ENVIRONMENTAL REVIEW/ PROBLEM DIAGNOSIS

John's Revised ERPD - January 24, 2005
Version ZZ
Revised - March 10, 2005

Contents

Preface

The Environmental Review/Problem Diagnosis form helps to identify water quality concerns on a farm when it first joins the New York City Watershed Agricultural Program. The form draws upon data from a related *Inventory* form, an expert planning team's walk through of the farm, and interviews with the farm manager or owner. A filled out form yields a priority-sorted list of concerns for which alternative management practices should be considered. That list is one basis the program uses to allocate funds to implement new practices.

The form groups questions by priority, based on the type of water quality concern. Items under Roman numeral I are most important, and items under Roman numeral XI least important of those considered.

The form has been crafted to be specific to the New York City watershed's natural setting, reservoir characteristics, and water quality constraints imposed by the Federal Safe Drinking Water Act. Much of the form is specific to dairy farms. Anyone wishing to apply it outside the New York City watershed should be aware of these strong influences which may apply differently in their own area. Some of the most important regional characteristics that affect this form are:

a fairly high rate of annual precipitation, averaging up to 50 inches;

a high drainage density (length of streams per unit of land area);

frequent steep slopes;

reservoirs whose trophic states are believed to be sensitive to phosphorus loading and insensitive to nitrogen loading;

a water supply system without filtration plants and subject to filtration avoidance requirements under the Federal Safe Drinking Water Act;

a policy that the water supply consumers pay for most of the costs to implement new management practices on farms; and

an emphasis on dairy farms.

Instructions to users

Except for section IV (see below), the form is used by marking answer boxes in the columns headed "Col 1" and "Col 2." Boxes with dark shading are not used. Blank boxes and lightly-shaded boxes represent candidate answers. The shading signifies what should be done next based on the answer:

Not a possible answer	
Follow-up required	
Follow-up not required	

Answer the numbered questions; their eligible answer boxes are in Col 1. When the answer to a Col 1 numbered question falls into an unshaded box, proceed to answer the lettered questions beneath the numbered question.

For numbered questions having no corresponding lettered questions, and for lettered questions, when an answer falls into an unshaded box, follow-up is required. In nearly all cases, the first follow-up step is to fill out an Alternatives Development Worksheet.

Section IV "Source Barrier" answers are filled in by answering detail questions within the question column, estimating a corresponding score for the question, and recording the score in the "points" column. Points subtotals determine whether or not the Source Barrier is adequate. When it is not adequate, use the Alternative Development Worksheet to summarize the concern and candidate management or structural changes.

Note on Hydrologic Sensitivity

The environmental review focuses more attention on some parts of a farm than others. The parts receiving the most attention are "Hydrologically Sensitive Areas." Two definitions are important:

> **Hydrologically Active Area:** a portion of the farm which "frequently" generates runoff during specified portions of the annual seasonal cycle; the portion may be inactive at some times and active at others.
>
> **Hydrologically Sensitive Area:** a Hydrologically Active Area which has an "unacceptable potential" for transporting a specified pollutant to drinking water supplies.

A hydrologically active area is considered a hydrologically sensitive area unless it can be proven that while being transported the pollutant will be effectively filtered or destroyed before reaching a drinking water source.

All of a farm's management units (fields, barnyard, etc.) are designated as hydrologically active or not, for each of two or more seasonal periods. Flow paths away from each management unit are then examined to determine which active areas have an unacceptable potential for deposited pollutants to later reach a drinking water source.

Some of the environmental reviews's questions refer to "areas that are ever hydrologically sensitive." This is specifically related to types of pollutants that accumulate in an area over time and are subject to later washoff. Some of the environmental review's questions target high runoff events even when they occur outside of the season when a management unit is considered hydrologically sensitive. For example, a heavy snowmelt or rain on frozen soil is a condition a farmer should avoid when spreading manure even when a field is classed as "insensitive".

		Col 1			Col 2		
I. Parasites and Phosphorus - Animal Waste Storage **Not applicable to Horticultural Operations**		Yes	No	N/A	Yes	No	N/A
1.	Is a manure storage facility or stacking area present on the farm? (Note: follow-up required in either case; answer 1A-1C for the "yes" case.)						
	Source Barrier: Adequate = permanent or designed temporary storage present, AND all storage meets NRCS specifications.						
	A. Does the facility contain waste from youngstock (horses < 12 months old, other < months old)?						
	B. If the storage failed, would its contents easily reach an area that is ever hydrologically sensitive (floodplain, impervious area, frequently saturated area, or well/spring protection area?						
	C. Is the facility constructed and maintained according to NRCS specifications?						
	D. Do the field and stream edge barriers meet NRCS standard						

Comments

es on Parasites and Phosphorus - Animal Waste Storage

I.1. (Question I.1C) NRCS specifications that apply to manure storage facilities are:

Temporary storage: Manure Pile Areas NY749
Permanent storage: Waste Storage Facility 313

		Col 1			Col 2		
II. Pesticides - Storage Facilities; Mixing/Loading Areas		Yes	No	N/A	Yes	No	N/A
1.	Are pesticides stored, mixed or loaded on the farm? (Note: omit licensed commercial applicators)						
	Source Barrier: Adequate = no pesticides stored, mixed, or loaded, OR answers to 1A through 1I in shaded boxes.						
	A. Are pesticides stored, mixed or loaded in an area from which spilled or leaked material could easily reach a hydrologically sensitive area (floodplain, impervious area, frequently saturated area, or well/spring protection area)?						
	B. Are pesticides mixed and loaded only at sites where spills can be readily contained? [II.1]						
	C. Are pesticides stored in their original, intact container with the original labels?						
	D. Is the pesticide storage area locked and inaccessible to unauthorized persons?						
	E. Is pesticide mixing and loading carefully supervised? [II.1]						
	F. Are pesticide containers triple rinsed before disposal?						
	G. Are pesticide containers disposed of at a regulated landfill?						
	H. Is rinse water disposed of per label directions?						
	I. Are recyclable containers returned to the dealer after use?						
	J. Is a reduced pressure zone device in place; **OR** is an air gap equal to twice the diameter of the filler source pipe above the sprayer tank **AND** water is taken from a source other than a drinking water supply? [II.2]						
	Field and Stream Edge Barriers: none required.						

Comments

Notes on: II. Pesticides - Storage Facilities; Mixing/Loading Areas

II.1. (Questions II.2.B, II.2.E)

Recommended pesticide mixing and loading procedures are outlined in training materials for certified pesticide applicators prepared by Cornell's Pesticide Management Education Program.

II.2 (Question II.2.I)

Backflow prevention devices for pesticide mixing are regulated by the New York State Department of Health (DOH), Bureau of Public Water Supply Protection. When a filling line is connected to a public water supply system, the water supplier does the regulation under DOH oversight.

		Col 1			Col 2		
III. Phosphorus - Fertilizer Storage		Yes	No	N/A	Yes	No	N/A
1.	Is liquid/dry fertilizer stored on the farm?						
	Source Barrier: Adequate = no fertilizer storage, OR 1B answer in shaded box and 1A considered.						
	A. If the storage failed, would its contents easily reach an area that is ever hydrologically sensitive (floodplain, impervious area, frequently saturated area, or well/spring protection area)?						
	B. Is fertilizer stored in a covered, watertight facility, with a floor?						
	Field and Stream Edge Barriers: none required.						

