Northeast Colorado Health Department
Regulations
For
Domestic Septage

ADOPTED APRIL 27, 1994
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Effective: July 1, 2007

Regulations
of the
Northeast Colorado Health Department (NCHD)
for Domestic Septage

Section 1: **Title & Policy**

The Northeast Colorado Health Department (NCHD) declares that the purpose of this regulation is to preserve the environment and protect public health; to eliminate and control the causes of disease and infection, and to reduce and control the pollution of air, land and water. It is declared to be in the public interest to establish minimum standards, rules and regulations for domestic septage in the jurisdiction of NCHD and to provide the authority for the administration and enforcement of such minimum standards, rules, and regulations. These rules are designed to control land application of domestic septage by the systems cleaners and pumpers of septage, those that haul domestic septage, and those that apply domestic septage to the land. The Board of Health further declares that any violation of these regulations is a class 3 Public Nuisance under 16-13-305 CRS 1973.

Section 2: **Definitions** The following definitions shall apply in the interpretation and enforcement of this Regulation. The word "shall" as used herein indicates a mandatory requirement.

2.1 **Agronomic Rate**: Agronomic rate means the rate of application of nitrogen to plants that is necessary to satisfy the plants' nutritional requirements, accounting for any applicable nitrogen credits, as published in the most current guidance by the Colorado State University Cooperative Extension, and such that the amount nitrogen which passes below the root zone of the crop to groundwater is minimized.

2.2 **Beneficial Use**: the land application of domestic septage to improve the properties of the soil.

2.3 **Board of Health**: the Northeast Colorado Board of Health as designated by the County Commissioners of Logan, Morgan, Phillips, Sedgwick, Washington, and Yuma Counties.

2.4 **Business**: A commercial or industrial enterprise that is conducting business.

2.5 **CDPHE**: Colorado Department of Public Health and Environment (State Health Department)

2.6 **Commercial Septage**: means non-toxic, non-hazardous wastewater from commercial facilities which is usually similar in composition to domestic

wastewater, but which may occasionally have one or more of its constituents exceed typical domestic ranges. Included in this definition are wastewater's from commercial and institutional food service operations, commercial laundry facilities with no more than four washing machines, animal holding facilities (such as kennels, veterinary hospitals, and animal grooming facilities), and beauty salons, provided that toxic, hazardous, or industrial wastes are not introduced into the system. Grease trap waste from a restaurant is classified as commercial septage.

2.7 **Cover Crop**: Crop grown for ground cover to prevent water runoff.

2.8 **Department**: The Northeast Colorado Health Department (NCHD)

2.9 **Domestic Septage**: as the liquid or solid material removed from a septic tank, cesspool, portable toilet, type III marine sanitation device, or a similar system that receives only domestic septage(Household, Non-Commercial, Non Industrial Sewage). Domestic septage generally includes wastes derived from the toilet, bath and shower, sink, garbage disposal, dishwasher, and washing machine. Domestic septage may include household septage as well as septage from establishments such as schools, restaurants, and motels as long as this septage does not contain other types of waste.

2.10 **Environmental Health Specialist (Representative)**: a person who is trained in physical, biological, and sanitary science to carry out inspections and educational duties in the field of environmental health.

2.11 **Feed Crop**: Crops produced primarily for consumption of animals.

2.12 **Fiber Crop**: A crop that is produced for non food material.

2.13 **Food Crop**: Crops consumed by humans.

2.14 **Floodplain**: Lowland areas adjacent to stream that are inundated by a one hundred (100) year storm event, and is so adverse to past, current or foreseeable construction or land use as to constitute a significant hazard to public or environmental health and safety, hazard to property, or is designated by the Federal Emergency Management Agency (FEMA) or National Flood Insurance Program (NFIP). In the absence of FEMA/NFIP maps, a Colorado Registered Professional Engineer shall certify the flood plain elevations.

2.15 **Groundwater Table**: the upper surface of ground water in the zone of saturation of a geologic formation.

2.16 **Health Officer**: the Public Health Administrator or his/her designated representative of the Northeast Colorado Health Department.

2.17 **High Potential for Public Exposure**: means land that the public uses frequently including, but not limited to, disturbed land when such land is located in heavily populated area (e.g. a construction site located within a city), public parks, ball fields, cemeteries, retail plant nurseries, golf courses, or turf farms. Land with high potential for public access does not include land on which public access is controlled by fencing, signage, or other means regardless of the location of such land.

