

Issuance Date: September 28, 2007
Effective Date: October 1, 2007
Expiration Date: September 28, 2012
Minor Modification Date: October 10, 2008

STATE WASTE DISCHARGE PERMIT NUMBER ST-5139

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office
3190 – 160th Avenue SE
Bellevue, WA 98008-5452

In compliance with the provisions of the
State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington, as amended,
authorizes

Camp Korey at Carnation Farm

28901 Carnation Farms Road
Carnation, WA 98014

to discharge wastewater in accordance with the special and general conditions which follow.

<u>Facility Location:</u> 28901 Carnation Farms Road Carnation, WA 98014 King County	<u>Discharge Locations:</u> 240-acre spray field made-up by the following parcels (see map in fact sheet for locations): <i>Valley Property:</i> 1: 121° 57' 10" W, 47° 41' 01" N 2: 121° 57' 16" W, 47° 40' 53" N 3: 121° 57' 01" W, 47° 40' 51" N 4: 121° 57' 09" W, 47° 40' 45" N 5: 121° 57' 48" W, 47° 40' 43" N 6: 121° 56' 56" W, 47° 40' 37" N 7: 121° 56' 34" W, 47° 40' 35" N	<i>Hill Property:</i> 8: 121° 56' 56" W, 47° 40' 00" N 9: 121° 56' 41" W, 47° 40' 05" N 10: 121° 56' 40" W, 47° 39' 57" N 11: 121° 56' 28" W, 47° 39' 57" N 12: 121° 56' 20" W, 47° 39' 56" N 13: 121° 56' 11" W, 47° 39' 57" N 14: 121° 56' 03" W, 47° 39' 60" N 15: 121° 55' 57" W, 47° 40' 06" N 16: 121° 56' 04" W, 47° 40' 08" N
<u>Municipal Waste Treatment Type:</u> Activated Sludge		
<u>Industry Type:</u> Dairy Farm		

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Washington State Department of Ecology

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SUMMARY OF PERMIT REPORT SUBMITTALS

Refer to the Special and General Conditions of this permit for additional submittal requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S3.A	Discharge Monitoring Report	Monthly	October 15, 2007
S3.E	Non-Compliance Notification	If necessary	-
S5.G	Operations and Maintenance Manual	1/permit cycle	October 31, 2008
S6.B	Solids Management Plan	1/permit cycle	October 31, 2007
S7.B	Water Reuse Plan	If necessary	-
S9	Irrigation and Crop Management Plan	1/year	March 20, 2008
S10	Ground Water Quality Evaluation Scope of Work	once, if irrigating with livestock waste	Prior to commencing new irrigation practices
S10	Ground Water Quality Evaluation Study Report	once, if irrigating with livestock waste	Within 180 days of Scope of Work approval
S10	Ground Water Well Installation	once, if irrigating with livestock waste	Within 90 days of Evaluation Report approval
S11.A	Compliance schedule: Influent Sample Set-up	Once	October 31, 2007
S11.B	Compliance schedule: Influent and Effluent Samplers and Refrigeration	Once	December 31, 2007
S11.C	Compliance schedule: Residual Chlorine Monitor and Alarm Installation	Once	December 31, 2007
S11.D	Compliance schedule: Local surface water WQ study: Investigative Sampling and Report	Once	October 31, 2007
S11.D	Compliance schedule: Local surface water WQ study: Plan Implementation	Once	October 31, 2008
S12	Application for permit renewal	1/permit cycle	March 28, 2012

DMRs shall be submitted to the following addresses:

1. Department of Ecology, Northwest Regional Office, Water Quality Permit Coordinator, 3190 160th Avenue SE, Bellevue, WA, 98008-5452.
2. Department of Health, Water Reclamation and Reuse Program, Division of Drinking Water, 1500 West 4th Avenue, Spokane WA 99204.

SPECIAL CONDITIONS

S1. DISCHARGE LIMITATIONS

All discharges and activities authorized by this permit shall be consistent with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a concentration in excess of, that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

A. Domestic Wastewater

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee is authorized to discharge wastewater from the domestic secondary treatment plant to the lagoon holding ponds, and/or to the locations listed on the front page of this permit as irrigation water, to be applied at agronomic rates.

The distribution and use of the wastewater is subject to the treatment and water quality limitations listed in Table 1. These effluent limits are consistent with the Washington State Class C Reclaimed Water Standards.

Table 1. Wastewater Plant Effluent Limitations - Effluent001

WWTP EFFLUENT LIMITATIONS		
Parameter	Average Monthly^a	Daily Maximum
Biochemical Oxygen Demand (BOD ₅) (5-day)	30 mg/L 85% Removal of Influent BOD ₅	45 mg/L
Total Suspended Solids	30 mg/L 85% Removal of Influent TSS	45 mg/L
pH ^b	Shall not be outside the range 6.0 to 9.0	
Parameter	7-Day Median	Daily Maximum
Total Coliform ^c	23 /100 mL	240 /100 mL

^a The average monthly limitations are based on the arithmetic mean of the samples taken.

^b Indicates the range of permitted values. The instantaneous maximum and minimum pH shall be reported monthly. The pH shall not be averaged.

^c The median number of total coliform organisms shall not exceed 23 per 100 mL as determined from the results of the previous 7 days for which analyses have been completed. Total Coliform shall not exceed 240 per 100 mL in any sample.

