State of North Carolina
Department of Environment and Natural Resources
Division of Water Resources

Animal Waste Management Systems

Request for Certificate of Coverage
Facility Currently Covered by an Expiring State Non-Discharge General Permit

On September 30, 2014, the North Carolina State Non-Discharge General Permits for Animal Waste Management Systems will expire. As required by these permits, facilities that have been issued Certificates of Coverage to operate under these State Non-Discharge General Permits must apply for renewal at least 180 days prior to their expiration date. Therefore, all applications must be received by the Division of Water Resources by no later than **April 1, 2014**.

Please do not leave any question unanswered. Please verify all information and make any necessary corrections below.

Application must be signed and dated by the Permittee.

1. Facility Number: 310306 and Certificate of Coverage Number: AWS310306
2. Facility Name: Linwood Jenkins Farm
3. Landowner's name (same as on the Waste Management Plan): Linwood Jenkins
4. Landowner's mailing address: 866 Cypress Creek Rd
   City/State: Wallace NC Zip: 284667275
   Telephone Number (include area code): (910)285-7600 **E-mail:**
5. **Facility's physical address:** 866 Cypress Creek Rd
   City: Wallace **State**: NC **Zip:** 28466
6. County where facility is located: Duplin
7. Farm Manager's name (If different than the Landowner): Linwood Jenkins
8. Farm Manager's telephone number (include area code): _____
9. Integrator's name (if there is not an integrator write "None"): Murphy-Brown LLC
10. Operator in Charge (OIC) name: Linwood Jenkins Telephone Number 910-285-7600 OIC # AWA 19654
11. Lessee's name (if there is not a lessee write "None"): None
12. Indicate animal operation type and number:

Swine		**Cattle**		**Dry Poultry**	
Wean to Finish		Dairy Calf		Non Laying Chickens	
Wean to Feeder	**2600**	Dairy Heifer		Laying Chickens	
Farrow to Finish		Milk Cow		Turkeys	
Feeder to Finish		Dry Cow		Other	
Farrow to Wean		Beef Stocker Calf		Pullets	
Farrow to Feeder		Beef Feeder		Turkey Poults	
Boar/Stud		Beef Brood Cow			
Gilts		Other			
Other				**Wet Poultry**	
Horses - Horses		Sheep - Sheep		Non Laying Pullets	
Horses - Other		Sheep - Other		Layers	

Mail one (1) copy of the most recent Waste Utilization Plan (WUP) along with the field maps for this facility with this completed and signed application as required by NC General Statures 143-215.10C(d) to the address below. The WUP must be signed by the owner and a certified technical specialist.

As a second option to mailing paper copies of the application package, you can scan and email one signed copy of the application and the WUP to: animalpermits@ncdenr.gov

I attest that this application has been reviewed by me and is accurate and complete to the best of my knowledge. I understand that, if all required parts of this application are not completed and that if all required supporting information and attachments are not included, this application package will be returned to me as incomplete. **Note**: In accordance with NC General Statutes 143-215.6A and 143-215.6B, any person who knowingly makes any false statement, representation, or certification in any application may be subject to civil penalties up to $25,000 per violation. (18 U.S.C. Section 1001 provides a punishment by a fine of not more than $10,000 or imprisonment of not more than 5 years, or both for a similar offense.)

Printed Name of Signing Official (Landowner, or if multiple Landowners all landowners should sign. If Landowner is a corporation, signature should be by a principal executive officer of the corporation):

Name: Linwood Jenkins Title: owner

Signature: Linwood Jenkins Date: 3-11-14

Name: _____ Title: _____

Signature: _____ Date: _____

Name: _____ Title: _____

Signature: _____ Date: _____

THE COMPLETED APPLICATION SHOULD BE SENT TO THE FOLLOWING ADDRESS:

NCDENR–DWR
Animal Feeding Operations Branch
1636 Mail Service Center
Raleigh, North Carolina 27699-1636