2.18 **Holding Tank**: a water-tight receptacle for the retention of sewage before, during, or after treatment.

2.19 **Immediate Incorporation**: the mixing of domestic septage with topsoil by injecting, disking, mold board plowing, chisel plowing, or rototilling to a minimum depth of six inches with six hours of land application.

2.20 **Onsite Wastewater Treatment System**: and the term "System" (OWS) where the context so indicates - an absorption system of any size or flow or a system or facility for collecting, storing, treating, neutralizing, stabilizing, or disposing of sewage which is not a part of or connected to a sewage treatment works. Formally know as an Individual Sewage Disposal System (ISDS).

2.21 **Industrial Septage**: means process and non-process wastewater from manufacturing, commercial, mining, and silvicultural facilities or activities, including the runoff and leachate from areas that receive pollutants associated with industrial or commercial storage, handling or processing, and all other wastewater not otherwise defined as domestic wastewater.

2.22 **Land Application Site**: the land or acreage that is used for the application of domestic septage.

2.23 **Licensed OWS Cleaner**: a person engaged in and holds himself out as a specialist in the cleaning and pumping of septic tanks, vaults, waste holding tanks, and similar structures. This includes removal of the residues deposited in the operation thereof as well as the land application of the said waste. After meeting requirements set forth by the Department, the Licensed OWS cleaner has received a license from the Department to engage in the above actions within the boundaries of the Department's jurisdiction.

2.24 **Lime Stabilization**: use of hydrated lime or quicklime to raise the pH of the septage to 12 for 30 minutes or more. NOTE: The use of these products can be potentially hazardous, especially quicklime, observe all safety precautions, such as the use of rubber gloves, a respirator to exclude dust, protective eyewear, and clothing to keep moist skin from contacting the dry lime product. Please consult the manufacturer of the product to ensure all safety requirements are being meet.

2.25 **Litter Free**: the absence of non-biodegradable material in the domestic septage.

2.26 **Low Potential for Public Exposure**: means sites subject to infrequent public use including, but not limited to, agricultural land, forest, or disturbed land located in a sparsely populated area.

2.27 **Operator of Record**: any person who operates a land application site subject to these rules and regulations.

2.28 **Owner of Record**: Any person, who alone or in conjunction with others, owns the property upon which a land application site is located, is subject to these rules and regulations.

2.29 **Pathogen**: a specific cause of disease (as a bacterium or virus).

2.30 **Pathogen Reduction**: the use of lime stabilization, immediate incorporation, subsurface injection to reduce pathogens and their exposure to vectors. A benefit of pathogen reduction is decreased detection of objectionable odors.

2.31 **Recreational area**: A public area, open to the public, for recreation purposes. (i.e. a baseball field or a playground park)

2.32 **Residence**: any building used as a home and is occupied.

2.33 **Saturated Land**: land where the soil space is filled with water.

2.34 **Septic Tank**: a water tight, accessible, covered receptacle designed and constructed to receive sewage from a building sewer, to settle solids from the liquid, to digest organic matter and store digested solids through a period of retention and allow the clarified liquids to discharge to other treatment units for final disposal.

2.35 **Sewage Treatment Works**: a system or facility for treating, neutralizing, and stabilizing of sewage. It has a design capacity to receive more than 2,000 gallons of sewage per day, the disposal of which is by means other than a subsurface absorption system. The term "sewage treatment works" includes appurtenances such as interceptor, collection lines, outfall and outlet sewers, pumping stations, and related equipment.

2.36 **Streambed**: the channel occupied, formerly, or intermittently occupied by a stream of water.

2.37 **Subsurface Injection**: injection of biosolids or domestic septage beneath the soil surface to a minimum depth of 6 inches and maximum of 12 inches.

2.38 **Suitable Soil**: a soil which will effectively treat and filter effluent by removing organisms and suspended solids before the effluent reaches any highly permeable earth such as joints in bedrock, gravel, or very coarse soils and has a vertical thickness of at least four feet.

2.39 **System Cleaner**: sometimes referred to as a "pumper"- a person engaged in and who holds himself out as a specialist in the cleaning and pumping of onsite wastewater treatment system and removal of the residues deposited in the operation thereof. A system cleaner shall be licensed by the NCHD.

2.40 **Type III Marine Sanitation Device**: is the name given to a holding tank for receiving sanitation wastes on a boat or other water going vessel. Note: The nitrogen content of such pumpings may be higher than other domestic sewage.

2.41 **Vault**: a water tight, covered receptacle which is designed to receive and store sewage and is accessible for the periodic removal of its contents.

