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Permitting Procedures for Operation of Liquid Livestock Waste Handling Facilities

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AEU 64

Permitting Procedures for
Operation of Liquid Livestock Waste
Handling Facilities

J.L. Taraba and R.M. Williams

Owners and operators of livestock waste management facilities should be aware that livestock wastes have been identified as a source of pollutants in Kentucky streams. In order to protect these water sources a number of laws and regulations have been implemented to restrict the discharge of pollutants from point sources into the waters of the commonwealth. The Division of Water (DOW) is a division of the Kentucky Natural Resources and Environmental Protection Cabinet, Department for Environmental Protection and operates under authority set forth in the Federal Water Pollution Control Act and Kentucky Revised statute 224. The DOW is specifically charged with abating existing pollution, more specifically from KRS 224.70-110: "No person shall directly or indirectly throw, drain, run or otherwise discharge (pollutants) into the waters of the Commonwealth." The (KPDES)* program requires permits for the discharge of pollutants from point sources into the waters of the Commonwealth (401 KAR 5.029 defines surface waters). Administrative regulations written to enforce the state statutes tend to be written for industrial and municipal discharge of waste into streams.

Permitting procedures written to abate pollution from animal production facilities have also been established by the Division of Water and are specifically included under these permitting requirements (401 KAR 51060). Concentrated animal feeding operations (see criteria in attached, page 15a) are considered to be point sources of pollution. Non-point source agricultural activities are specifically excluded so long, they do not cause a violation of

- * Kentucky Pollution Discharge Elimination System
- ** National Pollution Discharge Elimination System.

stream quality standards (401 KAR 51:031); however, the director of the Division of Water may designate any animal feeding operation as a concentrated animal feeding operation upon determining that it is a significant contributor of pollution to the waters of the Commonwealth.

Operators of animal waste facilities may apply for a KPDES discharge permit; however, due to application fees, monitoring and testing costs as well as the monetary cost resulting from the loss of valuable plant nutrients, a no discharge system is likely to be the most cost effective. An NPDES** discharge permit may also be required if the discharge is into navigatable waters. Kentucky administrative regulations defines an agricultural waste handling system as a no discharge structure or equipment that conveys, stores or treats manure from a concentrated feeding operation prior to land application. The no discharge permitting procedures administered by the Division of Water assumes that the animal waste will eventually be distributed on the farm in a manner which does not result in pollution of area water sources. Sufficient land must be available for the disposal of both solid waste and excess waste water from the facilities in amounts that do not exceed agronomic values and do not contaminate surface or ground waters.

The U.S. Soil Conservation Service (SCS) is currently providing engineering design services for no discharge facilities at no cost to the farmer. This includes an animal manure disposal plan. Financial assistance is available through the U.S. Agricultural Stabilization and Conservation Service (ASCS). In order to be eligible for the financial assistance, the operation must be at least 5 years old and have no previous record of environmental citations. The farmer must also agree to a 10 year maintenance agreement. The local ASCS office can provide further details.

Obtaining the Permits

Permitting procedures for constructing and operating animal waste handling facilities have been established by the state Division of Water permit section. A copy of these procedures may be obtained from the DOW or the SCS. Sample permit applications and approval letters are included in the attachment. The permits are required of anyone who plans to construct or install a manure handling system for a confined feeding operation with or without the assistance of the SCS.

A landowner seeking an operators permit for a waste handling facility must first obtain preliminary site approval from the Division of Water district office. The inspector from the district office will conduct a site survey to determine acceptability of the site. The preliminary survey may reveal problem areas and could save considerable time and money. For example, sites located in a karst area may be unacceptable or require special restrictions. The next step is to obtain a design, and submit the design criteria to the DOW central office. After a review of the design criteria, the Division of Water will issue a construction permit which provides general and site specific conditions. Upon completion of construction, a copy of the as built plans must be sent to the DOW central office. As built plans show any changes to the original plan which may have occurred during construction, the DOW reviews these final plans and issues a no discharge operating permit which may include additional conditions and restrictions. The operating permit must be renewed after five years. Approximately two months prior to expiration of the operating permit, DOW will send a letter to the operator indicating the date of expiration. Permit renewal application forms will be included as attachments to the letter.