B. Combined Process Wastewater

Beginning on the effective date and lasting through the expiration date of this permit, the Permittee is authorized to apply irrigation water from the lagoons to the land parcels described on the front cover of this permit (and in Appendix E of the fact sheet) via spray irrigation. This combined irrigation water will consist of

the domestic wastewater as described in Condition S1.A, potentially combined with screened liquid dairy wastes. This authorization is subject to the following limitations:

- The system shall be operated by the Permittee to protect the existing and future beneficial uses of the ground water.
- The application rate (Irrigation + Rain) shall not exceed a daily maximum flow of 13,600 gallons per acre.
- Total nitrogen and water applied to the irrigation lands shall not exceed the crop requirements as determined by the Permittee's Irrigation and Crop Management Plan, Condition S9.
- Irrigation water from the lagoons shall not be used on the land parcels marked 14 and 15 on the photo area map (121° 56' 3" W, 47° 39' 60" N and 121° 55' 57" W, 47° 40' 6" N). The irrigation fields are specified on the front page of this permit and in Appendix E of the fact sheet.
- Land application of wastewater is prohibited during the wet season months (November through February) of each year.
- Livestock and people shall remain off fields for several hours after irrigation to minimize cryptosporidium and other pathogen exposure.
- Personnel shall be educated about the potential of cyst-like pathogenic organism transmission when working with dairy wastes.
- Irrigation is authorized for nonfood crops only.
- The number of livestock at the facility shall be limited by the carrying capacity of the irrigation fields, as determined in the annual Irrigation and Crop Management Plan (Condition S9).

C. Groundwater Limits

Groundwater limits were not set in this permit because no up-gradient groundwater data was available on which to base the limits. The Permittee is required to install groundwater monitoring wells and begin sampling when liquid dairy wastes are used for irrigation. Up-gradient groundwater well data will be used in determining groundwater limits for the next permit cycle.

D. Surface Water Discharge

There shall be *no direct discharge of process wastewater from the lagoons to surface waters* of the state.

E. Leachate Discharge

There shall be no leachate discharge from any compost barn to waters of the state.

S2. MONITORING REQUIREMENTS

The Permittee shall monitor the wastewater according to the following schedules:

A. Domestic Wastewater

The sampling point for the influent will be established according to the compliance schedule detailed in S11A. The effluent will be sampled at the outlet of the wastewater treatment plant, after disinfection, prior to comingling with animal waste, and before being pumped to the storage lagoons. The Permittee shall monitor the wastewater according to the schedule in Table 2.

Table 2. Domestic Wastewater Effluent Monitoring Schedule - Effluent001

Parameter	Sample Point	Minimum Sampling Frequency	Units	Sample Type
Flow	Effluent	Continuous ¹	gpd	Daily Record
BOD ₅	Influent ² & Effluent	1/week	mg/L	24-hr Composite
TSS	Influent ² & Effluent	1/week	mg/L	24-hr Composite
pH	Final Effluent	5/week	Std units	Grab
Total Coliform	Final Effluent	3/week	#/100 mL	Grab
Total Residual Chlorine ³	Final Effluent	5/week	mg/L	Grab

¹ Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. Measurements shall be taken daily when continuous monitoring is not possible.

² Influent samples not required until samplers are installed as per Condition S11.A.

³ A residual chlorine monitor will be installed by December 31, 2007. Residual chlorine levels will not be recorded continuously, but an audible alarm will sound if residual levels drop below threshold (refer to Condition S11.C).

B. Combined Process Wastewater

Water from the storage lagoons shall be sampled at the discharge point of the irrigator. The Permittee shall monitor the combined process water according to the schedule in Table 3.

The irrigation fields shall be inspected for ponding and channeled run-off monthly. These observations shall be included in the monthly monitoring report submitted to the Departments.

C. Groundwater Monitoring

If the practice of irrigating fields with liquid livestock wastes resumes at the permitted facility, groundwater in the vicinities of the holding ponds and irrigation fields shall be monitored for common wastewater contaminants. The 1974 Facilities Planning Report shows that the ground water runs northwest under the irrigation fields towards the Snoqualmie River (see Appendix G of fact sheet). Condition S10 of this permit requires the installation of a groundwater monitoring

well network when dairy waste irrigation commences. The ground water shall be sampled from these wells according to the parameter list and schedule shown in Table 4. Sampling in the wells shall commence immediately after monitoring wells are installed (see monitoring well installation schedule in Condition S10.C). Groundwater monitoring is required monthly for an initial period to characterize the ground water throughout all seasons. After a year of monthly monitoring, groundwater sampling shall occur quarterly.

Table 3. Combined Process Wastewater Monitoring Schedule - Irrigator001

Parameter	Sample Location	Minimum Sampling Frequency	Units	Sample Type
Flow	Irrigator	Daily while irrigating	Gpd	Continuous ^a , or Estimated
pH	Irrigator	3/year in May, July, Sept ^b	Std. units	Grab
Total Kjeldahl Nitrogen, TKN (as N)	Irrigator	"	mg/L	Grab
NO ₂ /NO ₃ (as N)	Irrigator	"	mg/L	Grab
NH ₃ /NH ₄ (as N)	Irrigator	"	mg/L	Grab
Total Phosphorus	Irrigator	"	mg/L	Grab
Soluble BOD ₅	Irrigator	"	mg/L	Grab
Insoluble BOD ₅	Irrigator	"	mg/L	Grab
TDS	Irrigator	"	mg/L	Grab
Chloride	Irrigator	"	mg/L	Grab
Priority Pollutants	Irrigator	Twice during permit term: Sept 2008 & Sept 2010	µg/L	Grab

^a Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. Measurements shall be taken daily when continuous monitoring is not possible.

