Appendix C – Northeast NPDES Permit

STATE OF NEBRASKA

DEPARTMENT OF ENVIRONMENTAL CONTROL

KAY A. ORR
GOVERNOR

DENNIS GRAMS
DIRECTOR

RECEIVED

DEC 10 1987

Lincoln Wastewater
System

Steven
Gary
Scott

RECEIVED
DEC 8 1987
LINCOLN
PUBLIC WORKS
UTILITIES

December 4, 1987

WCD-P/C

RETURN RECEIPT REQUESTED

Mr. Richard Erixson
Director of Public Works
Lincoln Northeast WWTP
555 South Tenth Street
Lincoln, NE 68508

NPDES Number NE0112488
Location: Lincoln, Nebraska
Receiving Waters: Salt Creek

Dear Mr. Erixson:

Pursuant to the Federal Water Pollution Control Act, as amended (33 U.S.C. 466 et. seq.), the Nebraska Environmental Protection Act (Secs. 81-1504(11), (Reissue, 1981) and the State of Nebraska Department of Environmental Control, Rules and Regulations Pertaining to the Issuance of Permits Under the National Pollutant Discharge Elimination System, we have reissued and are enclosing your National Pollutant Discharge Elimination System (NPDES) Authorization to Discharge.

Your NPDES Authorization to Discharge includes general and special conditions which must be followed to remain in compliance with the requirements of the above-mentioned statutes and Rules and Regulations. Monitoring reports prescribed in the special conditions are required on a periodic basis. Questions and requests for additional monitoring reports should be directed to Department of Environmental Control, Permits and Compliance Section, (402) 471-2186.

Issuance of an NPDES Authorization to Discharge by the Department of Environmental Control does not relieve you of other duties and responsibilities under the Nebraska Environmental Protection Act or as amended, or any Rules and Regulations promulgated pursuant thereto.

Your continued cooperation in helping to improve and maintain the quality of Nebraska's waters is much appreciated.

Sincerely,

Dennis Grams, P.E.

JR/at

Enclosure

Permit Number NE0112488

DEPARTMENT OF ENVIRONMENTAL CONTROL
AUTHORIZATION TO DISCHARGE UNDER THE STATE OF NEBRASKA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 466 et. seq.), the Nebraska Environmental Protection Act [Neb. Rev. Stat. Secs. 81-1504(15)(25), 81-1505(3)(4)(5)(6) and (7), 81-1510(2), (Reissue 1981)], and the Rules and Regulations promulgated pursuant thereto.

Lincoln Northeast Wastewater Treatment Facility
Lincoln, Nebraska

is authorized to discharge from a facility located at

NE¼NW¼, Section 34, Township 11 North, Range 7 East, Lancaster County

to receiving waters named

Salt Creek

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

This permit shall become effective on December 5, 1987.

This permit and the authorization to discharge shall expire at midnight, December 4, 1992.

Signed this 4th day of December, 1987.

Director

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning December 5, 1987 and lasting through December 4, 1992 the permittee is authorized to discharge from all outfalls.

The discharge limitations are based on a flow of 8.0 million gallons per day (mgd).

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS Concentration in Mg/l 30 Day Average	7 Day Maximum	Kg/Day (Lbs/Day) 30 Day Average	7 Day Maximum	MONITORING REQUIREMENTS Measurement Frequency	Sample Type
Flow	-	-	-	-	Once Each Weekday (M-F)	Recorder
Biochemical Oxygen Demand (5-Day)	30	45	907.6(2001.6)	1361.6(3002.4)	Daily (1) Annually (2)	24-Hr Composite 24-Hr Composite
Total Suspended Solids	30	45	907.6(2001.6)	1361.6(3002.4)	Daily (1) Annually (2)	24-Hr Composite 24-Hr Composite
Fecal Coliform Colonies/100 ml	200	400	-	-	Daily (2)	Grab
Oil and Grease	-	10	-	302.6(667.2)	Daily	Grab
Total Residual Chlorine	-	-	-	-	Daily (2)	Grab
Ammonia as N	-	-	-	-	Daily	Grab

The pH shall be maintained between the range of 6.0 - 9.0 Standard Units. The value(s) shall be determined from a grab sample taken daily (1) and annually (2).

Sample taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Where the flow enters and exits the treatment facility.

Footnotes: Refer to Part I, B

B. FOOTNOTE(S)

The arithmetic mean of the values for effluent samples measuring biochemical oxygen demand (5-day) and suspended solids collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (85 percent removal. minimum).

1. This is the minimum required measurement frequency for influent sampling.

2. To be taken at the designated measurement frequency during the disinfection season. The disinfection season is April 1 through September 30 of each year. During this period, effluent disinfection is required.