Telephone number: (919) 807-6464
E-mail: animalpermits@ncdenr.gov

WASTE UTILIZATION PLAN

PRODUCER: Lynwood Jenkins

LOCATION: 866 Cypress Creek Rd.
Wallace, NC 28466

TELEPHONE: (910) 285 7600

TYPE OPERATION: wean - feeder

NUMBER OF ANIMALS: 2600
(Design Capacity)

The waste from your animal facility must be land applied at a specified rate to prevent pollution of surface and/or groundwater. The plant nutrients in the animal waste should be used to reduce the amount of commercial fertilizer required for the crops in the fields where the waste is to be applied. This waste utilization plan uses nitrogen as the limiting nutrient. Waste should be analyzed before each application cycle. Annual soil tests are strongly encouraged so that all plant nutrients can be balanced for realistic yields of the crop to be grown.

Several factors are important in implementing your waste utilization plan in order to maximize the fertilizer value of the waste and to ensure that it is applied in an environmentally safe manner. Always apply waste based on the needs of the crop to be grown and the nutrient content of the waste. Do not apply more nitrogen than the crop can utilize. Soil types are important as they have different infiltration rates, leaching potentials, cation exchange capacities, and available water holding capacities. Normally waste shall not be applied to land eroding at greater than 5 tons per acre per year. With special precautions, waste may be applied to land eroding at up to 10 tons per year. Do not apply waste on saturated soils, when it is raining, or when the surface is frozen. Either of these conditions may result in runoff to surface waters which is not allowed under DEM regulations. Wind conditions should also be considered to avoid drift and downwind odor problems. To maximize the value of nutrients for crop production and to reduce the potential for pollution, the waste should be applied to a growing crop or applied to bare ground not more than 30 days prior to planting. Injecting the waste or disking will conserve nutrients and reduce odor problems.

The estimated acres needed to apply the animal waste is based on typical nutrient content for this type of facility. Acreage requirements should be based on the waste analysis report from your waste management facility. Attached you will find information on proper sampling techniques, preparation, and transfer of waste samples to the lab for analysis.

This waste utilization plan, if carried out, meets the requirements for compliance with 15A NCAC 2H.0217 adopted by the Environmental Management Commission.

WASTE UTILIZATION PLAN

Amount of Waste Produced Per Year (gallons, ft, tons, etc.)

2,600 animals X **0.42** (tons) waste/animal/year = **1,092** (tons) waste/year.

Amount of Plant Available Nitrogen (PAN) Produced Per Year

2,600 animals X **0.48** lbs. PAN/animal/year = **1,248** lbs. PAN/year. (PAN from N.C. Guide Std. 633) Tech

Applying the above amount of waste is a big job. You should plan time and have appropriate equipment to apply the waste in a timely manner

The following acreage will be needed for waste application based on the crop to be grown and surface application:

Table 1: **ACRES OWNED BY PRODUCER**

Tract #	Field* No.	Soil Type	Crop	Lbs. N Per Acre	Acres	Lbs. N Utilized	Month of Application
T8399	1	AuB	Bermuda(H)	275	3.89	1069.75	March - Sept. + ITAW
T8399	~1	AuB	Small Grain	50	3.89	194.5	Sept. - April
				Total	3.89	1,264.25	

This N is from animal waste only. If nutrients from other sources such as commercial fertilizer are applied, they must be accounted for. N must be based on realistic yield expectation.

NOTE: The applicator is cautioned that P and K may be over applied while meeting the N requirements. Beginning in 1996 the Coastal Zone Management Act will require farmers in some eastern counties of North Caroline to have a nutrient management plan that addresses all nutrients. This plan only addresses Nitrogen.

WASTE UTILIZATION PLAN

Table 2: ACRES WITH AGREEMENT OR LONG TERM LEASE

(Agreement with adjacent landowner must be attached)
(Required only if operator does not own adequate land [see Required Specification 2])

Tract #	Field No.	Soil Type	Crop	Lbs. N Per Acre*	Acres	Lbs. N Utilized	Month of Application
				Total		-	

* See footnote for Table 1.