^b Samples only required when irrigating. If not irrigating, check "no discharge" on monthly DMR and sample when irrigation resumes.

Table 4. Ground Water Quality Monitoring Schedule*

Parameter	Sample Location	Units	Sample Type	1-year Characterization	Post-Characterization
				Minimum Sampling Frequency	Minimum Sampling Frequency
Water Level	GW monitoring wells	feet	Grab	1/month	Quarterly: Jan., April, July, Oct.
Total Dissolved Solids	"	mg/L	"	"	"
pH	"	Std Units	"	"	"
Total Coliform	"	#/100 ml	"	"	"
Total Kjeldahl - N	"	mg/L	"	"	"
Nitrate + Nitrite -N	"	mg/L	"	"	"
NH ₃ /NH ₄ (as N)	"	mg/L	"	"	"
Chloride	"	mg/L	"	"	"

* only applicable when irrigating with liquid dairy waste.

D. Soil Monitoring

The Permittee shall perform soil monitoring on the irrigation lands annually in November according to the schedule shown in Table 5. Samples will be collected at a time that best represents soil conditions at the end of the crop growing season. The sampling sites shall be located so as to be representative of an individual irrigation field or as represented in the crop management plan. If possible, sampling sites shall remain in the same vicinity from year to year. For each field being tested, composite samples shall be taken for two depths (0-12" & 12"-24"), each consisting of a minimum of ten (10) sample sites. Scrape away crop residues or manure from the soil surface before sampling. Results shall be submitted annually with the annual Irrigation and Crop Management Plan.

Table 5. Soil Monitoring Schedule

Parameter	Sample Locations	Units	Sample Type	Minimum Sampling Frequency
Organic matter	3 fields*	%	Composite	Annually in Nov.
pH	"	Std Units	"	"
Total Kjeldahl Nitrogen (TKN, as N)	"	mg/kg	"	"
Nitrate + Nitrite (as N)	"	mg/kg	"	"
Ammonia (as N)	"	mg/kg	"	"
Phosphorous	"	mg/kg	"	"

* Choose fields that receive greatest amount of irrigation water per acre.

E. Surface Water Monitoring

If livestock are housed at the permitted facility, semiannual fecal coliform monitoring shall take place along the culvert feeding into Sikes Lake. Samples shall be taken in January and August from the locations listed below.

- Culvert outfall that drains into the ditch across Carnation Farm Road from the wastewater treatment plant.
- Culvert outfall that drains into Sikes Lake, or closest location with flowing water.

F. Sludge Monitoring

The Permittee shall monitor biosolids as required by the biosolids permit.

G. Sampling and Analytical Procedures

Samples and measurements taken to meet the requirements of this permit shall be representative of the volume and nature of the monitored parameters, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions affecting effluent quality.

Ground water sampling shall conform to the latest protocols in the *Implementation Guidance for the Ground Water Quality Standards*, (Ecology 1996).

Sampling and analytical methods used to meet the water and wastewater monitoring requirements specified in this permit shall conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136 or to the latest revision of *Standard Methods for the Examination of Water and Wastewater* (APHA), unless otherwise specified in this permit or approved in writing by the Department of Ecology (Department).

All soil analysis and reporting will be in accordance with *Laboratory Procedures*, Soil Testing Laboratory, Washington State University, November 1981.

Sludge monitoring requirements specified in this permit shall be conducted according to test procedures specified in 40 CFR Part 503.

H. Flow Measurement

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the quantity of monitored flows. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted industry standard for that type of device. Frequency of calibration shall be in conformance with manufacturer's recommendations and at a minimum frequency of at least one calibration per year. Calibration records shall be maintained for at least three years.

I. Laboratory Accreditation

All monitoring data required by the Department shall be prepared by a laboratory registered or accredited under the provisions of, *Accreditation of Environmental Laboratories*, Chapter 173-50 WAC. Flow, temperature, settleable solids, conductivity, pH, and internal process control parameters are exempt from this requirement. Conductivity and pH shall be accredited if the laboratory must otherwise be registered or accredited.

Crops and soils testing has not been included in the accreditation program. Crops and soils data shall be provided by a reputable agricultural test lab that is an active participant in a nationally recognized agricultural laboratory proficiency testing program.

S3. REPORTING AND RECORDKEEPING REQUIREMENTS

The Permittee shall monitor and report in accordance with the following conditions. The falsification of information submitted to the Department shall constitute a violation of the terms and conditions of this permit.

A. Reporting

The first monitoring period begins on the effective date of the permit. Monitoring results shall be submitted monthly. Monitoring data obtained during the previous month shall be summarized and reported on a form provided, or otherwise approved, by the Department, and be postmarked or received no later than the 30th day of the month following the completed reporting period, unless otherwise specified in this permit. The reports shall be sent to the following:

Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

Department of Health
Water Reclamation and Reuse Program
Division of Drinking Water
1500 West 4th Avenue
Spokane, WA 99204

Discharge Monitoring Report forms must be submitted monthly whether or not the facility was discharging. If there was no discharge or the facility was not operating during a given monitoring period, submit the form as required with the words "no discharge" entered in place of the monitoring results.