Comments

		Col 1			Score
IV. Parasites - Animal Management and Manure Management. (apply to young stock unless otherwise indicated) **Animal type:** _____		Yes	No	N/A	Points
1.	Are any youngstock of this type (< 6 months of age, < 12 months for horses) raised on the farm? (IV.1) If not, skip to the next animal type or the next roman numeral.				
A. Health and Nutrition: Pre-weaned and Weaned Calves up to 6 mos. of age					
Source Barrier: Adequate = Question IV.1 answer is **no**, or the score of questions A1 - A7 is at least 75.					
A1.	Do animals reach standard weight by appropriate age? (See charts in note (IV.2) for different species and breeds) . . . . . Y = 30 . . . . . N = 0 . . . . . 50% of animals = 15				
A2.	Do newborn dairy calves receive sufficient colostrum? (For other agricultural animals, see note IV.3) a. Newborn left with cow suckling observed or assisted Always . . . . . 40 Most times . . . . . 35 Frequently . . . . . 20 Sometimes . . . . . 10 Never . . . . . 0 **Or** b. Newborn hand fed (bucket, bottle, tube) ___ 2 qts < 3 hrs, then 2 more qts < 12 hours . . . . . 50 ___ 2 qts < 12 hours, then 2 additional qts < 24 hours . . . . . 40 ___ 2 - 4 quarts in > 24 hours . . . . . 0 **Or** c. Newborn left with cow and hand fed ___ 2 qts < 3 hrs, then 2 more qts < 12 hours . . . . . 50 ___ 2 qts<12 hours, then 2 additional qts < 24 hours . . . . . 40 ___ 2 - 4 quarts hand fed in > 24 hours . . . . . 0 **Or** d. Newborn does not receive colostrum from cow . . . . . 0 (calf gets milk, milk replacer or colostrum substitute)				
A3.	Are sick animal chores (feeding and cleaning) handled last? Always . . . . . 20 Most Times . . . . . 15 Frequently . . . . . 10 Sometimes . . . . . 5 Never 0				

					Score
IV. Parasites - Animal Management and Manure Management. Continued					Points
A4.	Is herd closed, or if not, are purchased stock isolated (no contact with other animals) for health and pest observation for at least four weeks. . . . . . Y = 5 . . . . . N = 0				
A5.	Are youngstock vaccinated? (Excluding brucellosis) . . . . . Y = 5 . . . . . N = 0				
A6.	Are coccidiostats (Rumensin, Deccox, Bovatec) or antibiotics used in youngstock feeds? Milk replacer . . . . . Y = 5 . . . . . N = 0 Calf grain . . . . . Y = 5 . . . . . N = 0				
A7.	Are routine veterinary health checks performed on youngstock? ___ At least monthly . . . . . 5 ___ At least quarterly . . . . . 4 ___ At least yearly . . . . . 1 ___ Emergencies only . . . . . 1 ___ Not at all 0				
Total Scores for Questions A1- A7. Follow up is required if sum is less than 75, also see Question A8.					
A8.	Mortality of calves (heifers and bulls) over the last three years? **Note: If mortality in any of the following four categories (Aa, Ab, Ba, Bb) is greater than 10%, best management practices may be necessary to improve calf health even though the score above is 75 or greater. The category of most concern for this project is Ba.** **If calf mortality for each and every one of the four categories is less than 5%, and in your professional judgement you do not believe there is a significant health issue on the farm, YOU MAY ADD 30 POINTS to the score above.** A. How many calves were born alive on the farm? a. How many calves were stillborn or found dead? b. How many calves were born alive, but died within three days? B. How many heifers do you raise as replacements in an average year? a. How many calves (heifers) died between separation from their dams and weaning? b. How many calves (heifers) died between weaning and six months of age?				

					Score
IV. Parasites - Animal Management and Manure Management. Continued					Points
B. Housing and Sanitation (preventing disease transmission): PRE-WEANED CALVES					
Source barrier: Adequate = Question IV.1 answer is **no** or the score of questions B1 - B9 is at least 110, and an adequate score within question B5 of at least 25.					
B1.	Is there any mouth to mouth contact between **pre-weaned** youngstock in housing? ___ No animal to animal contact . . . . . 25 ___ Animals have contact with 1 -2 neighbor animals . . . . . 15 ___ Animals have contact with multiple animals (group pens) 0				
B2.	Are there group pens of **pre-weaned** calves? ___ No group pens . . . . . 10 ___ Group pens 0				
B3.	It is important for **pre-weaned** calves to be supplied with clean fresh air. Describe air quality at the calf housing area. ___ Excellent . . . . . 20 ___ Good . . . . . 15 ___ Fair . . . . . 10 ___ Poor 0				
B4.	Do **pre-weaned** animals have contact with their own manure or that of other young animals? ___ Animals have no contact even with own manure . . . . . 10 ___ Animals have contact with its own manure . . . . . 10 ___ Animals have contact with manure of one or two other calves . . . . . 5 ___ Animals have contact with manure from other young animals . . . . . 0 ___ Animals have contact with manure contaminated areas/equipment (sequential use of pens/hutches, barnyard runoff, shovels? 0				

					Score
IV. Parasites - Animal Management and Manure Management. Continued					Points
B5.	**Pre-Weaned** youngstock housing Total of A, B, C A. Condition of calves; Animals have: ___ No fecal soiling on haircoat . . . . . 30 ___ Small amount of fecal soiling on haircoat . . . . . 25 ___ Small amount of caking of manure in haircoat . . . . . 20 ___ Moderate amounts of caking of manure on haircoat . . . . . 10 ___ Substantial amounts of caking of manure or hair loss due to urine or fecal contact . . . . . 0 B. Between animals (housing): ___ Before next animal uses area, fecal material and bedding are removed and are allowed to dry: Always . . . . . 20 Most times . . . . . 15 Frequently . . . . . 10 Sometimes . . . . . 5 Never . . . . . 0 C. Area then remains unoccupied by pre-weaned youngstock: ___ < 1 week . . . . . 0 ___ 1 week < 1 month . . . . . 10 ___ 1 - 3 months . . . . . 20 ___ > 3 months 30				

Comments:

					Score
IV. Parasites - Animal Management and Manure Management. Continued					Points
B6.	Are **pre-weaned** calves thrifty, i.e, do they appear strong and vigorous, with slick and shiny hair coat, and alert eyes, without any scours, nasal discharge, wheezing or labored breathing? ___ Very thrifty . . . . . 20 ___ Thrifty . . . . . 15 ___ Moderately thrifty . . . . . 10 ___ Not thrifty 0				
B7.	Are feeding utensils for **pre-weaned** calves cleaned with water and detergent or disinfectant to remove milk, feed and manure? ___ Not shared between animals, cleaned between feedings . . . . . 20 ___ Not shared between animals, not cleaned between feedings . . . . . 5 Or ___ Shared and cleaned between animals . . . . . 20 ___ Shared and not cleaned between animals 0				
B8.	If cleaning/bedding tools and manure handling equipment are also used for feeding/watering of **pre-weaned** calves, are they cleaned before use? (shovels, pitchforks, wheelbarrow, scraper) __ Not shared between usage types . . . . . 5 ___ Shared and cleaned . . . . . 5 ___ Shared and not cleaned 0				
B9.	Is there a rodent control program in place? (Add two parts) A. Is feed stored in sealed rodent proof . . . . . Y = 10 containers, ie., trash barrel with lid . . . . . N = 0 And B. Are areas where feed is and animals housed free from . . . . . Y = 5 evidence of rodents . . . . . N = 0				
Total Scores for Questions B1 - B9. **Follow up required if sum is less than 110, or if score for question B5 is less than 25.**					