Totals from above Tables

	Acres	Lbs. N Utilized
Table 1	3.89	1,264
Table 2	0.00	-
Total	3.89	1,264
Amount of N Produced		1,248
Surplus or **Deficit**		**(16)**

NOTE: The Waste Utilization Plan must contain provisions for periodic land application of sludge at agronomic rates. The sludge will be nutrient rich and will require precautionary measures to prevent over application of nutrient or other elements.

WASTE UTILIZATION PLAN

See attached map showing the fields to be used for the utilization of waste water.

Application of Waste by Irrigation

Field No.	Soil Type	Crop	Application Rate (In/Hr)	Application Amount (In.)
1	AuB	Bermuda	0.6	.5-1

THIS TABLE IS NOT NEEDED IF WASTE IS NOT BEING APPLIED BY IRRIGATION, HOWEVER A SIMILAR TABLE WILL BE NEEDED FOR DRY LITTER OR SLURRY.

Your facility is designed for 180 days of temporary storage and the temporary storage must be removed on the average of once every 6 MONTHS. In no instance should the volume of waste being stored in your structure exceed Elevation *see lagoon design.

Call the local Natural Resources Conservation Service (*formerly Soil Conservation Service*) or Soil and Water Conservation District office after you receive the waste analysis report for assistance in determining the amount per acre to apply and the proper application rate prior to applying the waste.

Narrative of operation:

Acres shown are 'wetted' acres with Senninger 5023 sprinkers, blue nozzles, at 55psi sprinkler pressure.

WASTE UTILIZATION PLAN AGREEMENT

Name of Farm: Lynwood Jenkins

Owner / Manager Agreement

I (we) understand and will follow and implement the specifications and the operation and maintenance procedures established in the approved animal waste utilization plan for the farm named above. I (we) know that any expansion to the existing design capacity of the waste treatment and storage system or construction of new facilities will require a new certification to be submitted to the Division of Environment Management (DEM) before the new animals are stocked. I (we) also understand that there must be no discharge of animal waste from this system to surface waters of the state from a storm event less severe than the 25-year, 24-hour storm. The approved plan will be filed on-site at the farm office and at the office of the local Soil and Water Conservation District and will be available for review by DEM upon request.

Name of Facility Owner: Lynwood Jenkins
(Please print)

Signature: Lynwood Jenkins Date: 5-23-01

Name of Manager (If different from owner): _____

Signature: _____ Date: _____

Name of Technical Specialist: *(Please print)* **Kraig A. Westerbeek**

Affiliation: **Murphy Family Farms**

Address (Agency): **P.O. Box 759**
Rose Hill, NC 28458

Signature: _____ Date: 5/23/01

Wettable Acres Determination Certification

Name of Facility: Lynwood Jenkins Facility Number: 31-306

Owner(s) Name: ~~866 Cypre~~ Same Phone No 910 ~~259-2~~ 285-7600

Mailing Address: 866 Cypress Cr. Rd. Wallace, NC 28466

By signing this form, the facility owner and Technical Specialist acknowledge the completion of the Wettable Acres Determination. All necessary Wettable Acre Determination Field Data Sheets and calculations were completed to conduct a Wettable Acre Determination. The facility's Waste Utilization Plan has been amended as necessary to reflect actual wetted acreage. A copy of all worksheets, calculations, and other Wettable Acres Determination documents, along with the applicable Waste Utilization Plan and Wettable Acre Determination Certification will be filed with the local Soil and Water Conservation District. A copy will also be kept on site with the Certified Animal Waste Management Plan. Any future modifications must be approved by a technical specialist and filed with the Soil and Water Conservation District prior to implementation. If any modifications to the existing irrigation system or any new irrigation equipment was required to adequately address the waste management needs of this facility, an Irrigation Specialist or Professional Engineer has certified the design and installation below.