B. Records Retention

The Permittee shall retain records of all monitoring information for a minimum of three years. Such information shall include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by the Director.

The Permittee shall retain all records pertaining to the monitoring of sludge for a minimum of five years.

C. Recording of Results

For each measurement or sample taken, the Permittee shall record the following information: (1) the date, exact place and time of sampling; (2) the individual who performed the sampling or measurement; (3) the dates the analyses were performed; (4) who performed the analyses; (5) the analytical techniques or methods used; and (6) the results of all analyses.

D. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by this permit using test procedures specified by Condition S2 of this permit, then the results of this monitoring shall be included in calculation and reporting of the data submitted in the Permittee's self-monitoring reports.

E. Noncompliance Notification

In the event the Permittee is unable to comply with any of the permit terms and conditions due to any cause, the Permittee shall:

1. Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the violation, and correct the problem;
2. Repeat sampling (within 48 hours) and analysis of any violation and submit the results to the Department within 30 days after becoming aware of the violation;
3. Immediately notify the Department of the failure to comply. Immediately means within 24 hours for any spill, overflow, bypass, or upset from any portion of the collection or treatment system or any condition that endangers human health or the environment. Immediately means 30 days for any other condition; and
4. Submit a detailed written report to the Department within 30 days, unless requested earlier by the Department, describing the nature of the violation, corrective action taken and/or planned, steps to be taken to prevent a recurrence, results of the resampling, and any other pertinent information.

Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

F. Operational Records

1. Operating records shall be maintained at the wastewater treatment plant or within a central depository within the Permittee's operating agency. These records shall include: records of all analyses performed, records of operational problems, unit process and equipment breakdowns, and diversions to emergency storage or disposal; and all corrective or preventative action taken.
2. Process or equipment failures triggering an alarm that is key to maintaining reliability of the treated water quality shall be recorded and maintained as a separate record file. The recorded information shall include the time and cause of failure and corrective action taken.
3. If the wastewater treatment facility was not operating during a given monitoring period, submit the required reports with the words 'no discharge' entered in place of the monitoring results.

G. Maintaining a Copy of this Permit

A copy of this permit shall be kept at the treatment plant and be made available to the public or Ecology inspectors.

S4. FACILITY LOADING

A. Design Criteria

Flows or waste loadings of the following design criteria for the permitted treatment facility shall not be exceeded:

Average flow for the maximum month:	35,000 gpd
BOD ₅ loading for maximum month:	70 lbs/day

B. Plans for Maintaining Adequate Capacity

When the actual flow or waste load reaches 85 percent of any one of the design criteria in S4.A for three consecutive months, or when the projected increases would reach design capacity within five years, whichever occurs first, the Permittee shall submit to the Department, a plan and a schedule for continuing to maintain capacity at the facility sufficient to achieve the effluent limitations and other conditions of this permit. This plan shall address any of the following actions or any others necessary to meet this objective.

1. Analysis of the present design including the introduction of any process modifications that would establish the ability of the existing facility to achieve the effluent limits and other requirements of this permit at specific levels in excess of the existing design criteria specified in paragraph A above.
2. Reduction or elimination of excessive infiltration and inflow of uncontaminated ground and surface water into the sewer system.
3. Limitation on future sewer extensions or connections or additional waste loads.
4. Modification or expansion of facilities necessary to accommodate increased flow or waste load.
5. Reduction of industrial or commercial flows or waste loads to allow for increasing sanitary flow or waste load.

Engineering documents associated with the plan must meet the requirements of WAC 173-240-060, "Engineering Report," and be approved by the Department prior to any construction. The plan shall specify any contracts, ordinances, methods for financing, or other arrangements necessary to achieve this objective.

S5. OPERATION AND MAINTENANCE

The Permittee shall at all times be responsible for the proper operation and maintenance of any facilities or systems of control installed to achieve compliance with the terms and conditions of the permit.

A. Certified Operator

An operator certified for at least a Class II plant by the State of Washington shall be in responsible charge of the day-to-day operation of the wastewater treatment plant. An operator certified for at least a Class I plant shall be in charge during all regularly scheduled shifts.

B. O & M Program

The Permittee shall institute an adequate operation and maintenance program for their entire sewage system. Maintenance records shall be maintained on all major electrical and mechanical components of the treatment plant, as well as the sewage system and pumping stations. Such records shall clearly specify the frequency and type of maintenance recommended by the manufacturer and shall show the frequency and type of maintenance performed. These maintenance records shall be available for inspection at all times.

C. Short-term Reduction

If a Permittee contemplates a reduction in the level of treatment that would cause a violation of permit discharge limitations on a short-term basis for any reason, and such reduction cannot be avoided, the Permittee shall give written notification to the Department, if possible, 30 days prior to such activities, detailing the reasons for, length of time of, and the potential effects of the reduced level of treatment. This notification does not relieve the Permittee of their obligations under this permit.