Comments:

					Score
IV. Parasites - Animal Management and Manure Management. Continued					Points
C. Housing and Sanitation (preventing disease transmission): WEANED CALVES up to 6 mos of age.					
Source barrier: Adequate = Question IV.1 answer equals **no** or the score of questions C1 - C7 is at least 80, and an adequate score within question C6 of at least 25.					
C1.	What is the extent of mouth to mouth contact between **weaned** youngstock in housing? ___ No animal to animal contact, individual pens or tethered 40 ___ Animals in group pens with 2 to 3 calves . . . . . 30 ___ Animals in group pens with 4 to 5 calves . . . . . 20 ___ Animals in group pens of 6 or more calves 0				
C2.	What is the animal density of **weaned** calf pens? ___ 30 square feet per animal or greater . . . . . 30 ___ 25 - 30 square feet per animal . . . . . 20 ___ Less than 25 square feet per animal 0				
C3.	Is there an "all in, all out" policy of **weaned** animals in group pens? ___ No group pens . . . . . 10 ___ Group pens, all in/all out . . . . . 10 ___ Group pens mostly all in/all out . . . . . 5 ___ Group pens, not all in/all out 0				
C4.	It is important for **weaned** calves to be supplied with clean fresh air. Describe air quality at the calf housing area. ___ Excellent . . . . . 20 ___ Good . . . . . 15 ___ Fair . . . . . 10 ___ Poor 0				
C5.	Do **weaned** calves have contact with manure of other young animals? ___ Yes . . . . . 0 ___ No . . . . . 15 ___ Animals have contact with manure contaminated area/equipment (sequential use of pens/hutches, barnyard runoff, shovel?) 0				

Comments:

					Score
IV. Parasites - Animal Management and Manure Management. Continued					Points
C6	**Weaned** youngstock housing Total of A, B, C A. Condition of calves; Animals have: ___ No fecal soiling on haircoat . . . . . 30 ___ Small amount of fecal soiling on haircoat . . . . . 25 ___ Small amount of caking of manure in haircoat . . . . . 20 ___ Moderate amounts of caking of manure on haircoat . . . . 10 ___ Substantial amounts of caking of manure or hair loss due to urine or fecal contact . . . . . 0 B. Between animals (housing): ___ Before next animal uses area, fecal material and bedding are removed and are allowed to dry: Always . . . . . 20 Most times . . . . . 15 Frequently . . . . . 10 Sometimes . . . . . 5 Never . . . . . 0 C. Area then remains unoccupied by weaned youngstock: ___ < 1 week . . . . . 0 ___ 1 week < 1 month . . . . . 10 ___ 1 - 3 months . . . . . 20 ___ > 3 months 30				
C7	Are **weaned** calves thrifty, i.e, do they appear strong and vigorous, with slick and shiny hair coat, and alert eyes, without any scours, nasal discharge, wheezing or labored breathing? ___ Very thrifty . . . . . 20 ___ Thrifty . . . . . 15 ___ Moderately thrifty . . . . . 10 ___ Not thrifty 0				

Comments:

	Score

IV. Parasites - Animal Management and Manure Management. **Continued**					Points
Pre and Post Weaned Calves up to 6 mos of age.					
C8	If cleaning/bedding tools and manure handling equipment are also used for feeding/watering of **weaned** calves, are they cleaned before use (shovels, pitchforks, wheelbarrow, scraper)? ___ Not shared between usage types . . . . . 5 ___ Shared and cleaned . . . . . 5 ___ Shared and not cleaned 0				
C9	Is there a rodent control program in place? (Add two parts) A. Is feed stored in sealed rodent proof . . . . . Y = 10 containers, ie., trash barrel with lid . . . . . N = 0 And B. Are areas where feed is and animals housed free from Y = 5 evidence of rodents . . . . . N = 0				
Total score for questions C1 - C9 **Follow up required if sum is less than 80.**					

Comments:

	Col 1			Col 2		
IV. Parasites - Animal Management and Manure Management. **Pre and Post Weaned Calves up to 6 mos of age.**	Yes	No	N/A	Yes	No	N/A

Field Barrier: Adequate = youngstock housing facilities not located in HSA, or answers to D1.A or D1.B or D1.C in shaded box/boxes.		
D1.	Are youngstock housing facilities (e.g. hutches), youngstock barnyards, or youngstock pastures located in or with rapid drainage to an area that is ever hydrologically sensitive (watercourse, floodplain, impervious area, frequently saturated area, or an area influenced by tile drainage)?	
	A. Is upslope runoff into the area(s) limited.	
	B. Is there a properly designed and maintained vegetative filter strip between any youngstock housing and a watercourse?	
	C. Is youngstock use of housing, barnyards, and pastures limited while the areas are hydrologically sensitive?	
	D. Are parturition areas less than 100' from an HSA?	
Field Barrier: Adequate = **no** youngstock manure spread in areas that are hydrologically sensitive, or answers to D2.A, D2.B in shaded boxes.		
D2.	Is manure from youngstock spread in areas that are ever hydrologically sensitive (floodplain, impervious area, frequently saturated area, or area influenced by tile drainage)?	
	A. Is youngstock manure spread according to a schedule that avoids spreading in these areas while they are hydrologically sensitive?	
	B. Is youngstock manure spreading done prior to or during high runoff conditions (heavy snowmelt, rain on frozen soil, heavy summer or fall rain events)?	
Stream Edge Barrier: Adequate for D3 = no		
D3.	Are youngstock allowed access to streams?	

Comments:

Notes on: IV. Parasites - Animal Management and Manure Management

IV. 1 (Question IV.1)

The 6 and 12 month age thresholds are based on *Cryptosporidium* infection prevalence studies in the New York City Watershed.

IV.A1 (Question IV.A1) Standard weights for animals by particular ages.