Owner Name: Lynwood Jenkins

Owner Signature: Lynwood Jenkins Date:

Technical Specialist Name: Kraig Westerbeek

Technical Specialist Signature: Date: 5/23/01

If assisted by an Irrigation Specialist or Professional Engineer please read and sign below:

Animal waste application equipment has been designed or modified to apply waste as necessary to accommodate the waste management plan and according to NRCS Standards. Animal waste application equipment has been installed according to NRCS Standards and is ready for use.

Irrigation Specialist/PE Name:

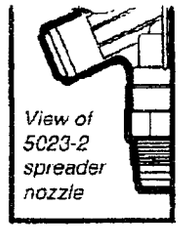
Irrigation Specialist/PE Signature: Date:

Submit this form to:

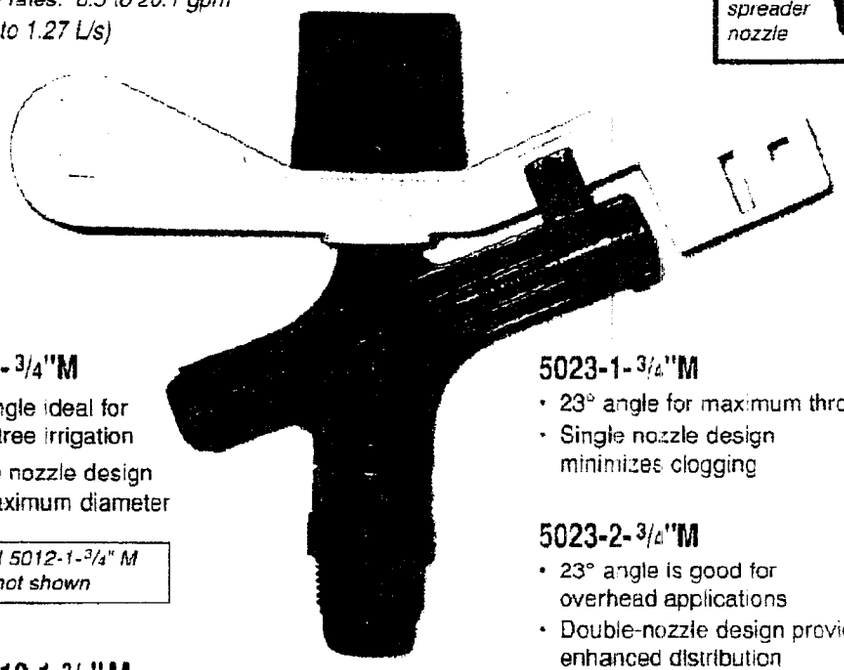
Attn: Sonya Avant
Non-Discharge Compliance Unit
Division of Water Quality
1617 Mail Service Center
Raleigh, NC 27699-1617

Thrust Blocking								
Thrust Block Area = Thrust / Soil Bearing Strength								
	Thrust:		feet					
Soil Bearing Strength:			feet					
	End Cap:	#DIV/0!	ft2					
90 degree elbow:		#DIV/0!	ft2					
	Tee:	#DIV/0!	ft2					
45 degree elbow:		#DIV/0!	ft2					
Pipe Pressure Rating Check								
Pressure Rating of Pipe to be Used:					psi			
Max. Pressure on system when running:				83.5	psi			
70% of Pressure Rating:				0	psi			
	If Max. Pressure on system is less than 70% of Pressure Rating, OK							
Net Positive Suction Head Check								
NPSHA:								
NPSHR:		*from pump curve						
	If NPSHA>NPSHR, OK							

- *Built-in hex wrench for easy in-the-field maintenance*
- *Standard lower bearing pipe thread: 3/4" NPT male (female also available)*
- *Flow rates: 6.5 to 20.1 gpm (0.4 to 1.27 L/s)*