D. Electrical Power Failure

The Permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated wastes or wastes not treated in accordance with the requirements of this permit during electrical power failure at the wastewater treatment plant and/or sewage lift stations either by means of alternate power sources, standby generator, or retention of inadequately treated wastes. The Permittee shall maintain Reliability Class I (EPA 430-99-74-001) at the wastewater treatment plant, which requires power sufficient to operate all vital components and critical lighting and ventilation during peak wastewater flow conditions. The power supply shall be provided with one of the following reliability features to assure that inadequately treated wastewater is not discharged to distribution or use areas:

1. An alarm and a standby power source.
2. An alarm and automatically actuated short-term storage or alternative disposal provisions. All equipment other than pump-back equipment shall be either independent of the normal power supply or provided with a standby power supply.
3. Automatically actuated long-term storage or disposal provisions. All equipment other than pump-back equipment shall be either independent of the normal power supply or provided with a standby power supply.

E. Prevent Connection of Inflow

The Permittee shall strictly enforce their sewer ordinances and not allow the connection of inflow (roof drains, foundation drains, etc.) to the sanitary sewer system.

F. Bypass Procedures

The Permittee shall immediately notify the Department of any spill, overflow, or bypass from any portion of the collection or treatment system.

The bypass of wastes from any portion of the collection or treatment system is prohibited unless the following condition applies:

Unavoidable Bypass—Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

If the resulting bypass from any portion of the treatment system results in noncompliance with this permit, the Permittee shall notify the Department in accordance with Condition S3.E "Noncompliance Notification."

G. Operations and Maintenance Manual

An Operations and Maintenance (O&M) Manual shall be prepared by the Permittee in accordance with WAC 173-240-080 and be submitted to the Department for approval by October 31, 2008. In addition to requirements of WAC 173-240-080 (1) through (5) the O&M Manual shall include:

1. Wastewater system maintenance procedures that contribute to the generation of process wastewater.
2. Emergency procedures for plant shutdown and cleanup in event of wastewater system upset or failure.
3. Any directions to staff for cleaning or maintaining equipment or performing other tasks required to protect the operation of the wastewater system (e.g. defining maximum allowable discharge rate for draining a tank, blocking all floor drains before beginning the overhaul of a stationary engine).
4. The treatment plant process control monitoring schedule.
5. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.
6. Irrigation system operational controls and procedures.

7. Employee safety considerations while working near comingled irrigation water.
8. Protocols and procedures for groundwater monitoring network sampling and testing (if groundwater monitoring is required as per Condition S2.C).
9. Maintenance requirements of the two storage lagoons.
10. Storage remedy for the wastewater when the two lagoons are full.

The O&M Manual shall be reviewed by the Permittee at least annually. All manual changes or updates shall be submitted to the Department whenever they are incorporated into the manual. The approved operation and maintenance manual shall be kept available at the treatment plant.

H. Best Management Practices\Pollution Prevention Program

1. Dairy wastewater shall be screened before discharge to the lagoons.
2. There shall be no overflows from the two storage lagoons. The Permittee shall measure the extent of the sludge build-up in the two lagoons as often as necessary to prevent overflow from occurring.

S6. SOLIDS HANDLING

A. Solids Handling

Residual solids include screenings, grit, scum, sludge, waste activated sludge, cattle wastes, feed wastes, and other solid waste. The Permittee shall store and handle all residual solids in such a manner so as to prevent their entry into state ground or surface waters. The Permittee shall not discharge leachate from residual solids to state surface or ground waters, except as specifically authorized by Section S1 of this permit.

B. Solids Management Plan

The Permittee shall submit all proposed revisions or modifications to the Solids Management Plan to the Department. The Permittee shall comply with any plan modifications. The Permittee shall submit an update of the Solids Management Plan by October 31, 2007.

S7. WATER DISTRIBUTION AND USE

A. Authorized Uses and Locations

Beginning on the effective date and lasting through the expiration date of this permit, the Permittee is authorized to distribute treated wastewater in accordance with the terms and conditions of this permit for authorized uses.

The distribution by the Permittee of treated wastewater that does not meet the treatment, water quality and monitoring requirements established in this permit or the use of treated wastewater other than for authorized uses and locations listed in a Department of Ecology approved Facilities Planning Report (1974) shall constitute a violation of the terms and conditions of this permit.

The Permittee may produce and distribute water treated to Class C reclaimed water levels for the following uses at the following locations:

Land application via spray irrigation on the permitted property, as described on the cover of this permit and in Appendix E of the fact sheet.

B. Water Reuse Plan

If uses or users of the distribution system change from that described in this permit, the Permittee shall prepare a water reuse plan which contains a summary description of the proposed water reuse system from the Facilities Planning Report. The plan shall be submitted to the Departments of Health and Ecology. After the initial drafting of the plan, the Permittee shall review the plan at least annually and the plan shall be updated whenever new uses or users are added to the distribution system. A copy of the revised plan shall be submitted to Ecology and Health. The plan shall contain, but not be limited to, the following:

1. Design and/or operating criteria for the domestic wastewater treatment plant.
2. Plant reliability assessment for the domestic wastewater treatment facility, specifically addressing alarm conditions, alarm responses, reliability storage in lieu of a permitted disposal site and short-term or long-term process reliability storage.
3. Description of the reuse distribution system.
4. Identification of uses, users, location of reuse sites.
5. Evaluation of reuse sites, estimated volume of wastewater use, means of application, and for irrigation or surface percolation uses, the application rates, water balance, expected agronomic uptake, potential to impact ground water or surface water at the site, background water quality and hydrogeological information necessary to evaluate potential water quality impacts.

