi-annual measurements shall be conducted in the 2nd quarter and 4th quarter of each calendar year.

CAFO Discharge Limitations Table for Sample Location 005 (Corral/Separator Manure Testing And Transfer) To Be Reported Annually

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Manure, wet tons removed	Annual Total		M&R Tons (ton)	Internal Monitoring Point	005	Annual	CALCTD
Nitrogen, total	Daily Maximum		M&R Milligrams per Kilogram (mg/kg)	Internal Monitoring Point	005	Annual	COMPOS
Phosphorus, total (as P)	Daily Maximum		M&R Milligrams per Kilogram (mg/kg)	Internal Monitoring Point	005	Annual	COMPOS

Crop Rotation Table

Crop In Year							
Field	Area (acres)	2016	2017	2018	2019	2020	2021
REFER TO SECTION 6 OF THE COMPREHENSIVE NUTRIENT MANAGEMENT PLAN (CNMP) ON FILE WITH NDEP.	460	ALFALFA CORN ROTATION	ALFALFA CORN ROTATION	ALFALFA CORN ROTATION	ALFALFA CORN ROTATION	ALFALFA CORN ROTATION	ALFALFA CORN ROTATION

CAFO Nutrient Management Plan (NMP) Table

Field	Area (acres)	Crop	Design Yield (tons/acre)	Hazard Class	Liquid Applied (Million Gallons)	Nitrogen Applied (lbs/acre)	Irrigation Method	Other N Sources	Application Timing
REFER TO SECTION 6 OF THE COMPREHENSIVE NUTRIENT MANAGEMENT PLAN (CNMP) ON FILE WITH NDEP.	460	ALFALFA CORN ROTATION	0 ^[1]		0 ^[2]	0 ^[2]	VARIABLES	VARIABLES	VARIABLES

Notes (CAFO Nutrient Management Plan (NMP) Table):

1. Zero in this field is a place holder only. For specific field Design Yield see the CNMP on file with NDEP.
2. Zero in this field is a place holder only. For specific field Liquid Applied or Nitrogen Applied amounts see the CNMP on file with NDEP.

Groundwater Monitoring Wells Table for Sample Location 003 (Monitoring Well) To Be Reported Annually

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
pH	Value		M&R Standard Units (SU)	Groundwater	003	Annual	DISCRT
Depth to water level ft below landsurface	Daily Maximum	M&R Feet (ft)		Groundwater	003	Annual	DISCRT
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	003	Annual	DISCRT
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	003	Annual	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	003	Annual	DISCRT

Stormwater Discharges for Sample Location 004 (Stormwater Discharge) To Be Reported Annually^{[1][2]}

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Receiving Water	004	Report	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Receiving Water	004	Report	DISCRT
Solids, total suspended	Daily Maximum		M&R Milligrams per Liter (mg/L)	Receiving Water	004	Report	DISCRT
BOD, 5-day	Daily Maximum		M&R Milligrams per Liter (mg/L)	Receiving Water	004	Report	DISCRT
Nitrogen, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Receiving Water	004	Report	DISCRT
Phosphorus, total (as P)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Receiving Water	004	Report	DISCRT
pH, maximum	Daily Maximum		M&R Standard Units (SU)	Receiving Water	004	Report	DISCRT
pH, minimum	Daily Minimum		M&R Standard Units (SU)	Receiving Water	004	Report	DISCRT
Coliform, fecal general	Daily Maximum		M&R Most Probable Number per 100ml T (MPN/100mL)	Receiving Water	004	Report	DISCRT
Flow, total	Daily Maximum		M&R Million Gallons (Mgal)	Receiving Water	004	Report	ESTIMA

Notes (Stormwater Discharges):

1. The Permittee shall report date and time of each discharge and collect the sample within 30 minutes of first knowledge of the stormwater discharge. If sampling in that period is not possible due to dangerous weather conditions, the Permittee shall collect the sample as soon as possible after suitable conditions occur. Reason for the sampling delay shall be documented.
2. Sampling of the representative storm water discharge shall occur at the point where the overflow first reaches a Waters of the U.S.

Proposed Technology Based Effluent Limitations:

Proposed Water Quality-Based Effluent Limitations:

Waste Load Allocation:

Rationale for Permit Requirements:

Monitoring requirements for the parameters specified in the permit are being established to ensure that the Permittee has appropriate manure and process wastewater data to comply with the Division-reviewed Nutrient Management Plan and to determine any potential impacts to Waters of the State that may occur in response to related discharges or seepage.

Fecal Coliform:

WET Testing:

Special Conditions:

SA – Special Approvals / Conditions Table

Item #	Description
1	<p>As indicated in the NRCS Waste Storage Pond Design Plans: <u>Collection Function Requirements</u> - The total required storage period for 6 months (November through April) process water, runoff from the 25-year, 24-hour storm event, and direct precipitation on the lagoon, and sludge storage is 359,902 cubic feet. The total operational capacity of the lagoon is 368,129 cubic feet.</p> <p><u>Transfer Function Requirements</u> - Manure may be stockpiled in and around the pens and in places of the facility's production area that drain to the wastewater impoundments. Manure may also be transferred to a third party.</p> <p><u>System Evaluation</u> - Each land application area shall have earthen berms to contain at a minimum the cumulative water depths.</p>
2	Part A, Section A.6 does not apply to this permit. A Certified Operator is not required for this facility.
3	Part B.CO.23 - Soil sampling shall be conducted in accordance with Part IX of the Division reviewed Nutrient Management Plan (NMP) and results shall be submitted to the Division as part of the annual report.
4	Part C, Section C.2 - does not apply to this permit. Operations and Maintenance of this facility are specifically identified in the Division reviewed NMP.
5	Part C, Section C.32.2 - applies only to Swine, Veal, and Poultry CAFO operations.
6	The Cottonwood Dairy CNMP is based on the "narrative rate approach" and provides for changes to crop rotation without permit modification provided the crop and nutrient application parameters are identified in the CNMP.
7	Part B.CO.4 - does not apply to this permit. Applies to Swine, Poultry and Veal Calf operations only.

Reasonable Potential Analysis and Antidegradation Review:**Flow:**

Flow is a 30-day average discharge limit of 15,000 gallons per day (gpd) from the dairy production area to a lined storage lagoon.

Discharges From Future Outfalls:**Corrective Action Sites:**

There are no Bureau of Corrective Actions sites within a one-mile radius of Cottonwood Dairy.

Wellhead Protection Program:

This facility is not located within an established Drinking Water Protection Area or Wellhead Protection Area.

Schedule of Compliance:

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	By December 16, 2016, all DMRs shall be submitted electronically through the Nevada NetDMR website. https://netdmr.ndep.nv.gov/netdmr/public/home.htm	12/16/2016

Deliverable Schedule:

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

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly Discharge Monitoring Reports	Quarterly	10/28/2016
2	Semi-Annual Discharge Monitoring Reports	Semi Annually	1/28/2017
3	Annual Report and Annual Discharge Monitoring Reports	Annually	1/28/2017

Procedures for Public Comment:

The Notice of the Division's intent to issue a permit authorizing the facility to discharge to surface waters of the State of Nevada subject to the conditions contained within the permit, is being sent to the **Lahontan Valley News, Reno Gazette Journal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing until 5:00 P.M. **5/30/2016**, a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator of EPA Region IX or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted. Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determined to be appropriate. All public hearings must be conducted to accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination:

The Division has made the tentative determination to issue / re-issue the proposed 5-year permit.

Prepared by: **Michele Reid**

Date: **4/22/2016**

Title: **Staff II Associate Engineer**