View of 5023-2 spreader nozzle



5012-1-3/4"M

- 12° angle ideal for undertree irrigation
- Single nozzle design for maximum diameter

Model 5012-1-3/4" M not shown

5023-1-3/4"M

- 23° angle for maximum throw
- Single nozzle design minimizes clogging

5023-2-3/4"M

- 23° angle is good for overhead applications
- Double-nozzle design provides enhanced distribution

▼ 5012-1-3/4"M

SPRINKLER BASE PRESSURE (psi)	30							65
#13 Nozzle - White (13/64")								
Flow (gpm)	6.50	7.02	7.49	7.95	8.38	8.80	9.19	9.55
Diam. at 1.5' height (feet)	77	83	89	93	97	100	103	105
#14 Nozzle - Blue (7/32")								
Flow (gpm)	7.49	8.09	8.63	9.17	9.66	10.1	10.6	11.0
Diam. at 1.5' height (feet)	79	85	91	95	99	102	105	107
#15 Nozzle - Dark Brown (15/64")								
Flow (gpm)	8.51	9.19	9.81	10.4	11.0	11.5	12.0	12.5
Diam. at 1.5' height (feet)	81	87	93	97	101	104	107	109
#16 Nozzle - Orange (1/4")								
Flow (gpm)	9.60	10.4	11.1	11.8	12.4	13.0	13.6	14.2
Diam. at 1.5' height (feet)	83	89	95	99	103	106	109	111
#17 Nozzle - Dark Green (17/64")								
Flow (gpm)	10.7	11.6	12.3	13.1	13.8	14.5	15.1	15.8
Diam. at 1.5' height (feet)	85	91	96	100	105	108	111	113
#18 Nozzle - Purple (9/32")								
Flow (gpm)	11.8	12.9	13.7	14.6	15.4	16.1	16.8	17.5
Diam. at 1.5' height (feet)	87	92	97	101	107	110	113	115

METRIC - Diameter (meters)						
(bar)	2.0	2.5	3.0	3.5	4.0	4.5
(psi)	29.00	36.25	43.50	50.75	58.00	65.25
#13 Nozzle - White (5.16 mm)						
(L/s)	0.40	0.45	0.49	0.53	0.57	0.60
0.5 m (m)	23.0	25.6	29.2	29.7	31.0	32.0
#14 Nozzle - Blue (5.56 mm)						
(L/s)	0.46	0.52	0.57	0.61	0.66	0.70
0.5 m (m)	23.7	26.4	29.8	30.3	31.6	32.6
#15 Nozzle - Dark Brown (5.95 mm)						
(L/s)	0.53	0.59	0.64	0.70	0.74	0.79
0.5 m (m)	24.3	27.0	30.4	30.9	32.2	33.3
#16 Nozzle - Orange (6.35 mm)						
(L/s)	0.60	0.67	0.73	0.79	0.84	0.89
0.5 m (m)	24.6	27.6	31.0	31.5	32.9	33.8
#17 Nozzle - Dark Green (6.75 mm)						
(L/s)	0.67	0.74	0.81	0.86	0.94	0.99
0.5 m (m)	25.1	28.1	31.3	32.1	33.5	34.4
#18 Nozzle - Purple (7.14 mm)						
(L/s)	0.74	0.82	0.90	0.96	1.04	1.11
0.5 m (m)	25.6	28.4	31.5	32.7	34.1	34.7

Diameters shown are for standard straight bore nozzles and stream straightening vanes.
Other nozzles and/or vane combinations are available; consult factory for specific performance data.
Stream heights range from 3.5 - 6.0 ft (1.1 - 1.8 m) above nozzle based on pressure and nozzle size.