C. Bypass Prohibited

There shall be no bypassing of untreated or partially treated wastewater from the wastewater treatment plant or any intermediate unit processes to the distribution system or point of use at any time. All effluent from the domestic wastewater treatment plant being distributed for beneficial use must meet permit limits at all times. Water not meeting the permit limits must be retained for additional treatment.

The Departments of Ecology and Health shall be notified by telephone within 24 hours of any bypass. Substandard wastewater shall not be discharged to the storage lagoons or to the distribution system or use areas without specific approval from the Departments of Health and Ecology.

D. Reliability

The Permittee shall maintain one of the following features for each of the critical treatment unit processes of oxidation, settling, and disinfection:

1. Alarms and standby power source.
2. Alarms and automatically actuated short-term (24-hour) storage or disposal provisions.
3. Automatically actuated long-term storage or disposal provisions for treated wastewater.

E. Use Area Responsibilities

1. This permit allows for wastewater meeting effluent limitations under Special Conditions S1 to be applied only on the field locations as specified on the front page of this permit for grass and tree growth.

The use of lagoons and stabilization ponds for wastewater pilot projects will not be accepted by the Washington Departments of Health and Ecology until studies of the public health issues relating to the existing lagoon land treatment system are reviewed by each agency.

2. This permit does not allow the use of wastewater for food crop irrigation. Should the Permittee decide to grow food crops, the Permittee is required to inform and obtain approval from the Department of Health for the proposed food crop cultivation before proceeding with the plan.
3. A standard notification sign shall be developed by the Permittee using colors and verbiage approved by the state Department of Health. The signs shall be used in all wastewater use areas and shall include the following:
 - Signage shall be provided at any gate or opening to the property that can be accessed by car or foot, and at any water impoundment that contains treated wastewater.
 - Signs shall read something along the lines of "Irrigated with reclaimed water - Do not Drink".
4. Effluent water use, including runoff and spray, shall be confined to the designated and approved use area.
5. The Permittee shall maintain control and be responsible for all facilities and activities inherent to the production, distribution and use of the irrigation water. The Permittee shall ensure that the reuse system operates as approved by the Department of Ecology Service and Use Area Agreement.

F. Irrigation Use

1. For any irrigation use of wastewater, the hydraulic loading rate of the water shall be determined based on a detailed water and nutrient balance analysis. This analysis shall be included in the annual Irrigation and Crop Management Plan.
2. There shall be no runoff of wastewater applied to land by spray irrigation to any surface waters of the state or to any land not owned by or under control of the Permittee.
3. There shall be no application of treated wastewater for irrigation purposes when the ground is saturated or frozen.
4. There shall be no application of treated wastewater for irrigation purposes when sustained wind velocities measured at ground level at the irrigation sites exceed 20 mph.
5. The wastewater shall not be applied to the irrigation lands in quantities that:
 - a. Significantly reduce or destroy the long-term infiltration rate of the soil.
 - b. Cause long-term anaerobic conditions in the soil.
 - c. Cause ponding of treated wastewater and produce objectionable odors or support insects or vectors.
 - d. Cause leaching losses of constituents of concern beyond the treatment zone or in excess of the approved design. Constituents of concern are constituents in the treated wastewater, partial decomposition products, or soil constituents that would alter ground water quality in amounts that would affect current and future beneficial uses.
6. The Permittee shall maintain all irrigation agreements for lands not owned for the duration of the permit cycle. Any reduction in irrigation lands by termination of any irrigation agreements may result in permit modification or revocation. The Permittee shall immediately inform the Department and DOH in writing of any changes to existing agreements.
7. The Permittee shall use recognized good practices and all available and reasonable procedures to control odors from the land application system. When determined necessary, and when notified by the Department, the Permittee will be required to take additional measures to reduce odors to a reasonable minimum.

G. Setback Distances

The setback distances listed in Table 6 shall be applied to at all times.

Table 6. Required setback distances.

Condition	Setback Distance (Feet)
Minimum distance between any treated wastewater pipeline and potable water supply well.	100
Where treated wastewater is used for spray or surface irrigation, minimum distance between the area subject to irrigation, and any potable water supply well.	100
Where treated wastewater is used for spray irrigation, minimum distance between the area subject to irrigation and areas accessible to the public and the use area property line.	100
Where treated wastewater is used for a storage pond that is not lined or sealed to prevent measurable seepage, minimum distance between the perimeter of the pond and any potable water supply well.	500

S8. SEWERAGE SYSTEM PROHIBITIONS

The Permittee shall work cooperatively with the Department to ensure that all commercial and industrial users of the wastewater treatment system are in compliance with pretreatment regulations.

A. Discharge Authorization Required

Significant commercial or industrial operations shall not be allowed to discharge wastes to the Permittee's sewerage system until they have received prior authorization from the Department in accordance with Chapter 90.48 RCW and Chapter 173-216 WAC, as amended. The Permittee shall immediately notify the Department of any proposed new sources of wastewater from significant commercial or industrial operations.

B. Prohibitions

A nondomestic discharger may not introduce into the Permittee's sewerage system any pollutant(s) that cause pass-through or interference.

The following nondomestic discharges shall not be discharged into the Permittee's sewerage system.

1. Pollutants that create a fire or explosion hazard in the domestic wastewater facilities (including, but not limited to waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21).