B. DISGESTED SLUDGE MONITORING FOR ULTIMATE DISPOSAL

During the period beginning December 5, 1987 and lasting through December 4, 1992 the permittee is authorized to discharg from all outfall(s).

Such discharge shall be limited and monitored by the permittee as specified below:

	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	Concentration in mg/l		Kg/Day (Lbs/Day)		Measurement*	Sample
EFFLUENT CHARACTERISTIC	Daily Average	Daily Maximum	Daily Average	Daily Maximum	Frequency	Type
mmonia NH_3-N	-	-	-	-	As Injected	Grab
itrogen, Total	-	-	-	-	As Injected	Grab
itrate NO_3-N	-	-	-	-	As Injected	Grab
otassium K	-	-	-	-	As Injected	Grab
hosphorus PO_4 Ortho	-	-	-	-	As Injected	Grab
otal Solids	-	-	-	-	As Injected	Grab
admium Cd	-	-	-	-	Monthly	Grab
opper Cu	-	-	-	-	Monthly	Grab
hromium Cr	-	-	-	-	Monthly	Grab
ron Fe	-	-	-	-	Monthly	Grab
ead Pb	-	-	-	-	Monthly	Grab
ercury Hg	-	-	-	-	Monthly	Grab
ickel Ni	-	-	-	-	Monthly	Grab
inc An	-	-	-	-	Monthly	Grab
arium Ba	-	-	-	-	Annually	Grab
oron B	-	-	-	-	Annually	Grab
l Chloride ion	-	-	-	-	Annually	Grab
olybdenum Mo	-	-	-	-	Annually	Grab
odium Na	-	-	-	-	Annually	Grab
ulfur S	-	-	-	-	Annually	Grab

he pH shall be maintained between the range of 6.0 - 9.0 Standard Units. The value(s) shall be determined from a grab ample taken monthly.

ample taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): amples of digested sludge are to be obtained from the tap discharge of the injection sludge pump.

Sample only during months of injection.

C. SURFACE MONITORING REQUIREMENTS FOR SLUDGE DISPOSAL SYSTEM

During the period beginning December 5, 1987 and lasting through December 4, 1992 the permittee is authorized to discharg from all outfall(s).

Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS Concentration in mg/l Daily Average	Daily Maximum	Kg/Day (Lbs/Day) Daily Average	Daily Maximum	MONITORING REQUIREMENTS Measurement Frequency	Sample Type
Chlorides	-	-	-	-	*Sample during ALL runoff events in which a sampler is activated.	Composite during on runoff event.
Total Organic Carbon TOC	-	-	-	-	"	"
Chemical Oxygen Demand COD	-	-	-	-	"	"
Ammonia NH_3	-	-	-	-	"	"
Nitrate NO_3	-	-	-	-	Annually	"
Phosphorus PO_4-Ortho	-	-	-	-	"	"
Total Suspended Solids	-	-	-	-	"	"
Copper Cu	-	-	-	-	"	"
Zinc Zn	-	-	-	-	"	"
Cadmium Cd	-	-	-	-	"	"
Iron Fe	-	-	-	-	"	"
Nickel Ni	-	-	-	-	"	"
Lead Pb	-	-	-	-	"	"

*Sample only during months of injection.

The pH shall be maintained between the range of 6.0 - 9.0 Standard Units. The value(s) shall be determined from a grab sample taken annually.

Sample taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): the site is divided into three plots: number I, II and III. Site activity will rotate between crop, injection and open. Samples will be taken from each of the three separate plots as required.

C. SURFACE MONITORING REQUIREMENTS FOR SLUDGE DISPOSAL SYSTEM

MONITORING ADDITIONS	ACTIVITY (Crop, Inject, Open)	CROP TYPE	MINIMUM MONITORING REQUIREMENTS Measurement Frequency	Sample Type
Plots I	Report Activity	Report Crop	Monthly	-
Plots II	Report Activity	Report Crop	Monthly	-
Plots III	Report Activity	Report Crop	Monthly	-
Rainfall	-	-	Monthly	Grab

The injection fields shall be protected from erosion by the residue from the previous crop or seeded to oats or Sudan grass during the summer to insure ground cover and to help control weed growth.

D. GROUNDWATER MONITORING

During the period beginning December 5, 1987 and lasting through December 4, 1992 the permittee shall sample the groundwater monitoring wells as specified below:

MONITORING CHARACTERISTIC	MONITORING REQUIREMENTS Measurement Frequency	Sample Type
Water Levels	Quarterly	Pump well for
pH	Quarterly	5 minutes, grab
NO_3 Nitrates	Quarterly	sample
PO_4 Phosphorus-Ortho	Quarterly	"
K Potassium	Quarterly	"
Fecals	Quarterly	"
Conductivity	Quarterly	"
Chloride Cl	Annually	"
Calcium Ca	Annually	"
Magnesium Mg	Annually	"
Alkalinity	Annually	"
Boron B	Annually	"
Sodium Na	Annually	"
Sulfur S	Annually	"
Barium Ba	Annually	"
Nickel Ni	Annually	"
Iron Fe	Annually	"

ample taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): bservation wells 1 through 5.