2.42 **Vector**: an agent capable of transmitting a pathogen from one organism to another either mechanically as a carrier or biologically by playing a specific role in the life cycle of the pathogen. Common vectors are rodents, insects, and birds.

2.43 **Vector Reduction**: the use of lime stabilization, immediate incorporation, subsurface injection to reduce pathogens and their exposure to vectors. A benefit of vector reduction is decreased detection of objectionable odors.

2.44 **Water Quality Control Commission**: the Commission created by 25-8-201, CRS 1973 as amended 1984.

2.45 **Waters of the State**: means any and all surface and subsurface waters which are contained in or flow in or through Colorado, except waters in sewage systems, water in treatment works or disposal systems, waters in potable water distribution system, and all water withdrawn for use until use and treatment have been completed. State waters do not include runoff from drainages which are cultivated as a routine farming practice or from rangeland which supports a permanent vegetative cover before the runoff enters a permanent or intermittent surface body or ground water.

2.46 **Waiver**: the act of waiving or intentionally relinquishing or abandoning a known right, claim, or privilege.

Section 3: Enforcement & Administration

3.1 **Inspection and Right of Entry**: pursuant to 25-1-506, CRS 1973, as amended, for the purpose of inspections and enforcement of applicable rules, regulations and the terms and conditions of any permit issued, the Health Officer or his designated agent is authorized to enter upon private property for the purpose of determining whether or not the regulations for domestic septage land application by owners and operators are functioning in compliance. The owner or operator of the land application site shall permit the Health Officer or his/her designated agent access to the property to

make inspections. If access is denied, the Health Officer or his/her designated agent may apply to the District Court for an order authorizing entry.

3.2 **Severability**: Each provision of these regulations is severable and intended to be independently valid. A determination that any provision of these regulations is invalid shall not operate to invalidate the remainder of the regulation.

3.3 **Variance on Appeal**: Upon finding that strict enforcement of the technical requirements of these regulations would cause undue hardship, and further finding that a variance would not be injurious to public health, the Health Officer, in agreement with the CDPHE, may authorize the issuance of a variance. The burden of proof is upon the applicant to show that undue hardship exists; the variance will not injure adjacent properties, will not conflict with the purpose of these regulations and will not adversely affect the health of any person. Upon a written request and satisfactory justification by the applicant, a variance to the administrative requirements of these regulations may be granted by the Health Officer.

3.4 **Effective Date**: The effective date shall be July 1, 2007.

Section 4: General Provisions for the Land Application of Domestic Septage

It is the intent of the NCHD to be in the public interest to establish minimum guidelines for the disposal of Domestic Septage. The NCHD further declares the purpose of these guidelines is to preserve the environment and protect public health; to eliminate and control the causes of disease, infections, and aerosol contamination; and to reduce and control the pollution of the air, land, and water.

4.1 Domestic Septage License or Licensed Onsite Wastewater Treatment System Cleaner: A single license to pump, transport, and dispose of domestic septage will be required by NCHD. A fee and application for this license will be required. The application will require the potential licensee to provide information concerning the domestic septage operation. The license will have an annual renewal that will occur on or around the first of January of the New Year. Failure to comply with any part of these domestic septage regulations may be grounds for revocation, fines and penalties, suspension, and or denial of the Domestic Septage License.

4.2 General Regulations for Domestic Septage:

A. Only domestic septage originating within the jurisdiction of the NCHD can be disposed of within the NCHD jurisdiction.

B. Wherever and whenever possible, domestic septage shall be disposed of in a municipal sewage treatment collection system by agreement and approval of the Plant Manager or responsible party. All applicable State and Federal laws of the municipal sewage treatment facility shall apply to the domestic septage hauler, or;

C. By disposal at a site designated and recommended by the Board of Health this site will meet all local, state and federal regulation for domestic septage disposal, or;

D. Domestic Septage can be placed in a landfill or other surface disposal site, the Manager of the landfill or responsible party shall give agreement and approval of this arrangement. All applicable State and Federal Rules must be followed, or;

E. Domestic Septage can be incinerated. The rules of the Incinerator Manager or responsible party shall apply. As well as all applicable State and Federal Rules must be followed, or;

F. The hauling or transporting of domestic septage must be done in such a way to minimize spills and leakage. A water tight tank to haul the domestic septage shall be in good repair. All hoses and other apparatus used for the pumping and disposal of domestic septage shall be in good repair and well maintained. Any spill or leakage that would occur on a county road, Colorado State Highway, or Interstate Highway within the jurisdiction of NCHD shall be reported to the Northeast Colorado Health Department within twenty four hours of the spill.