2. Pollutants that will cause corrosive structural damage to the domestic wastewater facilities, but in no case discharges with pH lower than 5.0 standard units or greater than 11.0 standard units, unless the works are specifically designed to accommodate such discharges.
3. Solid or viscous pollutants in amounts that could cause obstruction to the flow in sewers or otherwise interfere with the operation of the POTW.
4. Any pollutant, including oxygen demanding pollutants, (BOD, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW.
5. Heat in amounts that will inhibit biological activity in the POTW resulting in interference, but in no case heat in such quantities such that the temperature at the POTW exceeds 40°C (104°F) unless the Department, upon request of the Permittee, approves, in writing, alternate temperature limits.
6. Petroleum oil, nonbiodegradable cutting oil, or products of mineral origin in amounts that will cause interference or pass-through.
7. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity which may cause acute worker health and safety problems.
8. Any trucked or hauled pollutants, except at discharge points designated by the Permittee.
9. As provided by WAC 173-303-071(3)(a), discharges of dangerous wastes into the sewerage system by industrial or commercial users are prohibited unless the discharger has submitted an application for a State Waste Discharge Permit. The applicant must accurately describe the wastewater on a State Waste Discharge Permit Application for Industrial Discharges to a POTW (Ecology Form 040-177).
10. Non-contact cooling water in significant volumes.
11. Stormwater and other direct inflow sources.
12. Wastewaters significantly affecting system hydraulic loading, which do not require treatment or would not be afforded a significant degree of treatment by the system.

The Permittee shall notify the Department if any of the nondomestic prohibitions listed above are introduced into the wastewater system.

S9. IRRIGATION AND CROP MANAGEMENT PLAN

An Irrigation and Crop Management Plan shall be submitted annually by March 20 for review by the Department of Ecology. The first plan is due March 20, 2008. The plan shall generally conform to the *Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems*, Ecology 1993. The plan must be prepared by a qualified soil scientist and agronomist. The plan shall include the following elements:

A. Annual Summary of Farm Operations for Previous Year

This summary shall include, *for each irrigation field*:

1. The crops grown, the total acreage and quantity harvested.
2. Calculated balances for nutrients, salts, TDS, or other design limiting parameters. The calculations shall include crop consumptive use, process wastewater loadings of nutrients, salts, TDS or other design limiting parameters, and contributions from commercial and non-commercial fertilizers applied.
3. Calculated water balance. The calculations shall include the quantity of supplemental irrigation water and process wastewater applied (see Appendix F in fact sheet for example table), crop consumptive use, water stored in the soil profile outside the normal growing season, and salt leaching requirements.
4. Soil testing results. A summary of the soil testing results shall be submitted and discussed as part of the annual Irrigation and Crop Management Plan.

B. Cropping Schedule for Upcoming Year

This schedule shall include, *for each irrigation field*:

1. Crop Management. The proposed acreage for each crop, cultivation and harvesting requirements, expected crop yields, and methods for establishing a crop, and proposed schedule for herbicide, pesticide, and fertilizer application.
2. Irrigation Management. The frequency and timing of wastewater and supplemental irrigation water application (including harvest and non-harvest periods), and recommended rest cycles for wastewater application where organic or hydraulic loading is a concern.

C. Site Map

The site map of the spray field areas shall include nearby water bodies and topographic contour intervals at least as detailed as the 7.5 minute USGS (United State Geological Survey) quadrangle. The map shall clearly label fields and show where irrigation and soil sampling occurred during the previous year.

D. Infiltration Tests in 2007

An infiltration test shall be conducted at both the upper and lower disposal sites in 2007 and the results summarized in the Irrigation and Crop Management Plan. The purpose of these tests is to determine how fast water infiltrates into the soil. The infiltration tests must be conducted during the months irrigation occurs.

S10. GROUND WATER QUALITY EVALUATION AND GROUND WATER MONITORING WELL INSTALLATION

If the practice of irrigating fields with liquid livestock wastes resumes at the permitted facility, the Permittee shall evaluate the impacts of its activities on ground water quality in the vicinities of the irrigation fields and the holding ponds by performing the following:

- A. Prior to commencing new irrigation practices, the Permittee shall submit a scope of work to the Department for a ground water quality evaluation study at the wastewater holding ponds and application sites, in accordance with WAC 173-200-080. The scope of work will conform to both the *Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems*, Ecology 1993, and the *Implementation Guidance for the Ground Water Quality Standards*, Ecology 2005.
- B. Upon approval of the scope of work by the Department, the Permittee shall conduct a study to determine site specific hydrogeologic conditions, well siting, quality control protocols, a sampling plan, and sampling protocols. The Permittee shall submit a report of the results within 180 days of the approval of the scope of work.
- C. Within ninety (90) days after review and approval of the report by the Department, the Permittee shall begin construction of the ground water monitoring well network. Well construction shall meet the requirements of Chapters 173-160 and 173-162 WAC.
- D. Once the ground water monitoring network is installed, the Permittee shall notify the Department and begin monitoring according to S2.

The ground water quality evaluation shall be conducted, and written report submitted, by a licensed hydrogeologist or equivalently qualified professional.

S11. COMPLIANCE SCHEDULES

The Permittee shall achieve compliance with the following schedules:

A. Influent Sample Set-up

By October 31, 2007, an influent sample location will be determined and samples will be taken as required in Section S2 of this permit.

B. Composite Samplers and Refrigeration

Composite samplers and refrigeration shall be provided at both influent and effluent sample locations by December 31, 2007.