Existing manure handling facilities can receive an operating permit under existing permitting procedures; however, the facility should be operated as a no

discharge facility. An onsite inspection by the DOW may be required to determine if the facility could or should be operated under the permit program. In order to continue operating as a no discharge facility, an application for a permit to operate a waste water facility (short form B) and an application for a Kentucky No Discharge operational permit (Form ND) must be submitted to the DOW. If the facility design is acceptable, the DOW will issue an operating permit.

DIVISION OF WATER
ANIMAL WASTES HANDLING FACILITIES
PERMITTING PROCEDURES

- STEP 1. Landowner contacts Soil Conservation Service and submits "preliminary site approval" request form with site map (Page 2) to Division of Water District Office (Page 3).
- STEP 2. Division of Water District Office inspector conducts site survey and sends report to Division of Water Central Office.
- STEP 3. If site is acceptable, then Division of Water Central Office issues "preliminary approval letter" with recommendations (if any) (Page 4). Copy is also sent to appropriate Soil Conservation Service Area Office.
- STEP 4. Soil Conservation Area Office designs wastes handling facility and sends design criteria to Division of Water Central Office along with "Short Form B" (Page 5) signed by landowner.
- STEP 5. Division of Water Central Office issues construction permit with general and site specific conditions (Page 6). Copy is sent to Soil Conservation Service Area Office.
- STEP 6. Owner constructs/installs waste handling facility and Soil Conservation Service Area Office sends "as built" plans to Division of Water Central Office.
- STEP 7. Division of Water Central Office issues "no discharge" operational permit (Page 7) to Owner.

ANIMAL WASTE STRUCTURE CONSTRUCTION PERMIT

WHO MUST APPLY: Anyone who plans to CONSTRUCT or INSTALL a MANURE HANDLING SYSTEM for a CONFINED FEEDING operation.
(With or without the assistance of the Soil Conservation Service.)

MINIMUM REQUIREMENTS: Every system shall be designed to keep all manure and other wastes out of STREAMS and GROUNDWATER.
Excess accumulated wastes shall be applied to suitable farmland.

HOW TO APPLY: Complete the "Preliminary Site Approval" request form (on back) and send it to the Division of Water (DOW) office in your district.
(Contact your local SCS representative to determine which DOW district includes your county or call the Wastewater Section at (502) 564-3410.

PROCEDURES: -Within 2-3 weeks a DOW representative will conduct a site survey. If acceptable, a preliminary approval letter is issued, and the project is designed.

-Within 1-2 weeks after design work is completed, a permit to construct is issued.

MORE INFORMATION: *Division of Water - Doug Allgeier (502) 564-3410.

*Soil Conservation Service - local representative or central office at (606) 233-2754.

*County Extension Service (UK) - local representative or Joe Taraba (606) 258-5696.

**DIVISION OF WATER
APPLICATION FOR PRELIMINARY SITE APPROVAL**

(to be sent to the Division of Water District Office)

No Discharge

DATE: _____

Agricultural Projects

To be completed by confined animal production facilities

Please print or type.

1. Name and address of applicant

A. Legal name of applicant _____

B. Mailing address of applicant

1. Street, route, or P. O. Box No. _____

2. City or town _____

3. County _____

4. State _____ Zip Code _____

C. Telephone number _____

AREA
CODE

NUMBER

2. Description of proposed operation

A. Type of animal _____ Approximate number
of animals on site _____

B. Planned method of wastes storage _____
(holding pond, holding tank, stack pad, etc.)

C. Approximate number of acres available for land application of wastes _____

3. Attach a copy of the U.S. Geological Survey (USGS) Map which accurately locates the proposed facility and the land to be used for manure disposal. Be sure to identify which USGS Quad map was used.

ARL H. BRADLEY
SECRETARY



WALLACE G. WILKINSON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
18 REILLY ROAD
FRANKFORT, KENTUCKY 40601
January 22, 1991

Mr. Wayne Schlabach
6800 Old Railroad Lane
Guthrie, Kentucky 42234

Dear Mr. Schlabach:

We have considered your request to construct an agricultural waste treatment works to serve a dairy farm in Todd County.