Dairy Cattle:
Holstein - 750 pounds by 12 - 14 months
Brown Swiss - 750 pounds by 12 months
Jersey - 500 pounds by 12 months
Guernsey - 725 pounds by 12 months
Ayrshire - 660 pounds by 12 months

Beef Cattle: 500 pounds by 6 months

Sheep: 70 - 80 pounds by 7 - 8 months

Goats:
Light breeds: 60 - 70 pounds by 7 months
Heavy breeds: 70 pounds by 7 months

Pigs: 250 pounds by 5 months

Horses:
Light breeds: 500 pounds by 12 - 14 months
Heavy breeds: 700 pounds by 12 - 14 months

IV.A2 (Question IV.A2) Colostrum assessment criteria for animals other than dairy calves)

Beef Cattle:
Calf generally left with cow, but in not follow recommendations for dairy animals

Sheep:

a. Newborn left with ewe
___ Suckling observed or assisted (Y)
___ Suckling not observed or assisted

b. Newborn hand fed (bucket, bottle, tube)
___ 6 - 8 ounces in < 6 hours (Y)
___ 18 - 24 ounces in 24 hours
___ 18 - 24 ounces in > 24 hours

c. Newborn left with ewe and hand fed
___ 6 - 8 ounces in< 6 hours
___ 18 - 24 ounces in 24 hours
___ 18 - 24 ounces in > 24 hours

d. Newborn does not receive colostrum from ewe (lamb gets milk, milk replacer or colostrum substitute)

IV.A2 (Question IV.A2) Colostrum assessment criteria for animals other than dairy calves) **Continued**

Goats:

a. Newborn left with ewe
   ___ Suckling observed or assisted (Y)
   ___ Suckling not observed or assisted

b. Newborn hand fed (bucket, bottle, tube)
   ___ 5 - 6 ounces in < 6 hours (Y)
   ___ 15 - 18 ounces in 24 hours
   ___ 15 - 18 ounces in > 24 hours

c. Newborn left with ewe and hand fed
   ___ 5 - 6 ounces in < 6 hours
   ___ 15 - 18 ounces in 24 hours
   ___ 15 - 18 ounces in > 24 hours

d. Newborn does not receive colostrum from doe (kid gets milk, milk replacer or colostrum substitute)

IV.4 (Question IV.16a) Upslope runoff may be limited into youngstock areas with techniques similar to those read for barnyards (see section VI)

IV.5 (Question IV.16b) Until research demonstrations differently, planners should use NRCS criteria for designing filter strips for standard barnyards (see Section VI).

IV.6 (Question IV.17b) This question attempts to cover events occurring outside the period during which spreading is restricted, i.e. when an area is scheduled for seasonal manure application but when short-term conditions are very unfavorable.

V. Nutrient Management				
Source Barrier- For scores 2 - 4 action recommended				
Factors Needing Assessment	Lower 1	2	3	Higher 4
1. What is the quality of homegrown haycrop forages (Please circle one)	More than two-thirds of the hay crop produced has NDF levels: < = 60% (grass) < = 45% (legumes)	More than half of the hay crop produced has DNF levels: < = 60% (grass) < = 45% (legumes)		More than half of the hay crop produced has NDF levels: > 60% (grass) > 45% (legumes)
2. How much homegrown forages are being fed? (Lactating dairy herds only. See page 6 for sample calculations.)	Homegrown forage dry matter fed is greater than 2.2% of the average herd body weight.	Homegrown forage dry matter fed is between 2.0 and 2.2% of the average herd body weight.	Homegrown forage dry matter fed is between 1.8 and 2.0% of the average herd body weight.	Homegrown forage dry matter fed is less than 1.8% of the average herd body weight.
3. How is dry matter intake for various groups of cattle determined?	Reliably measured by weighing amounts fed and feed refused **AND** cattle are consuming appropriate amounts.	Reliably estimated by weighing amounts fed and estimating feed and refused **AND** cattle are consuming appropriate levels.	Reliable estimated by weighing amounts fed and estimating feed refused **AND** cattle are not consuming appropriate amounts.	Book values for dry matter intake are used to balance rations and amounts fed or refused are not weighed.
4. How often is dry matter intake measured or estimated?	Weekly	Every 2 weeks	Monthly	Infrequently
5. How often are feeds analyzed for nutrient and dry matter content?	Feeds are analyzed for nutrient content at least monthly **AND** dry matter content of "wet" feed is determined weekly on the farm.	Feeds are analyzed for nutrient content at least monthly **AND** dry matter content of "wet" feeds is determined less than weekly on the farm.	Feeds are analyzed for nutrient content only when a new feed or forage crop is fed **OR** on-farm forage dry matter determination of "wet" feeds is not practiced.	Feeds are not regularly analyzed.

V. Nutrient Management				
Source Barrier -For scores 2 - 4 action recommended				
Factors Needing Assessment	Lower 1	2	3	Higher 4
6. How often are rations balanced?	Rations are balanced more than six times a year **OR** when changes in feed quality are anticipated.	Rations are balanced when a change in production or feed is noticed.		No systematic or regular ration balancing is practiced.
7. How is protein balanced in rations?	Protein levels are fed at NRC recommendation **AND** balanced for rumen-degradeable and undegradable protein fractions **AND** a program that models rumen carbohydrate and protein interactions is used.	Protein levels fed at NRC recommendation **AND** balanced for rumen-degradeable and undegradeable protein fractions.	Protein levels fed at NRC recommendation.	Protein fed in excess or below recommended levels **OR** protein levels fed are not reliably known.
8. How are phosphorus (P) and potassium (K) levels in rations determined?	P and K levels are fed NRC recommendations **AND** low K forages are fed to dry cows.	P and K levels are fed at NRC recommendations.	P and K fed in excess or below recommended levels.	P and K levels fed are not reliably know.

Additional Information:

Herd Health and Performance Issues

Is the herd on a regular health program with a local veterinarian

Is the incidence of calving difficulties or post-calving disorders (ketosis, milk fever, retained placenta, displaced abomasum or mastitis) less than 5% in the herd?

Are cattle growing and producing up to industry standards or producer's expectations?

For milking cows, are adequate dry periods allowed? (first calf heifers 55 days; older cows at least 45 days).

Does the herd show signs of lameness, abnormal hoof growth, or other foot problems?

Cow Comfort and House Stress Issues:

Are stalls of proper design, adequate size and in good repair?

Are animal beds/packs clean and dry with plenty of bedding?

Do animals show signs of bruising on hocks, thurls, or around shoulders or pinbones?

Is there adequate watering and feeding space for animals?

Are barns adequately ventilated with no detectable drafts or stale air?

General Nutrition and Feeding Issues:

Do high-producing dairy cows have access to feed at least 20 hours a day?

Are feedbunks cleaned daily to avoid fouling of fresh feed?

Is fresh clean water readily available to animals?

Is the herd adequately grouped and fed by production or nutritional needs?

Is wet chemistry used to determine mineral analysis of feeds?