G. Any vehicle used in the hauling, transport, or disposal of domestic septage shall be marked with the trade name of the business on the door of the vehicle or the tank. The vehicle used in the hauling, transport, or disposal of domestic septage will also have the word “septage” or “septic” on the door of the vehicle or the tank.

H. By land application if applied in compliance with all of the following requirements of section 4.3 of this regulation.

4.3 General Land Application Requirements for Domestic Septage:

A. The operator must assure that he/she only has domestic septage as defined in 2.11 of this regulation. If only a fraction of the domestic septage has other septage such as commercial or industrial septage then land application in the manner described below is not allowed.

Grease trap waste and waste from car wash traps are defined as Commercial Waste in and regulated under the Colorado Department of Public Health and Environment Hazardous Material and Waste Management Division 6 CCR 1007-2, Part 1 State Board of Health Regulation Pertaining to Solid Waste Sites and Facilities. Disposal of grease trap waste and waste from car wash traps are not allowed or approved in the manner described below.

B. No domestic septage shall be land applied by the operator (these restrictions apply regardless of whether you use treatment option 4.8-A-1 or 4.8-A-2):

Without the written consent of the property owner, domestic septage can not be applied by the operator until the landowner is provided with a copy of the NCHD

Regulations for Domestic Septage and the operator must provide the landowner with a NCHD agreement (see **Appendix VII**) for a copy of the agreement) for which the land owner must sign, stating he will abide by the policies set forth in the NCHD Regulations for Domestic Septage. After the operator has received the owner's signature, land application of domestic septage can begin.

Table 1
Minimum Setback Distance in Feet between Domestic Septage Application Sites and Pertinent Ground Features

Residence, Business, or Recreation Area	**500 ft**
Property Boundary or Road Right of Way	**50 ft**
Community Supply Wellhead/ Any other Wellhead	**1500ft/300 ft**
Surface Water diverted for use in a public water system	**1 Mile**
High Ground Water Mark	**5ft**
Waters of the State (Including Lakes, Rivers, Streams, Irrigation Ditches, Irrigation Laterals, and Intermittent Streams	**300ft**
Dry Stream Bed	**50ft**
On Slopes	**Less than 6% Slope**

4.4 Setback Requirements for Land Application of Domestic Septage:

Please see **Table 1** for a quick reference of setback requirements.

A. Domestic septage shall not be applied within a minimum of 500 feet of any residence, business, or recreational area;

B. Domestic septage shall not be applied within 50 feet of a property boundary or road right of way;

C. Domestic septage shall not be applied to land within a municipality or within one half mile of its borders; however, a person owning land within one half mile of the municipality border may apply domestic septage to this land if the domestic septage originates at this location and it does not create a nuisance and all other provisions of this regulation or met;

D. Domestic Septage shall not be applied within 1500 feet of a community supply well;

E. Domestic septage shall not be applied within 300 feet of any other wellhead;

F. Domestic septage shall not be applied on land located up gradient, and within 1 mile of the point at which surface waters are diverted for use in a public water system;

G. Domestic septage shall not be applied on land that has a high groundwater mark 5 feet from the soil surface (also see 4.8-1-B-j);

H. Domestic septage shall not be applied on land within 300 feet of waters of the state;

I. Domestic septage shall not be applied on land within 50 feet of a dry streambed;

J. Domestic septage shall not be applied with the boundaries of a 100 year flood plain.

4.5 Soil Testing and Agronomic Rate Requirements for Land Application of Domestic Septage

A. A land application site is defined as 1 to 160 acres of contiguous land. Any acreage over 160 acres would be considered a separate land application site.

B. If the land application site is applying less than 10,000 gallons of domestic septage per acre during a calendar year (January to December) no testing is required.

C. If the land application site is applying more than 10,000 gallons of domestic septage per acre during a calendar year (January to December) annual soil sampling could be required by NCHD. If required, soil samples will be taken prior to application, if possible, or after the completion of the cropping cycle, i.e., after harvest, but prior to any additional applications of domestic septage. NCHD will determine if a soil sample is needed and will be dependent on a site's crop history, domestic septage application history, other types of applications to the site, and possible other environmental and public health factors.