D. GROUNDWATER MONITORING

During the period beginning December 5, 1987 and lasting through December 4, 1992 the permittee shall sample the groundwater monitoring wells as specified below:

Such discharge shall be limited and monitored by the permittee as specified below:

MONITORING CHARACTERISTIC	MONITORING REQUIREMENTS Measurement Frequency	Sample Type
Mercury Hg	Annually	Pump well for 5
Lead Pb	Annually	minutes, grab
Cadmium Cd	Annually	sample
Zinc Zn	Annually	"
Copper Cu	Annually	"
Chromium Cr	Annually	"
Molybdenum Mo	Annually	"
Arsenic As	Annually	"
Selenium Se	Annually	"

Sample taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): observation wells 1 through 5.

A. OTHER REQUIREMENTS

1. The arithmetic mean of the values for effluent sampling measuring biochemical oxygen demand (5-day) and suspended solids collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent sampled collected at approximately the same times during the same period (85 percent removal- minimum).

2. There shall be no discharge of floating solids or visible foam in other than trace amounts.

3. Sludge shall be disposed of or utilized in a manner approved by the Department of Environmental Control.

APPENDIX A - NPDES (Part III)

STANDARD CONDITIONS FOR NEBRASKA DEPARTMENT OF ENVIRONMENTAL CONTROL WATER AND WASTE MANAGEMENT PERMITS

SECTION A. MONITORING AND REPORTS

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other wastestream, body of water or substance. Monitoring points shall not be changed without notification to and the approval of the Director.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ± 10% from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration and operation of acceptable flow measurement devices can be obtained from the the following references:

1) "Water Measurement Manual". U. S. Dept. of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U. S. Government Printing Office, Washington, D.C. 20402. Order by Catalog No. I27.19/2:W29/2, Stock No. S/N 24003-0027.)

2) "Flow Measurement in Open Channels and Closed Conduits". U. S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Service (NTIS), Springfield, VA, 22151. Order by NTIS No. PB-273 535/5ST.

3) "NPDES Compliance Sampling Manual". U. S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available from the General Services Administration (SFFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver, CO. 80225.

3. Reporting of Monitoring Results

Reporting Period: Calendar Quarter

Monitoring results obtained during the Reporting Period shall be summarized and reported on a Nebraska Department of Environmental Control Discharge Monitoring Report Form postmarked no later than the 28th day of the following the completed reporting period.

Reports due: January 28; April 28; July 28; October 28

Signed copies of these Reports shall be submitted to the Nebraska Department of Environmental Control at the following address:

Nebraska Department of Environmental Control
P. O. Box 94877, Statehouse Station
301 Centennial Mall South
Lincoln, NE 68509

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to Nebraska Department of Environmental Control Rules and Regulations for Test Procedures for the Analysis of Pollutants Under the National Pollutant Discharge Elimination System. If those Rules and Regulations do not specify test procedures for any pollutant required to be monitored by this permit and until such Rules and Regulations are promulgated, sampling and analytical methods used to meet the monitoring requirements specified in this permit shall, unless otherwise specified by the Director, conform to the latest edition of the following references:

Standard Methods for the Examination of Water and Wastewater, 15th Edition, 1980, American Public Health Association, New York, NY, 10019.

A.S.T.M. Standards, Part 31, Water, 1975, American Society for Testing and Materials, Philadelphia, Pennsylvania, 19103.

Methods for Chemical Analysis of Water and Wastes, March, 1979, Environmental Protection Agency Water Quality Office, Analytical Quality Control Laboratory, NERC, Cincinnati, OH, 45268.

5. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using approved test procedures or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated.

6. Averaging of Measurements

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

7. Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart 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, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

8. Record Contents

Records of monitoring information shall include:

a) The date, exact place, time and methods of sampling or measurements;
b) Who performed the sampling or measurements;
c) The date(s) analyses were performed;
d) Who performed the analyses;
e) The analytical techniques or methods used; and
f) The results of such analyses.

SECTION B. OPERATION AND MAINTENANCE

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the 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 procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

Upon reduction, loss or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. 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 the conditions of this permit.

3. Bypassing

Any diversion from or bypass of the treatment facilities is prohibited unless:

(a) It is unavoidable to prevent loss of life, personal injury or severe property damage.

(b) No feasible alternative exists, i.e. retention of untreated waste.