Comments:

		Col 1			Col 2		
V. Nutrient Management		Yes	No	N/A	Yes	No	N/A
Field Barrier: Adequate = relatively even distribution of P test levels, OR 2A and 2B answers in shaded boxes.							
2.	Do fields have a substantially uneven distribution of soil test phosphorus levels, including some fields with very high levels? (V.3)						
	A. Is manure and fertilizer spreading done is consideration of phosphorus needs for rotated crop fields that are both very high in soil phosphorus level and rated as hydrologically sensitive during any season? (V.4)						
	B. Is a Resource Management System (RMS) applied in fields with both a very high soil phosphorus level and with sediment delivery in excess of "T" to a watercourse/HSA (VII.1, VII.2). **Note:** This is the same condition applied to every field in VII; this questions elevates the priority for eroding fields also having very high phosphorus test results.						
Field and Stream Edge Barriers: None required							

		Col 1			Col 2		
V. Nutrient Management - Continued		Yes	No	N/A	Yes	No	N/A
3.	Is the animal density (animal units/tillable or pasture acre) in excess of: 1.0 for corn/legume rotations? 1.5 for corn/grass rotations? 2.25 for continuous grass hay? (VI.1)						
	Or, Is manure spread in areas that ever become hydrologically sensitive (floodplain, frequently saturated area, area influenced by tile drainage)?						
	A. Is manure spreading scheduled according to an approved nutrient management plan?						
	B. Is soil testing, using Cornell recommended sampling and lab procedures, done regularly?						
	C. Are nutrient recommendations with soil test results based on best available technology (research) and are they followed?						
	D. Is the fertilizer application equipment calibrated?						
	E. Is N and P fertilizer application avoided in the fall?						
	F. Is N fertilizer applied as a preplant application for corn?						
	G. Is starter fertilizer band placed?						
	H. Is supplemental N for corn applied as a side-dress application?						
	I. Is manure withheld from spreading and placed in a properly designed and maintained temporary or permanent manure storage area while hydrological conditions are adverse? (V.5)						
	J. Are there opportunities to reduce the hydrological sensitivity of fields?						
	K. Is manure spread at least 100' from the nearest well head or spring?						
	L. Are vegetative buffers maintained along watercourses in fields receiving manure?						
	M. Is manure spreading avoided on laneways or other impermeable surfaces?						
	N. Is manure spread in woodland areas?						

Stream Edge Barrier: Adequate = answers to 4A - 4C in shaded boxes.

4.	Are livestock allowed to pasture in hydrologically sensitive areas (watercourses)?						
	A. Are livestock stream crossings protected from erosion? (V.6)						
	B. Do any of these areas show signs of over grazing? (V.7)						
	C. Do animals have access to the stream? (V.7)						

Comments:

Notes on: V. Nutrient Management

V.1. (Question V.1)

Animal density thresholds are from AEM Tier Worksheets. This is an indicator of potential manure excess over crop requirements.

V.2. (Question V.1A through D)

The current NRC animal nutrition standards for dairy animals are published in:

> National Academy of Sciences, National Research Council. 1989. Nutrient requirements for dairy cattle. 6th revised edition. Washington, National Academy of Sciences.

V.3 (Question V.2)

Based on Cornell's soil test calibration work, a "very high" soil P test value is one greater than 40 lbs/acre.

A "substantially uneven" distribution is one in which phosphorus test levels vary between fields from under 10 lbs/acre to over 100 lbs/acre (provided that neither of the extremes is a sampling anomaly). This is an indicator of under loading and over loading of fields. Fields where manure cannot be spread due to neighbors' concerns should be excluded from comparison.

V.4 (Question V 2A)

Hydrologically sensitive fields (at any time in the annual cycle) having very high phosphorus test results are those which should have the strictest limits on phosphorus addition (See A. N. Sharpley. 1996. Myths about Phosphorus in **Proceedings from the Animal Agriculture and the Environment North American Conference**, Rochester, NY, December 11-13, 1996. Northeast Regional Agricultural Engineering Service, Ithaca, NY).

V.5 (Question V.3I)

This question probes the farmers' sensitivity to adverse hydrologic conditions when they are making short-term manure spreading decisions. It applies primarily within seasons when a field is considered hydrologically sensitive.

V.6 (Question V.4A): Criteria for stream crossing protection is not yet available.

V.7 (Questions V.4B and V.4C): Criteria to judge "excessive access to the stream" is not yet available.

		Col 1			Col 2		
VI. Nutrients - Concentrated Sources		Yes	No	N/A	Yes	No	N/A
Barnyard							
Source Barrier: Adequate = no barnyard runoff to any HSA, OR 1A through 1F adequate; OR 1A and 1G adequate							
1.	Does water flow directly from a barnyard to an area that is ever hydrologically sensitive (water course, floodplain, frequently saturated area, or well/spring protection area, etc)?						
	A. Is all clean water from outside sources (roofs, upslope, groundwater) kept out the barnyard)?						
	B. Is it easy to clean barnyard?						
	C. Is the size of the barnyard minimized for the intended use? (VI.1) ___ Heat detection ___ Holding area ___ Paved exercise area ___ Unpaved exercise area ___ Feeding & drinking						
	D. Is traffic area to pastures and barnyards minimized?						
Milkhouse: not applicable							
2	Does the milking center waste flow through a properly designed and functioning treatment system before reaching the hydrologically sensitive area?						
Source Barrier: Adequate = answers to 2 and 2E in shaded box; Or no milking waste enters area.							
	*A. Is the amount of milk, manure and soap entering the waste water minimized?						
	*B. Is the amount of water used per manufacturer's instructions?						
	*C. Is first rinse water collected?						
	*D. Do formulations per label or manufacturer's instructions used for soaps and acids consider phosphorus levels?						
	E. Does any milking center waste reach an area that is ever hydrologicallly sensitive (watercourse, floodplain, frequently saturate area, or well/spring protection area)?						
Field and Stream Edge Barriers: None required							

		Col 1			Col 2		
VI. Nutrients - Concentrated Sources - Continued)		Yes	No	N/A	Yes	No	N/A
Silage Leachate							
3.	Does any leachate flow from a bunk or tower silo to an area that is ever hydrologically sensitive (watercourse, barnyard, floodplain, frequently saturate area, or well/spring protection area)?						
Source Barrier: adequate = no leachate to HSA OR answers to questions 3A to 3D in shaded boxes							
	A. Are harvesting moisture contents kept below 70% for bunk silos, below 65% for tower silos less than 40 feet high, or below 60% for silos greater than 40 feet high? (VI.4)						
	B. Is all the clean water from outside sources (roofs and upslope water) kept out of the silo?						
	C. Is all highly concentrated leachate added to manure for spreading, OR diluted to convert it to dilute leachate, OR if spread separately is it consistently with an approved nutrient management plan? (VI.5)						
Field and Stream Edge Barriers: not applicable							
Manure Storage (See I)							
Fertilizer Storage (See III)							

Comments:

Notes on VI. Nutrients - Concentrated Sources

VI. 1 (Questions VI.1C & VI.D) Size criteria for different barnyard purposes include:

- ❑ Holding area while the barn is being cleaned: 15 sq. ft/cow (NRAES-66, Milking Center Design, pg 98)
- ❑ Heat detection: 60 - 75 sq. ft/cow (MPWS-6, Beef Housing and Equipment Handbook)
- ❑ Feeding: 26 - 30 sq. ft/cow (MWPS-7, Dairy Housing and Equipment Handbook)
- ❑ Unpaved exercise area: 500 sq. ft/cow (MWPS-6, Beef Housing and Equipment Handbook)

The barnyard should be located in consideration of the farm operation and water quality control needs. The best location for water quality control if the farthest from a watercourse, where outside clean water can be eliminated, and where cleaning is easy.

VI.2 (Question VI.1E) The NRCS standard filter strip for a barnyard is at least 15 feet long. The NYC Watershed Agricultural Program generally uses much longer strips.

As of June, 1996, NRCS staff in New York are drafting design criteria for filter strips related to barnyards in this program.