1. Soil samples shall be analyzed for pH, plant available nitrogen, and phosphorus.

2. Soil samples will be taken by an approved third party.

3. Samples will be taken in or around the same location annually by the use of GPS device.

4. Soil samples shall be taken at a minimum depth of one foot.

5. Results from the soil samples will be made available to NCHD within 30 days of completion of the soil test.

6. The land owner or the domestic septage licensee is responsible for the cost of the soil sample.

Number of Acres in Land Application Site	Number of Soil Samples Required
1-160	**1**
160-320	**2**
320-480	**3**
480-640	**4**

D. If the land application site is applying more than 10,000 gallons of domestic septage per acre agronomic rate shall be calculated for the crop that is to be grown. (see **Appendix V**)

E. No domestic septage shall be applied to a land application site that has exceeded the agronomic rate for that particular crop's growing season.

4.6 Runoff Prevention Requirements for Land Application of Domestic Septage

A. Domestic septage shall not be applied to land with slopes of greater than 6%.

B. Domestic septage shall be applied in such a way to eliminate ponding of the septage on the soil surface, overloading a portion of the field with nutrients, or be allowed to collect in a low area or road ditches and create a nuisance condition.

C. Domestic septage shall not be applied to land that will be irrigated within 24 hours after domestic septage application has taken place.

D. The domestic septage shall not be applied to land that has frozen top soil unless all of the following requirements are met;

   1. The vector and pathogen reduction and control requirement found in section 4.8.2 is used (pH raised to 12 for 30 minutes);

   2. The slope of the land is not greater than 3%;

   3. 100 feet of additional setback distance is required of all setbacks found in section 4.4 of this regulation except 4.4 (F);

   4. There is 80% vegetative ground cover.

E. Domestic septage shall not be applied to land during precipitation producing events that would create a water runoff situation or when incorporation or direct injection are not physically possible due to highly saturated soil.

4.7 Nuisance and Injury Prevention Requirements for Land Application of Domestic Septage

A. Domestic septage that has trash or debris shall not be applied to land. All foreign and non-organic objects must be screened from the domestic septage prior to land application.

B. Domestic septage shall not be applied to land from a septic tank or similar structure that is know to or has evidence of containing hazardous waste from a methamphetamine (meth) laboratories (lab) (please see **Appendix III** for more guidance information).

C. Domestic septage shall not be applied directly to edible portions of any fruits or vegetables.

D. If all aspects of the above regulations have been complied with and application of the domestic septage cause a credible and documented public nuisance, further application on the site in question will not be allowed.

4.8 Pathogen and Vector Reduction and Control Requirements for Land Application of Domestic Septage

A. The operator shall manage the domestic septage so that pathogens and vectors are reduced. Prior to incorporation of the domestic septage into the soil, the operator of the domestic septage license shall demonstrate conformance with the United States Environmental Protection Agency 40 CFR Part 503 Rule for land application of domestic septage to non public contact sites and with the following operation standards. The operator has the following options:

1. Non-treatment of the pumped domestic septage before land application. If this option is used the operator must either directly inject the domestic septage into the soil or by plowing or disking within six hours after application. The operator must also assure that the owner follows the crop harvesting, animal grazing, and site access restrictions.

Or

2. Adjust the pH of the domestic septage so that it remains at a pH of 12 or greater for at least 30 minutes before land application. Note: The use of these products can be potentially hazardous, especially quicklime, observe that all safety precautions, such as the use of rubber gloves, a respirator to exclude dust, and protective eyewear, and clothing to keep moist skin from contacting the dry lime product. Please consult the manufacturer of the product to ensure all safety requirements are being met. The operator must also assure that the landowner follows all crop harvesting restrictions. Please see **Appendix I** for more information.

B. The owner of the land application site where domestic septage has been applied shall adhere to the following crop harvesting, grazing restrictions, and public access restrictions. (Please see **Appendix II** for a list of crops and their categories.)

1. If option 4.8-A-1 is used (non-treatment of the domestic septage) the following restrictions apply:

    a. If an animal feed crop is being grown a minimum wait of 30 days after application of the domestic septage is required before the crop may be harvested.

    b. If a fiber crop is grown a minimum wait of 30 days after application of the domestic septage is required before the crop may be harvested.

c. If a food crop that usually does not come in contact with the surface of the soil a minimum wait of 30 days after application of domestic septage is required before the crop may be harvested.

d. If a food crop is grown that touches the surface of the soil a minimum wait of 14 months after application of the domestic septage is required before that food crop is harvested.

e. If a food crop is grown below the surface of the soil a minimum wait of 38 months after application of domestic septage is required before that food crop is harvested.

f. A minimum wait of 30 days after application of domestic septage is required before letting animals graze the pasture.

g. Only a land application site with a low potential for public exposure as defined in 2.27 of this regulation can be used with this non-treatment method.

h. Public access to the land application site must be restricted for 30 days after the application of the domestic septage. Restricted access can be accomplished by the remoteness of the site, posting with "no trespassing" signs, and simple fencing.

i. When incorporation or directly injecting the domestic septage into the soil the operator must ensure that the depth of injection or incorporation does not come closer than 5 feet to the groundwater table.