We concur in this proposal as a no discharge system provided adequate land is available for land application of excess wastewater. Irrigation on adjacent land shall be a sufficiently low rate so as to avoid runoff to surface waters.

This letter does not approve the design details or capacity of the treatment system and does not authorize construction of these facilities.

If application for construction of the proposed facilities is not received within one (1) year from date above, this concurrence shall become null and void, and prior to further consideration, to allow for reassessment of the existing and proposed developments within the area, the proposal shall be resubmitted for review.

Final approval of this project will be subject to the rules and regulations set forth by this Cabinet for the submission of acceptable plans and specifications, as well as the necessary legal documents.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ronnie Thompson", followed by a horizontal line.

Ronnie Thompson, KPDES Permit Writer
Industrial Section
KPDES Branch
Division of Water

RT:bc

cc: Donnie E. Owen, SCS
Madisonville Regional Office
Todd County Health Department
Division of Water Files



SHORT FORM B - ANIMAL WASTES MANAGEMENT

SPECIFIC INSTRUCTIONS

WHO MUST APPLY:

The owner or operator of any facility as described below or any facility which the Director of the Division of Water considers to be a significant pollution problem. Final determination on the need for a permit will be based upon a review of the application and, in many instances, site visits.

ANIMAL PRODUCTION FACILITIES:

1. A facility that has or may have a discharge, providing a confined area for feeding or holding animals, but not including areas used for growing crops or vegetation for animal feed, which holds or during the previous 12 months held for a total of 30 days or more, any of the following animals:

- Slaughter & Feeder cattle
- Mature dairy cattle - milker and dry
- All swine over 55 pounds
- Sheep
- Turkeys - in open lots
- Ducks
- Laying hens and broilers
- Facilities with continuous overflow
- Facilities with liquid manure handling systems*

*Any system where the manure is collected, stored, or transported utilizing liquid manure conveyance by gravity flow or pumping system.

2. Owners or operators, whether individuals, partnerships, or corporations, with more than one confined animal production facility located on adjacent or nearby properties, where:
 - (A) Such facilities utilize a common waste control system or disposal area, and
 - (B) The total number of animals or combination of animals in the individual operations exceeds the above animal limits.
3. Voluntary filing. None of the above requirements preclude the voluntary filing of an NPDES application by the owner or operator of an agricultural or silvicultural activity.

INSTRUCTIONS FOR INDIVIDUAL ITEMS:

Section I - General

- Item 1. Internal Use Only.
- Item 2. Give the name, as it is legally referred to, of the person, firm, public organization, or any other entity which owns or is directly responsible for the facility or activity described in this application. This may or may not be the same name as

- the facility or activity producing the discharge. Do not use colloquial names as a substitute for the official name.
- Item 3. Give the complete mailing address of the applicant's main office. This often will not be the same address used to designate the location of the facility or activity.
 - Item 4. Give the name, title, address, and telephone number of a person who is thoroughly familiar with the facts reported on the forms and can be contacted by reviewing offices if necessary.
 - Item 5. Indicate whether the facility is existing (currently operating) or proposed (to be operating in the future).
 - Item 6. For an existing facility, give the date construction was completed for its current capacity. The expected completion date should be given if the facility is currently under construction or planned.
 - Item 7. Directions should use known landmarks and route numbers if possible.
 - Item 8. Self-explanatory.
 - Item 9. Self-explanatory.

SECTION II - Animal Confinement and Feeding Facilities

- Item 1. Give the largest number of each type of animal held by the facility for 30 days or more during the previous 12 months. If possible, use the same designations for the types of animals as was listed at the beginning of these instructions under "Who Must Apply".
- Item 2. Give only the area used for the animal confinement or feeding facility. Do not include area used for growing or preparing feed.
- Item 3. Give acres of land that are owned or leased by the facility for manure disposal.
- Item 4. Indicate in 4.A whether the animals are entirely in the open, totally under roof, or partially under roof. Indicate in 4.B the percentages of the lot that is roofed versus that which is open.
- Item 5. If the facility is planned to be expanded in the future, give the expected date for this expansion and the new total capacity by type and number of animals.