VI.3 (Question VI.2A) The design of new treatment systems for farms in the Watershed Agricultural Program should take into account phosphorus load reductions by examine the following:

A. Is the amount of milk, manure, and soap entering the wastewater minimized?
B. Is the amount of water used minimized?
C. Is first rinse water collected?
D. Are the proper amounts and formulations used for soaps and acids, considering phosphorus?

See Springman, R.E., D.C. Payer, and B.J. Holmes. 199? **Pollution Control Guide for Milking Center Wastewater Management?** University of Wisconsin Extension report A3592.

Also see NRCS NY SUPPLEMENT 393-3 and NRAES-73, Designing a Modern Milking Center, page 277-291

VI.4 (Question VI.3A) See NRAES-5, Silage and Hay Preservation, page 15.

VI.5 (Question VI.3C) Material about silage leachate collection and storage system not available

VI.6 (Question VI.3D) Material about filter strip for dilute silage leachate not available.

		Col 1			Col 2		
VII - Sediment - Diffuse		Yes	No	N/A	Yes	No	N/A
Cropland							
Source Barrier: not relevant							
	Field Barrier: adequate = sediment delivery <= "T" OR RMS used (1A).						
1.	Is sediment in excess of NRCS' "T" criterion being delivered from cropland to a hydrologically sensitive area (watercourse, frequently saturated area, flood plain, impervious area)? [VII.1] Gary Lamont will review						
	A. Is a Resource Management System (RMS) used to control cropland erosion? (VII.2)						
Stream Edge Barrier:							
1.	A. There is no evidence of ephemeral, gully, or sheet and rill erosion occurring on the farm, **AND** the length of flow through vigorous vegetation (filter strip) is at least 20 ft. for slopes less than 1% and increases by 1.5 ft. of flow length for each percent of slope increase, as per NRCS Standard 393s.						

	1. B. Stream Edge Barrier -For scores 3 - 4 action recommended				
	Factors Needing Assessment	Lower 1	2	3	Higher 4
	How much of a riparian zone is present adjacent to the stream? What condition is it in?	Natural vegetation extends two active channel widths on each side, **OR** 100 feet wide on each side. **OR** No concentrated flows through riparian zone.	Natural vegetation extends one channel width on each side, **OR** 35 feet wide on each side. **AND** If concentrated flows are evident, they are from land areas appropriately buffered with vegetated filter strips.	Natural vegetation extends at least 15 feet on each side of the channel **OR** Filtering function is moderately compromised.	Natural vegetation is less than 15 feet wide or nonexistent on either side. **OR** Lack of regeneration **OR** Filtering function is severely compromised by concentrated flows.

VII. Sediment Diffuse - Pasture				
Source Barrier - For scores 3 - 4 action recommended				
Factors Needing Assessment	Potential Concern			
	Lower 1	2	3	Higher 4
1. What is the condition of pasture vegetation?	Pasture is very well-managed and all areas are fully vegetated.	Pasture is well managed and fully vegetated, except in minor areas of heavier animal traffic.	Pasture is over-grazed and includes bare and weedy areas.	Pasture has little vegetation and shows evidence of runoff and erosion.
2. What is the condition of pasture laneways?	Laneways are either fully vegetated or well-developed with stone, gravel, etc. There are no visible gullies.	Laneways are partially vegetated and/or partially developed.	Laneways are not developed. Areas are bare of vegetation and have evidence of runoff, erosion or ponding.	There is no laneway development. Lanes go up and down slopes, have visible gullies and no vegetation. Water flows along them to watercourses.
3. What is the level of cattle access to laneway?	Cattle use laneways for travel only.	Cattle have access to laneways for travel and other limited access.		Cattle are allowed congregate in laneway. Cattle watered in laneway.
4. How are pastures on floodplains developed?	Livestock are fenced out of the floodplain area **OR** No floodplain is located in the pasture.	The floodplain is part of a well-managed pasture system. **AND** The water source for livestock is not the stream. The source is located out of the floodplain area, along with salt and shade.	Pasture water sources are located both in and out of the floodplain **OR** Salt and shade or located out of the floodplain.	Livestock are allowed full access to the floodplain and vegetation on it has been destroyed. **OR** The only water, salt and shade are located within the floodplain (high animal concentrations).

VII. Sediment Diffuse - Pasture - For scores 3 - 4 action recommended				
Source Barrier				
Factors Needing Assessment	Potential Concern			
	Lower 1	2	3	Higher 4
5. How is livestock managed around streams?	If livestock need to cross the stream, they do so over a constructed stone crossing with gates at both ends (limited access). **OR** Livestock do not cross the stream.	If livestock need to cross the stream, they do so over a constructed stone crossing with gates at both ends (limited access). **OR** The stream is fenced, with limited access for watering	Livestock are not fenced out of the stream. The stream is crossed in many places and is used as a water source for livestock.	Livestock are not fenced out of the stream and have denuded the vegetation or damaged the streambank.
6. How are seasonal watercourses and HSAs in the pasture managed?	Seasonal watercourses and HSAs are fully-vegetated and livestock are fenced out during wet periods.	Livestock have limited access to watercourses and HSAs during the grazing season. The watercourses are fully-vegetated.	Livestock have full access to seasonal watercourses and HSAs which have limited vegetation, but the water flows into a vegetated buffer area before entering a stream or other waterbody.	Livestock have full access to seasonal watercourses and HSAs which have little or no vegetation, and which outlet into streams or other waterbodies.
7. Do livestock have access to woodlands?	Livestock excluded from woodlands.	Livestock have limited access to woodlands.		Livestock have limited access to woodlands.

Comments:

VIII. Sediment Diffuse - Pasture

Source Barrier: not relevant							
Field Barrier: adequate = sediment delivery < = "T", OR answer to 2A or 2B in shaded box.							
2.	Is sediment in excess of NRCS "T" criterion being delivered from pastures to a hydrologically sensitive area (watercourse, frequently saturated area, flood plain, imperious area)? (VII.1)						
	A. Are animal unit months appearing in the NRCS Soil Interpretations Record within guidelines for pasture acreage and do portions of pasture with concentrated livestock numbers support grasses and/or legumes that cover at least 81% of the soil surface during the grazing season? (VII.3)						
	B. Are livestock rotationally or continuously grazed and removed when vegetation is grazed to a height recommended in the NRCS National Handbook of Conservation Practices (NHCP) for the predominate pasture plant species, and do portions of pasture with concentrated livestock numbers support grasses and/or legumes that cover at least 81% of the soil surface during the grazing season?						
Stream Edge Barrier: None required							

Comments:

Notes on: VII. Sediment - Diffuse

VII.1. (Question VII.1) "T" values are average annual figures for tolerable soil loss for various soil types. These "tolerable" or "allowable" annual figures are based on the empirical data for maintaining a long term economic productivity. "T" values for New York soils are found in "Section I - Soil Erosion Prediction" of the NRCS Field Office Technical Guide (FOTG).

VII.2. (Question VII.1.A) Explanation: An RMS is a prescribed combination of conservation practices and management that when implemented prevents soil resource degradation and permits sustained use by meeting criteria in the NRCS FOTG. An RMS may be a progressive implementation of practices and management over time that meets FOTG criteria.