2. If 4.8-A-2 is used (management of domestic septage by pH adjustment) the following restrictions apply:

a. If an animal feed crop is being grown a minimum wait of 30 days after application of the domestic septage is required before the crop may be harvested.

b. If a fiber crop is grown a minimum wait of 30days after application of the domestic septage is required before the crop may be harvested

c. If a food crop that usually does not come in contact with the surface of the soil a minimum wait of 30 days after application of the domestic septage is required before the crop may be harvested.

d. If a food crop is grown that touches the surface of the soil a minimum wait of 14 months after application of the domestic septage is required before the crop may be harvested.

e. If a food crop that is grown below the surface of the soil a minimum wait of 20 or 38 months after application of the domestic septage is required before the crop may be harvested. The shorter period of time is permitted only if the lime-treated domestic septage remained on the surface of the soil greater than 4 months before being incorporated.

f. There are no animal grazing restrictions when the pH of the domestic septage was raised to 12 for a minimum of 30 minutes.

g. There are no public access restrictions where the pH of the domestic septage was raised to a 12 for a minimum of 30 minutes.

4.9 Record Keeping Requirements for Domestic Septage

A. Record keeping is required on all domestic septage that is removed or pumped from a holding tank, septic tank, vault, portable toilet, or similar structure. The operator (pumper) who removes or pumps domestic septage shall develop the following information (records) found in 4.9-C-1 thru 12 and shall retain the information (records) for a period of five years. At the end of each calendar quarter (January, April, July, and October) an operator (pumper) shall submit a copy of the records to the NCHD office that is located within the county that the removal or pumping of domestic septage occurred.

B. Unsatisfactory reporting of these records may be grounds for revocation, suspension, fines and penalties, or denial of license.

C. The following information will be included in the reporting (see **Appendix IV** for a copy of a reporting form)

1. Date

2. Owners name and address of septic tank being pumped. If something other than a septic tank is to be pumped please include a brief description (i.e. portable toilet)

3. Amount of septage in gallons removed or pumped.

4. Legal owner and location of the disposal site by either address or latitude/longitude.

5. Number of acres in disposal site.

6. Date and time septage is applied to the disposal site.

7. The nitrogen requirement for the crop or vegetation grown on each site during a 365-day period.

8. The rate, in gallons per acre per 365-day period, at which domestic septage is applied at each site.

9. pH raised to 12 or higher for 30 minutes or longer (Yes or No).

10. Injected or incorporated into the soil within 6 hours. (Yes or No).

11. Domestic septage taken to a municipal sewage plant (Yes or No).

12. The following certification statement:
"I certify", under penalty of law, that the pathogen requirements and the vector attraction reduction requirements by the use of the method of [i*nsert either 4.8-A-1 or 2]* have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification, including the possibility of fine and imprisonment."

Section 5: Inspections

5.1 Frequency: A yearly inspection of the overall operation of the domestic septage licensee shall be conducted by a Northeast Colorado Health Department Environmental Health Representative. The inspection will observe the operation from pumping, transport, and the disposal method used for the domestic septage. If multiple trucks are used in the operation those additional trucks may also be observed during the inspection. The yearly inspection will also review the record keeping of the operation.

5.2 Forms: See **Appendix VI** for a copy of the inspection form.

5.3 Procedure: The inspections will be done using the check list found on the inspection form. A written copy of the inspection will be left with the operation or mailed to the operation within 10 business days. A correct by date will be given upon finding violations of the Northeast Colorado Health Department Regulation of Domestic Septage. A correct by date shall not exceed 6 months and shall not be less than 30 days. This will be determined by the severity of the violation.

5.4 Re-inspections: Re-inspections of the operation shall be required when violations of the Northeast Colorado Department Regulations of Domestic Septage have been found. Re-inspections shall occur within a minimum of 30 days or a maximum of 6 months after the previous inspection. The need for a re-inspection will be determined by the severity of the violation of the domestic septage regulation. If at the time of the re-inspection the operation is still in violation of the regulation the operation will be subject to penalties and fines. Penalties and fines are outlined in Section 6 of this regulation.