4. Applicant's Authorized Agent:

Name: _____ Title: _____

Agent Mailing Address: _____
(St. No./R.R. No./P.O. Box No.)

City/Town: _____ State: _____ Zip Code: _____

Telephone Number: _____
(w/area code)

5. Is this facility (check one) Existing Proposed?

6. Date facility was (or will be) constructed: _____ / _____
(month) (year)

7. Give directions to this facility from the nearest town:

8. Attach a sketch, aerial photograph, or map of the existing or proposed facility and/or activity, with the following information marked (a Soil Conservation Service aerial photograph, or a U.S. Geological Survey Map, of the area involved is preferred.)

- A. Approximate overall dimensions of the facility.
- B. Direction and location of surface drainage and other discharges from the facility.
- C. General location of waterways (e.g., streams, rivers, lakes) in the area.
- D.

9. I certify that I am familiar with the information contained in this application and that to the best of my knowledge and belief such information is true, complete and accurate.

Printed name of person signing

Title

Signature of applicant

Date application signed

II. ANIMAL CONFINEMENT AND FEEDING FACILITIES

1. Largest number of animals held by confinement or feeding facilities at any one time in the previous 12 months. Give type and number of animals.

Type of animal (include approx. live wt. per animal)	Number of Animals
_____	_____
_____	_____
_____	_____

2. Approximate area used for animal confinement or feeding _____ acres.

3. Approximate land available for manure disposal _____ acres.

4. A. Animals in this facility are (check one)

- 1. in open confinement
- 2. housed under roof
- 3. both

B. Percentage of lot under roof is _____%.

C. If there is open confinement, has a run-off and control system been constructed?

- 1. Yes
- 2. No

D. If there are any housed animals at this facility, is there a liquid manure handling system used for manure management?

- 1. Yes
- 2. No

If yes, is there a discharge to a waterway (e.g., stream, river, lake)?

- 1. Yes
- 2. No

5. Do you anticipate expansion of this facility in the future?

- A. Yes
- B. No

If yes, complete the following statements.

C. Date of future expansion _____ / _____

month

year

D. Type of Animals	Number of Animals
_____	_____
_____	_____
_____	_____

COMMENTS:

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER

TO: _____
ADDRESS: _____ Kentucky _____ 42624
(City) (State) (Zip Code)

Pursuant to your application submitted to this office on March 18, 19 91, together with engineering plans, specifications, and other supporting data, the Cabinet authorizes the issuance of this: (Reissuance of a November 21, 1989)

CONSTRUCTION PERMIT

Therefore, by authority of Kentucky Revised Statutes Chapter 224, etc., you are authorized to construct an animal wastes handling system at:

(Name of _____, Location, City)
Russell
(County)

In accordance with the plans, specifications, and other information submitted in your application. The permittee is also subject to the following conditions:

Dairy Cow Waste Holding Pond - (80 cow maximum)

1. The system shall be operated as a no stream discharge system.
2. Land shall be made available to spread excess wastewater should the lagoon reach the point of overflowing.
3. Diversion ditches shall be constructed around the lagoon to divert uncontaminated runoff water from entering the lagoon.

SEE ADDITIONAL CONDITIONS ON REVERSE SIDE


No deviation from the plans and specifications submitted with your application or the conditions specified herein is permitted, unless authorized in writing by the Division of Water. All rights of inspection by representatives of the Division of Water are reserved. Responsibility for satisfactory operation to prevent pollution of waters of the Commonwealth must be borne by the permittee.

Unless construction on the works specified herein is begun on or before the 19th day of _____ 19 _____, this Construction Permit shall be null and void.

Issued this _____ day of _____, 19 _____.

JAW:RT:mm

cc: Thomas K. Jones, SCS
Columbia Regional Office
Russell County Health Department
Division of Water Files



Jack A. Wilson, Director
Division of Water

ADDITIONAL CONDITIONS

4. Within 30 days of completion of the system, the engineer must certify, in writing, to the Division of Water/Permit Review Branch that the treatment plant and system have been constructed in accordance with the approved plans and specifications.
5. Within 30 days after receipt of the certification an inspection will be made by this Division and if the facilities are satisfactory, an operating/discharge permit will be issued. In the interim between completion and issuance of the operating/discharge permit, the facilities may be operated.
6. Vegetation around the lagoon shall be mowed periodically to provide insect and rodent control.
7. Fencing and/or other adequate protection shall be installed around the waste treatment facilities.
8. The attached sheet shall be used as a guideline for proper operation, maintenance, and management of the lagoon.
9. This permit has been issued under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet and other state, federal and local agencies.