VII.3 (Question VII.2.A) Animal unit month (AUM) are the number of 1000 lb animal units on one acre of pasture for 1 month that a given soil type will support. The NRCS National Handbook of Conservation Practices (NHCP) states that to reduce soil erosion and maintain or improve soil condition, "ground cover provided by grasses and legumes shall be maintained above 80% surface cover at all during the grazing system."

Second Draft Revision for Streambank Erosion - Thurgood/Winkler - 8/18/04		Col 1			Col 2		
VIII - Sediment - Concentrated		Yes	No	N/A	Yes	No	N/A
1.	Is sediment in excess of NRCS criteria being delivered to an area that is ever hydrologically sensitive (watercourse, frequently saturated area) from farm access lanes, logging roads, skid trails, livestock travel lanes, gravel pits, or gullies in crop fields/pastures (Concentrated sources). [VIII.1] Removed reference to streambank						
	I. Source Barrier: Selection of Source Barrier or Field Barrier or both in combination will reduce concentrated source sediments for all of the above except stream banks. Stream bank erosion may require implementation of all three barriers (i.e. alternatives for barriers I and II may be required if overland flow is destabilizing channel banks in addition to stream flow).						
	A. Is upland runoff diverted to a safe outlet before reaching the following concentrated source area? ____ Farm Access Lanes ____ Logging Roads, Skid Trails ____ Maintenance Areas _____Gravel Pits ____ Other Parking Areas ____ Gullies in Pasture Removed reference to streambank						
	B. Are the affected areas seeded? (If vegetative cover will not stabilize the critical area proceed to Field Barrier) ____ Farm Access Lanes ____ Logging Roads, Skid Trails ____ Gravel Pits ____ Gullies in Cropland Removed reference to streambank						
	II. Field Barrier: (see explanation for Source Barrier, above)						
	C. Are the affected areas stabilized through installation of conservation measures described in the NRCS National Handbook of Conservation Practices? (VIII.2) _____ Farm Access Lanes ____ Logging Roads, Skid Trails ____ Gravel Pits ____ Gullies in Cropland _____Gullies in Pasture ____ Maintenance Areas ____ Parking Areas						

Notes on: VIII. Sediment - Concentrated

VIII.1. (Question VIII.1) Sediment delivery rates will be those is excess of "T" for all source categories.

VIII.1. (Question VIII.1.B)

Applicable content of the NRCS National Handbook of Conservation Practices is:

392 Critical Area Seeding

VIII.1. (Question VIII.1.C)

Some applicable contents of the NRCS National Handbook of Conservation Practices are:

462 Precision land forming
466 Land smoothing
557 Row arrangement
560 Access road
575 Animal trails and walkways
655 Forest harvest trails and landings

		Col 1			Col 2		
VIII - Sediment - Concentrated		Yes	No	N/A	Yes	No	N/A
2.	**III. Stream Edge Barrier** (See explanation for Source Barrier VIII.1.)						
	Streambank Protection						
	A. Is streambank erosion causing damage, or potential damage, to an existing or proposed best management practice?						
	B. If yes above, is the effected area(s) stabilized through installation of conservation measures described in the NRCS National Handbook of Conservation Practices?						
	C. Is streambank erosion adversely affecting cropland, pasture, forest, or other natural area(s)? If yes, go to pollutant XII - Sediment - Concentrated - Severe Streambank Erosion.						
	D. Is streambank erosion causing damage, of potential damage, to farm utilities, roads, buildings or other facilities adjacent to streambanks? If yes, go to pollutant XII - Sediment - Concentrated - Severe Streambank Erosion.						

	E. Stream Edge Barrier -For scores 3 - 4 action recommended				
	Factors Needing Assessment	Lower 1	2	3	Higher 4
	How much of a riparian zone is present adjacent to the stream? What condition is it in?	Natural vegetation extends two active channel widths on each side, **OR** 100 feet wide on each side. **OR** No concentrated flows through riparian zone.	Natural vegetation extends one channel width on each side, **OR** 35 feet wide on each side. **AND** If concentrated flows are evident, they are from land areas appropriately buffered with vegetated filter strips.	Natural vegetation extends at least 15 feet on each side of the channel **OR** Filtering function is moderately compromised.	Natural vegetation is less than 15 feet wide or nonexistent on either side. **OR** Lack of regeneration **OR** Filtering function is severely compromised by concentrated flows.

Notes on: VIII. Sediment Concentrated

VIII.2. (Question VIII. A and B.) Streambank Protection

1. To prevent damage to an existing or proposed best management practice?

2. To maintain the capacity of the channel,

3. To control channel meander that would adversely affect downstream facilities,

4. To reduce sediment loads causing downstream damages and pollution, or

5. To improve the stream for recreation or a habitat for fish and wildlife.

See the NRCS National Handbook of Conservation Practices, 580 “Streambanks and shoreline protection.”.

		Col 1			Col 2		
IX. Pesticides - Field and Animal Application		Yes	No	N/A	Yes	No	N/A
	Source Barrier: adequate = no pesticides used OR answers to 1A through 1F in shaded boxes						
1.	Are pesticides used on the farm for crop production or livestock protection?						
	A. Is NPURG used to guide pesticide selection?						
	B. Are insecticides used on alfalfa or corn?						
	C. Are insecticides used on livestock?						
	D. Is pesticide application history reviewed to evaluate pest control efforts?						
	E. Are weed problems inventoried in row crop fields to guide herbicide selection?						
	F. Are scouting techniques used to guide insecticide selection?						
	Field Barrier: adequate = answers to IX.1.G and IX.1.H in shaded boxes						
	G. Are pesticides applied in accordance with state and federal regulations? ___ label restrictions and recommendations followed? ___ records kept ___ applied only by certified applicators or persons under the direct supervision of a certified applicator [IX.1]						
	H. Is pesticide application equipment calibrated each growing season?						
	Stream Edge Barrier: none required						

Comments:

Notes on: IX. Pesticides - Field and Animal Application

IX.1. (Question IX.1.G) See Northeastern Regional Pesticide Coordinators. 1990. **Pesticide Applicator Training Manual: Core Manual.** 2nd ed, second printing. Pesticide Management Education Program, Cornell University, Ithaca, NY. Chapters II (State Laws and Regulations) and III (Federal Pesticide Laws).

X. Fuels - Storage Facilities				
Source Barrier				
Factors Needing Assessment	Lower 1	2	3	Higher 4
1. How far is petroleum stored from surface water courses?	More than 500 ft.	Between 200 and 500 ft.	Between 100 and 199 ft.	Less than 100 ft.
2. How far is the tank from a drinking water well?	Tank is outside wellhead area.	Tank is downslope more than 100 ft. from a well.	Tank is upslope more than 100 from a well.	Tank is at grade or upslope less than 100 ft. from a well.
3. What type of material is the tank constructed from, and is there corrosion protection?	Synthetic tank or tank protected from rust by cathodic protection.	Steel tank newer than 15 years coated with paint or asphalt.	Painted steel tank older than 15 years old, or bare steel tank less than 15 years old.	Bare steel tank older than 15 years old.
4. What type of tank overfill protection exists?	Automatic shutoff and impermeable overflow spill catchment basin installed around fill port.	Overfill alarm and impermeable overflow spill catchment basin installed around fill port.	Impermeable overflow spill catchment basin installed around fill port.	No protection.
5. How do you monitor for leaks?	In-tank leak monitoring system **AND** Tank tightness testing every 5 years.	Daily inventory control. **AND** Tank tightness testing every 15 years.		No inventory, monitoring or testing.
Factors of potential concern 3 or 4 require action.				