Section 6: Penalties and Fines

Every effort will be made by the Northeast Colorado Health Department to provide assistance for compliance with the septage regulations. The enforcement of these penalties and fines will be at the discretion of the Northeast Colorado Health Department and the Northeast Colorado Board of Health.

Note: Examples of violations include but are not limited to: inadequate pH level, inadequate screening and removal of debris before land application, inadequate records, ignoring a "cease and desist" order, illegal dumping, land application of substances other than domestic septage, land application in unapproved areas, failure to secure appropriated domestic septage license, and land application that violates setback requirements.

Colorado Revised Statute 25-10-113 (2) states upon a finding by the local board of health that a person is in violation of the provisions of this article or the rules adopted and promulgated pursuant to this article, the local board of health may assess a penalty of up to fifty dollars for each day of violation. In determining the amount of the penalty to be assessed, the local board of health shall consider the seriousness of the danger to the health of the public caused by the violation, the duration of the violation, and whether the person has previously been determined to have committed a similar violation.

A revocation of the domestic septage license for violations of the domestic septage regulation is at the discretion of the Northeast Colorado Health Department and or the Northeast Colorado Board of Health.

Section 7: Regulation Review

This regulation shall be reviewed every 3 years by the Northeast Colorado Health Department or more often when deemed necessary by the Northeast Colorado Health Department or the Northeast Colorado Board of Health, to ensure the regulation is accomplishing the preservation of the environment and protection of the public health in Northeast Colorado. When necessary after the review this regulation shall be amended by the Northeast Colorado Board of Health.

Appendix I
Lime Stabilization

The following is taken from US EPA 1993 A Guide to the Federal Rule for Land Application of Domestic Septage to Non-Public Contact Sites.

Some pumpers have indicated their reluctance to raise, with the use of lime the pH in the septic tank. According to an EPA guidance document that this is caused by an unfounded concern that the raised pH within the septic tank could possibly disrupt the biological treatment that occurs, but in reality only minimal temporary disruptions of the biological treatment occur.

The materials that are most commonly used by domestic septage pumpers and haulers to raise the pH of domestic septage are hydrated lime and quicklime. Typically, it will require 20 to 40 pounds of lime per 1000 gallons of domestic septage to raise the pH to 12 or greater for a minimum of 30 minutes, but testing will be needed for your operation to see what level of lime will be needed. This can be done by drawing it into the tank as the septic tank is being pumped or by poring it directly into the tank of the pumper truck. Also it has been reported that some pumpers and haulers use a mixing rod to thoroughly mix the product into the domestic septage. There are other alkaline materials that may be used for raising the pH of the domestic septage. Some of these other materials might contain other pollutants such as heavy metals that may not be suitable for use with domestic septage for land application.

Once the alkaline has been added to domestic septage you should not assume that the product will adequately increase the pH of the domestic septage. The pH must be tested over a representative sample. Two separate samples should be taken 30 minutes apart, and both samples must test at a pH of 12 or greater. If the pH of either sample does not reach 12 more lime should be added and mixed together. After mixing the additional lime, the domestic septage must be at 12 or greater for a full 30 minutes in order to meet the pH requirement.

The pH of domestic septage sample can be tested using either a pH meter or pH sensitive colored paper.

The use of these products requires some care and safety make sure to follow all of the minimum safety requirements. If you are unsure of anything discussed in this appendix you should consult the manufacture to ensure that proper safety protocols are followed concerning the use of these products. These products, especially quicklime can cause bad burns if it gets onto moist skin or into eyes. Appropriate safety precautions include the use of rubberized gloves a respirator to exclude dust and protective eyewear and clothing to keep moist skin from contacting the quicklime product. In addition, a fire could start if a bag of quicklime gets wet and sits around. Any fire involving quicklime must be put out using a carbon dioxide (C-02) extinguisher, not water. Water sprayed onto such a fire would only react with the quicklime and release more heat.

Appendix II
Crop Categories

This list is not meant to be all inclusive; just a reference.