C. Residual Chlorine Monitor and Alarm Installation

A residual chlorine monitor shall be installed at the discharge of the wastewater treatment plant by December 31, 2007. This monitor does not need to record residual chlorine levels, but it must alert the operator by audible alarm if the residual chlorine level drops below a predetermined threshold concentration. If the alarm sounds, flow to the holding ponds shall be shut off to prevent contamination of the treated water.

D. Local Surface Water Fecal Coliform Study

1. Investigation

The Permittee shall investigate the source of fecal coliform in the ditch near the silage bunker (this ditch ultimately drains into Sikes Lake), and in the storm drain located in the milking barn/feed lot area (this storm drain also drains into Sikes Lake). A minimum of two (2) samples from each location as listed below shall be utilized for the assessment.

- Culvert outfall that drains into the ditch across Carnation Farm Road from the wastewater treatment plant.
- Culvert outfall that drains into Sikes Lake, or closest location with flowing water.

2. Investigative Report

All findings shall be detailed in a brief report and submitted to the Department by October 31, 2007. If fecal coliform levels exceed the surface water quality standard of 400 colonies/100ml (for secondary contact recreation) in either of the two locations, the report shall include a proposal and implementation schedule for source control.

3. Plan Implementation

If source control is required, the Permittee shall complete all implementation as approved by the Department no later than October 31, 2008.

S12. DUTY TO REAPPLY

The Permittee must apply for permit renewal by March 28, 2012.

GENERAL CONDITIONS

G1. SIGNATORY REQUIREMENTS

All applications, reports, or information submitted to the Department shall be signed as follows:

- A. All permit applications shall be signed by either a principal executive officer or ranking elected official.
- B. All reports required by this permit and other information requested by the Department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - 1. The authorization is made in writing by the person described above and is submitted to the Department at the time of authorization, and
 - 2. The authorization specifies either a named individual or any individual occupying a named position.
- C. Changes to authorization. If an authorization under paragraph B.2, above, is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.
- D. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

G2. RIGHT OF ENTRY

Representatives of the Department shall have the right to enter at all reasonable times in or upon any property, public or for the purpose of inspecting and investigating conditions relating to the pollution or the possible pollution of any waters of the state. Reasonable times shall include normal business hours; hours during which production, treatment, or discharge occurs; or times when the Department suspects a violation requiring immediate inspection. Representatives of the Department shall be allowed to have access to, and copy at reasonable cost, any records required to be kept under terms and conditions of the permit; to inspect any monitoring equipment or method required in the permit; and to sample the discharge, waste treatment processes, or internal waste streams.

G3. PERMIT ACTIONS

This permit shall be subject to modification, suspension, or termination, in whole or in part by the Department for any of the following causes:

- A. Violation of any permit term or condition;
- B. Obtaining a permit by misrepresentation or failure to disclose all relevant facts;
- C. A material change in quantity or type of waste disposal;
- D. A material change in the condition of the waters of the state; or
- E. Nonpayment of fees assessed pursuant to RCW 90.48.465.

The Department may also modify this permit, including the schedule of compliance or other conditions, if it determines good and valid cause exists, including promulgation or revisions of regulations or new information.

G4. REPORTING A CAUSE FOR MODIFICATION

The Permittee shall submit a new application, or a supplement to the previous application, along with required engineering plans and reports, whenever a new or increased discharge or change in the nature of the discharge is anticipated which is not specifically authorized by this permit. This application shall be submitted at least 60 days prior to any proposed changes. Submission of this application does not relieve the Permittee of the duty to comply with the existing permit until it is modified or reissued.

G5. NOTIFICATION OF NEW OR ALTERED SOURCES

The Permittee shall submit written notice to the Department whenever any new discharge or increase in volume or change in character of an existing discharge into the sewer is proposed which: (1) would interfere with the operation of, or exceed the design capacity of, any portion of the collection or treatment system; (2) would increase the total system flow or influent waste loading by more than 10 percent; (3) is not part of an approved general sewer plan or approved plans and specifications; or would be subject to pretreatment standards under 40 CFR Part 403 and Section 307(b) of the Clean Water Act. This notice shall include an evaluation of the system's ability to adequately transport and treat the added flow and/or waste load.

G6. PLAN REVIEW REQUIRED

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications shall be submitted to the Departments of Ecology and Health for approval in accordance with Chapter 173-240 WAC. Engineering reports, plans, and specifications should be submitted at least 180 days prior to the planned start of construction. Facilities shall be constructed and operated in accordance with the approved plans.

G7. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in the permit shall be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G8. PERMIT TRANSFER

This permit is automatically transferred to a new owner or operator if:

- A. A written agreement between the old and new owner or operator containing a specific date for transfer of permit responsibility, coverage, and liability is submitted to the Department;
- B. A copy of the permit is provided to the new owner; and
- C. The Department does not notify the Permittee of the need to modify the permit.

Unless this permit is automatically transferred according to Section A, above, this permit may be transferred only if it is modified to identify the new Permittee and to incorporate such other requirements as determined necessary by the Department.

G9. PAYMENT OF FEES

The Permittee shall submit payment of fees associated with this permit as assessed by the Department. The Department may revoke this permit if the permit fees established under Chapter 173-224 WAC are not paid.

G10. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit shall be deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit shall incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be and be deemed to be a separate and distinct violation.