(c) The permittee submits notice to the Director within 24 hours of becoming aware of the bypass, or if the bypass is anticipated the Director is notified ten (10) days prior to the bypass.

(d) The bypass is conducted under conditions determined to be necessary by the Director to minimize any adverse effects.

If the bypass is needed for regular preventative maintenance for which backup equipment should be provided, the bypass will not be allowed. When a bypass occurs, the burden is on the permittee to demonstrate compliance with items (a) through (d) above.

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of at a site and in a manner approved by the Nebraska Department of Environmental Control.

SECTION C. REPORTING REQUIREMENTS

1. 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, production increase, or process modifications which will result in new, different, or increased discharges or pollutants must be reported by the permittee in 180 days prior to the expansion, increases, or modifications, by submission of a new permit 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. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum or weekly average effluent limitation specified in this permit, the permittee shall report to the Department of Environmental Control on a Noncompliance Report Form, within seven (7) days of becoming aware of such conditions, and in the case of any discharge subject to any applicable toxic pollutant effluent standards under Section 307(a) of the Federal Act or other discharges which constitute a threat to human health, welfare, or the environment, shall report to the Department of Environmental Control on a Noncompliance Report Form within 24 hours from the time the permittee becomes aware of the circumstances.

The permittee shall provide:

(a) A description of the discharge and cause of noncompliance; and

(b) The period of noncompliance, including exact dates and times; or if not corrected, the anticipated time the noncompliance is expected to continue, and steps taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

have access to and copy, at reasonable times, any records that
ired under the conditions of this permit;

) Inspect at reasonable times any facilities, equipment (including
ring and control equipment), practices, or operations regulated or
ed under this permit;

) Sample or monitor, at reasonable times, for the purposes of
ng permit compliance, any substances or parameters at any location.

) Inspect any production, manufacturing, fabricating or storage
here pollutants, regulated under the permit, could originate.

tions

ass bypass--when the permittee knows in advance of the need for a

Average--Discharge means the total discharge by weight during a
ar month divided by the number of days in the month that the
tion or facility was operating. Where less than daily sampling
uired by this permit, the daily average discharge shall be deter-
by the summation of all the measured daily discharges by weight
d by the number of days during the calendar month when the measure-
were made.

Maximum--Discharge means the total discharge by weight during any
ar day.

m Concentration--The maximum concentration is the concentration in
ngle grab sample.

ample--An individual sample collected in less than 15 minutes.

ite Sample--A combination of individual samples obtained at regular
als over a time period. Either the volume of each individual
is proportional to flow rate during sample period (flow composite)
stant volume samples are collected at equal time intervals during
ite period (time composite).

Water--Uncontaminated: Water used for cooling purposes only
s no direct contact with any raw material, intermediate, or final
, and which does not contain a level of contaminants detectably
than that of the intake water. Contaminated: Water used for
g purposes only which may become contaminated either through the
water treatment chemicals used for corrosion inhibitors or biocides,
direct contact with process materials and/or wastewater.

y Average--Other than for fecal coliform bacteria, is the arithmetic
f the values for effluent samples collected in a period of 30 con-
ve days. The monthly average for fecal coliform bacteria is the
etric mean of the value of the effluent samples collected in a period
consecutive days.

Average--Other than for fecal coliform bacteria, is the arithmetic
f the values for effluent samples collected in a period of seven
utive days. The weekly average for fecal coliform bacteria is
metric mean of the values for effluent samples collected in a
of seven consecutive days.

ly--Once every other week.

nly--Once every other month.

ble Pollutants--Are biochemical oxygen demand, suspended solids,
fecal coliform bacteria, plus additional pollutants identified
NPDES permit if the publicly owned treatment works was designed
t such pollutants, and in fact does remove such pollutants to a
ntial degree, e.g., nitrogen and phosphorus.

ttable Pollutant--Is any pollutant which is not a compatible
nt as defined above.

Contributing Industry--Is a wastewater source that:

) has a flow of 50,000 gallons or more per average workday;

) has a flow greater than five percent of the flow carried by the
al system receiving the waste;

) has in its waste a toxic pollutant in toxic amounts; or

) has significant impact, either singly or in combination with
contributing industries on the treatment works or the quality of
fluent.

Property Damage--Means substantial physical damage to property, damage
treatment facilities which causes them to become inoperable. Severe
damage does not mean economic loss caused by delays in production.

Toxic Pollutant--Means those pollutants, or combinations of pollutants, including disease-causing agents, which, after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Director, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunction (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring.

Upset--Means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee, excluding such factors as operational error, improperly designed or inadequate treatment facilities, or improper operation and maintenance or lack thereof.

Bypass--Means the intentional diversion of wastes from any portion of a treatment facility.

Waters of the State--Means all waters within the jurisdiction of this state including all streams, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the state.