Harvested Crop with parts which:

Usually do not Touch the Ground	**Usually touch the ground**	**Are Below the ground**
Peaches	Melons	Potatoes
Apples	Eggplant	Yams
Corn	Squash	Sweet Potatoes
Wheat	Tomatoes	Rutabaga
Oats	Cucumbers	Peanuts
Barley	Celery	Onions
Oranges	Strawberries	Leaks
Grapefruit	Cabbage	Radishes
Cotton	Lettuce	Turnips
Soybeans	Hay	Beets

Appendix III
Methamphetamine Laboratories
&
Septic Tanks

On March 30, 2005 the Colorado State Board of Health and the Colorado Department of Public Health and Environment adopted 6CCR 1014-3 Regulations Pertaining to the Cleanup of Methamphetamine Laboratories. These regulations cover Individual Sewage Disposal Systems (ISDS). Evidence of methamphetamine lab wastes disposal into an ISDS includes but is not limited to, the following:

1. Witness statements;

2. Stained or etched sinks, bathtub, toilets;

3. Chemical odors coming from the ISDS plumbing or tank; or

4. Visual observations of unusual conditions within the septic tank such as a "dead tank" or stressed or dead vegetation in a drain field.

If these or any other signs of evidence of a methamphetamine lab; the following would need to occur: notification of local law enforcement, testing of the septic contents would be required by the proper entities, and septic tank disposal, if test results confirm the presence of methamphetamine residues, would fall under Colorado Hazardous Waste Regulations (6 CCR 1007-3).

Some of the most common types of methamphetamine lab wastes that might be expected in an ISDS include:

1. Solvents (E.G., Toluene, Xylene, Alcohol, Acetone);

2. Petroleum Distillates (E.G., Paint Thinner, White Gas);

3. Corrosives (E.G., Sulphuric Acid, Muriatic Acid, Sodium Hydroxide solutions); and

Mixtures with residual Ephedrine, Methamphetamine, Iodine, or Red Ph

Appendix IV
Record Keeping
(Attached record keeping form)

Appendix V
Agronomic Rate

Typical Crop Nitrogen Requirements and Corresponding Domestic Septage Application Rates. This is taken from US EPA 1993 A Guide to the Federal Rule for Land Application of Domestic Septage to Non-Public Contact Sites.

Crop	Expected Yield (bushel/acre/year)	Nitrogen Requirement (lb N/Acre/Year)	Annual Application Rate (gallons/acre/ Year)
Corn	100	100	38,500
Oats	90	60	23,000
Barley	70	60	23,000
Grass	4 ton/acre	200	77,000
Sorghum	60	60	23,000
Peanuts	40	30	11,500
Wheat	70	105	40,400
Soybeans	40	30	11,500
Cotton	1 bale/acre	50	19,200
Cotton	1.5 bales/acre	90	35,000

These figures are very general and are provided for illustration purposes. They should not be used to determine your actual application rate. Crop fertilization requirements vary greatly with soil type, expected yields, and climatic conditions are also important factors in determining the appropriate volume of domestic septage to apply to a particular field. Different amounts of nutrients can be required by the same crop grown in different parts of the country. To get more specific to your location, contact a local agricultural extension agent.

The following is taken from the Biosolids Regulation 64 Policy Document on Agronomic Rate.

Estimated Yield

A projected yield goal must be determined in order to calculate the amount of nitrogen to apply for a given crop. Verbal or written farmer / farm manager input should initially be sought. Colorado State University Cooperative Extension encourages yield expectations be based on a documented 5-year field average, plus and add ional 5% for above average growing conditions. Years can be excluded where yields were reduced by hail, early frost, atypical drought, etc.

If a yield goal (verbal or written) can not be obtained from the farmer / farm manager, the county average yield for at least the last 3 cropping years plus 5% (for the crop to be planted) should be used. Applicators are encouraged to use a larger average county yield dataset (greater than the last 3 years) for a more representative yield goal.

County yields can be obtained from the following web site:

http://www.nass.usda.gov/Statistics_by_State/Colorado/index.asp

Yield goals and their source should be recorded, dated, and kept on file by the biosolids land applier.

(When using the above listed website, users can download data for a given crop and selected years, and calculate an average yield.)

Crop Nitrogen Requirements

Colorado State University Cooperative Extension fact sheet numbers 0.534 through 0.544 can be used to determine crop nitrogen requirement based on soil test NO_3-N concentrations and soil organic matter content. The fact sheets can be obtained from the following web site:

http://www.ext.colostate.edu/pubs/crops/pubcrop.html

For crops where the Colorado State Cooperative Extension does not offer a fact sheet, other sources may be used.

Appendix VI
Domestic Septage Inspection Form

Appendix VII
Agreement form between land owner and license holder