AGRICULTURAL WASTES

HOLDING POND

Operation and Maintenance Recommendations

Proper operation and timely maintenance of this system will minimize pollution and extend its useful life. The following recommendations should be complied with:

1. Remove stored runoff as soon after each storm as conditions permit to restore the original capacity (at least 1 ft. of free board).
2. Every three (3) months, draw down pond to 4 ft. of free board.
3. Remove accumulated solids from the settling basin as often as conditions permit to restore its effectiveness.
4. Do not apply waste material on frozen ground or on snow.
5. Do not apply waste material immediately after a rain or within 12 hours of a forecasted rain
6. Do not apply liquid at a rate exceeding $\frac{1}{2}$ inch per hour.
7. Do not apply more liquid at one time than can be applied without producing runoff and never more than 3.0 inches.
8. Do not apply solid wastes from debris basin at a rate exceeding 10 tons per acre per year.
9. Disposal of waste that produces offensive odors must be made on areas and at times that will minimize the inconvenience to nearby residences.
10. As animal waste and associated runoff contain nitrogen, phosphorous, potassium, and organic matter, adequate soils testing should be performed to guide in the addition of supplemental commercial fertilizer and to prevent the application of these waste materials at a rate that may be toxic to plants or animals.



COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
18 REILLY ROAD
FRANKFORT, KENTUCKY 40601

March 18, 1991

Re: Issuance of State Operational Permit
No. 03021098, Pad and Pond
Barren County, Kentucky

Dear Mr. :

Enclosed is the Kentucky Operational Permit for your wastewater treatment facility. This permit is consistent with the federal requirements and is valid until it is modified, revoked or expires. Issuance of this permit is in accordance with the authority vested under KRS 224 and 401 KAR 5:005, 401 KAR 5:035 and 401 KAR 5:045.

Please note under item 1 of the enclosed permit that any direct discharge to a surface water is prohibited. Failure to comply with this requirement constitutes a violation of the permit and subjects the permittee to possible enforcement action pursuant to KRS 224.

In accordance with KRS 224.081(2), you have the right to request a hearing concerning this permit by filing a petition with the Natural Resources and Environmental Protection Cabinet.

If you have questions regarding this permit, please contact Ronnie Thompson, of my staff, at the above address or by calling (502) 564-3410, extension 423.

Sincerely,

A handwritten signature in black ink, appearing to read "Jack A. Wilson".

Jack A. Wilson, Director
Division of Water

JAW:RT:bc

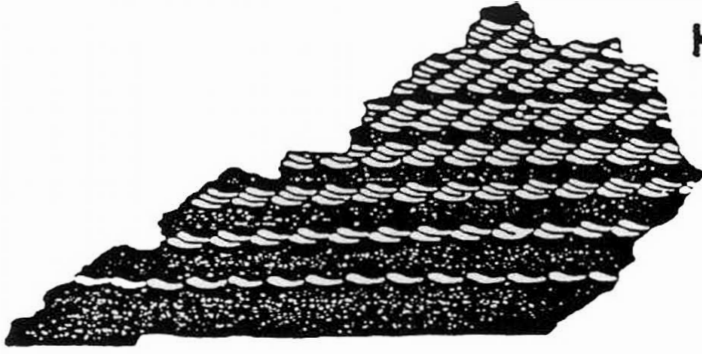
Enclosures

cc: Division of Water Files
Bowling Green Regional Office



KNDOP

**Kentucky No Discharge
Operational Permit**



PERMIT NO: 03021098

AUTHORIZATION TO OPERATE A NO DISCHARGE WASTE TREATMENT SYSTEM

PURSUANT TO AUTHORITY IN KRS 224

is authorized to operate a no discharge system for disposal of treated wastewater at

in accordance with all applicable provisions of said Statute and all rules and regulations hereto and hereafter issued by the Department.