X. Fuels - Storage Facilities				
Source Barrier				
Above-Ground Storage Tanks:				
Factors Needing Assessment	Lower 1	2	3	Higher 4
6. What type of secondary containment do you have?	Single-walled tank placed within concrete or synthetic dike with pad able to hold 110% of tank capacity AND Roof over tank and pad to exclude rainwater and snow. OR Double-walled tank at least 10 gauge steel with outer jacket covering at least bottom 80% of tank.	Tank is placed within dike and on a pad made of low-permeability soils. Dike is able to hold 110% of tank capacity.	Tank is placed on pad.	No secondary containment.
Underground Storage Tanks:				
7. What is the soil type and the depth of the water table?	Well-drained soils. AND Water table is below tank.	Moderately well-drained soils. AND Water table rarely high.	Medium-textured soils (Silt loams and loams) AND Seasonally-high water table.	Fine-textured soils (clay loam and silty clay) OR Soils are often saturated.
8. If there is an unused underground tank, what has been done to prevent possible future leaks?	Tank taken from ground and excavation was checked for evidence of contamination.	Tank completely emptied, rendered free of petroleum vapors, and filled with inert material.	Tank has removed or filled with inert material. Excavation was not checked for contamination.	Tank was left untouched in the ground.

Comments

Notes on: X. Fuel Storage

1. What is the total capacity of petroleum storage tanks on the farm?

2. Do you have a written emergency spill response plan that shows action to be taken in case of spill, leak, fire or explosion.

3. Is cleanup equipment available at the site.

4. If tank is located in a floodplain, is the tank anchored to avoid flotation or lateral movement?

5. Are fill ports painted with the proper paint code: red -- gasoline, yellow -- diesel, and brown -- kerosene?

6. Is all piping and connections made to tanks at the top centerline of the tank to prevent leaks?

7. Are records kept of dates and types of inspections performed, as well as leaks detected?

8. Do you recycle paints and solvents?

		Col 1			Col 2		
XI. Other Materials		Yes	No	N/A	Yes	No	N/A
Farm dumps:							
1.	Is household and farm solid waste currently disposed of at a regulated landfill?						
	Source Barrier: Adequate = waste disposed at regulated landfill OR waste disposed on-farm farther than 250 feet from a watercourse						
	A. Is there any on-farm waste disposal <250 feet from a watercourse? [XI.1]						
	Field and Stream Edge Barriers: none required						
Bulk chemical storage (other than petroleum and chemicals used for agricultural purposes, which are covered elsewhere):							
2.	Are other potentially polluting materials stored on the farm in significant quantities? [XI.2]						
	Source Barrier: Adequate = no significant materials stored OR answers to questions 2A through 2B in shaded boxes.						
	A. Are storage areas for these materials secure against runoff, animal traffic, and machinery traffic that could cause leaks or spills?						
	B. Are containers for these materials free from physical damage, rust, and corrosion?						
	Field and Stream Edge Barriers: none required						

Comments

Notes on: XI. Other Materials

XI.1 (Question XI.1.A)

The 250 foot minimum setback of a waste disposal area from a watercourse is a NYC DEP regulatory requirement.

XI.2 (Question XI.2)

The Chemical Bulk Storage law and regulations (6 NYCRR Parts 596-598), administered by NYS DEC, exempt chemicals used "for agricultural purposes" from registration requirements. If there is bulk storage of potential water pollutants (other than pesticides, fertilizers, or petroleum) in quantities that would be regulated outside of farming settings (6 NYCRR part 597), planners may refer to the technical standards cited in DEC's regulations as the basis for making recommendations for changing storage and handling practices.

		Col 1			Col 2		
XII - Sediment - Streambank Erosion		Yes	No	N/A	Yes	No	N/A
1.	**III. Stream Edge Barrier** (See explanation for Source Barrier VIII.1.)						
	Streambank Erosion						
	A. Is streambank erosion adversely affecting cropland, pasture, forest, or other natural area(s).						
	B. Is the streambank erosion causing damage, or potential damage, to farm utilities, roads, buildings or other facilities adjacent to streambanks?						

C. Stream Edge Barrier -For scores 3 - 4 action recommended				
Factors Needing Assessment	Lower 1	2	3	Higher 4
How much of a riparian zone is present adjacent to the stream? What condition is it in?	Natural vegetation extends two active channel widths on each side, **OR** 100 feet wide on each side. **OR** No concentrated flows through riparian zone.	Natural vegetation extends one channel width on each side, **OR** 35 feet wide on each side. **AND** If concentrated flows are evident, they are from land areas appropriately buffered with vegetated filter strips.	Natural vegetation extends at least 15 feet on each side of the channel **OR** Filtering function is moderately compromised.	Natural vegetation is less than 15 feet wide or nonexistent on either side. **OR** Lack of regeneration **OR** Filtering function is severely compromised by concentrated flows.

Notes on: XII. Sediment - Streambank Erosion

XII. (Question XII.1.A.) Sediment - Streambank Erosion

Planners for NRCS will assess needed streambank protection measurers based on the following purposes:

1. To prevent the loss of cropland, pasture, forest or other natural area(s).

2. To prevent damage, or potential damage, to farm utilities, roads, buildings or other facilities adjacent to streambanks?

See the NRCS National Handbook of Conservation Practices, 580 “Streambanks and shoreline protection.”.

WHOLE FARM PLANNING

ALTERNATIVE DEVELOPMENT WORKSHEET

<table>
<tr><td colspan="3">STEPS 2 - 4
ENVIRONMENTAL REVIEW</td><td>ALTERNATIVE PRACTICES</td></tr>
<tr><td colspan="3">Issue Statement:</td><td></td></tr>
<tr><td colspan="3"></td><td></td></tr>
<tr><td colspan="3"></td><td></td></tr>
<tr><td>Pollutant Category:</td><td>Page #:</td><td>Question #:</td><td></td></tr>
<tr><td colspan="3">Issue Statement :</td><td></td></tr>
<tr><td colspan="3"></td><td></td></tr>
<tr><td colspan="3"></td><td></td></tr>
</table>

(If additional narrative is required, attach a supplemental practice narrative sheet.)

WHOLE FARM PLANNING

SUPPLEMENTAL PRACTICE NARRATIVE

<table>
<tr><td colspan="3">ISSUES IDENTIFIED</td><td>SUPPLEMENTAL NARRATIVE</td></tr>
<tr><td>Pollutant Category:</td><td>Page #:</td><td>Question #:</td><td rowspan="2"></td></tr>
<tr><td colspan="3">Issue Statement:</td></tr>
<tr><td>Pollutant Category:</td><td>Page #:</td><td>Question #:</td><td rowspan="2"></td></tr>
<tr><td colspan="3">Issue Statement :</td></tr>
</table>