SEE ADDITIONAL CONDITIONS ON REVERSE SIDE

This permit is issued for the period from March 18, 1991 to March 17, 1996.


Issued at Frankfort, Kentucky this the 18th day of March, 1991.

JAW:RT:bc

Enclosures

cc: Division of Water Files
Bowling Green Regional Office

BY:



Jack A. Wilson, Director
Division of Water



William C. Eddins
Commissioner

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
Division of Water, Frankfort Office Park, 18 Reilly Road, Frankfort, Kentucky 40601

Subject to the conditions herein and subject to the permittee fully complying with the requirements set out below:

1. This permit is limited to no discharge of wastewater from the facility.
2. This permit authorizes operation only of the treated works disposal system described in the permit in the manner and under the conditions described in the "application for permit", plans and specifications, and other data submitted by the permittee to obtain this permit.
3. This permit shall not be construed as authorizing any operation which is otherwise in contravention of any law, regulation, ordinance or order of any governmental unit.
4. This permit shall be subject at all times to revocation or modification by the Kentucky Natural Resources and Environmental Protection Cabinet as set forth in KRS 224. Commencement of a routine discharge would necessitate such a revocation and would require the issuance of a Kentucky Pollutant Discharge Elimination System permit.
5. Nothing herein shall be construed to authorize the creation or maintenance of a nuisance, or to relieve the permittee from any penalty for violation of any law or regulation.
6. Solid waste disposal areas shall be located and constructed in a manner that prevents the washing or floating of waste into the public waters.
7. This permit has been issued under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet and other state, federal and local agencies.
8. When waste materials are removed from the settling basin they shall be disposed of via land application.
9. The land application shall be of a sufficiently low rate as to prevent any runoff to the stream.
10. Facility is designed for a maximum of 50 dairy cows.

**KENTUCKY NO DISCHARGE OPERATIONAL PERMIT
FORM ND - INSTRUCTIONS**

Listed below are explanations of select Form ND questions. If further information is needed concerning any question, please contact the Division of Water.

I. Facility Contact Information

- A. Use the official or legal name.
- B. The information given as the primary mailing address will be used to produce mailing labels for correspondence to the facility.

II. Facility Description

- A. Briefly describe the nature of the business and the activities being conducted that require a Kentucky No Discharge Operational Permit (KNDOP).
- B. The SIC codes are numbers and descriptions of activities classified by the Executive Office of the President, Office of Management and Budget. These are found in the 1972 Edition of the Standard Industrial Classification Manual. List the SIC code(s) that best describe the products or services provided by the facility in descending order of importance.

III. Facility Location

- A. Attach an unreduced original or reproduction of a 7½ minute U.S.G.S. Topographic Map (minimum size 8 1/2" x 11") with Quad name and extending at least one mile beyond the property boundary. Depict or mark the facility and its intake structure, treatment system and disposal area. Also mark the locations of those wells, springs, surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant within one-quarter mile of the facility property boundary.

V. Flows, Sources of Pollution, and Treatment Technologies

For each source of wastewater provide: (1) a description of all operations contributing the wastewater, including sanitary wastewater and storm runoff; (2) the average and design flows contributed by each operation; and (3) the treatment received by the wastewater.

Operations may be described in general terms for storm water. You may use any reasonable measure of duration, volume, or frequency. For each treatment unit, indicate its size, flow rate, and retention time, and describe the ultimate disposal of any solid or liquid wastes. Treatment units should be listed in order of occurrence.

If you are applying for a permit for a privately-owned treatment works, you must also identify all of your contributors in an attached listing.

VI. Basis Of Design for Sizing the Wastewater Treatment Facility

Examples of basis of design for sizing wastewater treatment facilities are number of people served, number of homes, number of students, number of square feet of floor space, etc.

VIII. Certification

The permit application shall be signed as follows:

- 1. Corporation: by a principal executive officer of at least the level of vice-president.
- 2. Partnership or sole proprietorship: by a general partner or the proprietor respectively.
- 3. Municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.