IRRIGATION SYSTEM DESIGN PARAMETERS

Landowner/Operator Name: Lynwood Jenkins
Address: 866 Cypress Creek Rd.
Wallace, NC 28466
Telephone: (910) 285 7600

County: Duplin

Date: 5/23/01

Table 1 - Field Specifications

Field Number	Approximate Maximum Useable Size of Field (acres)	Soil Type	Slope %	Crop(s)	Maximum Application Rate (In/hr)	Maximum Application per Irrigation Cycle (inches)	Comments
1	3.89	AuB	<5	Bermuda	0.6	.5-1	Zones A-D

TABLE 3 - Solid Set Irrigation Gun Settings

Make, Model and Type of Equipment: Senninger 5023 Sprinklers

Line No.	Number of Hydrants	Wetted Diameter (feet)	Hydrant Spacing(ft) Along Pipelines	Hydrant Spacing(ft) Between Pipelines	Operating Parameters: Application Rate (in/hr)	Operating Parameters: Nozzle Diameter (inches)	Operating Parameters: Operating Pressure at Gun(psi)	Operating Parameters: Operating Time at Hydrant(hr.)	Comments-Acres per zone
A	9	102	80	80	0.15	7/32	55	3.29	9X.1145 =1.03
B	11								11X.1145=1.26
C	9								9X.1145 =1.03
D	5								5X.1145=.57
	34								
								Total Acres =	3.89
L1A -	.57 Acres								
L1B -	.685 Acres								
L1C -	.57 Acres								
L1D -	.57 Acres								
L2A -	.456 Acres								
L2B -	.57 Acres								
L2C -	.456 Acres								

TABLE 4 - Irrigation System Specifications

	Traveling Irrigation Gun	Solid Set Irrigation
Flow Rate of Sprinkler (gpm)		10.1
Operating Pressure at Pump (psi)		83.5
Design Precipitation Rate (in/hr)		0.15
Hose Length (feet)		XXXXXXXX
Type of Speed Compensation		XXXXXXXX
Pump Type (PTO, Engine, Electric)		Electric
Pump Power Requirement (hp)		#DIV/0!

TABLE 5 - Thrust Block Specifications	
	THRUST BLOCK
LOCATION	AREA (sq. ft.)
90 degree bend	#DIV/0!
Dead End	#DIV/0!
Tee	#DIV/0!
Gate Valve	#DIV/0!
45 degree bend	#DIV/0!

5/23/01

IRRIGATION SYSTEM DESIGNER

Name: Kraig Westerbeek
Company: Murphy-Brown
Address: PO Box 759 Rose Hill, NC 28458
Phone: (910) 289 2111

Required Documentation

The following details of design and materials must accompany all irrigation designs:

1. A scale drawing of the proposed irrigation system which includes hydrant locations, pipelines, thrust block locations and buffer areas where applicable.
2. Assumptions and computations for determining total dynamic head and horsepower requirements.
3. Computations used to determine all mainline and lateral pipe sizes.
4. Sources and/or calculations used for determining application rates.
5. Computations used to determine the size of thrust blocks and illustrations of all thrust block configurations required in the system
6. Manufacturer's specifications for the irrigation pump, traveler and sprinkler(s).
7. Manufacturer's specifications for the irrigation pipe and/or USDA-NRCS standard for IRRIGATION WATER CONVEYANCE.
8. The information required by this form are the minimum requirements. It is the responsibility of the designer to consider all relevant factors at a particular site and address them as appropriate.
9. Irrigation pipes should not be installed in lagoon or storage pond embankments without the approval of the designer.

NOTE: A buffer strip of 25' or wider must be maintained between the limits of the irrigation system and all perennial streams and surface waters per NC Statutes.

Narrative of Irrigation System Operation

Acres shown are 'wetted' acres using tables for excessively spaced sprinklers. Grower is responsible for insuring that the sprinkler pressure shown in this design is maintained during irrigation events. Failure to maintain 55 pi sprinkler pressure will result in less acreage being wetted than is shown.

CALCULATIONS

Sprinkler Specifications

Sprinkler Type:	Senninger 5023	
Nozzle Size:	7/32	inches
Sprinkler Pressure:	55	psi
Flowrate(GPM):	10.1	gpm
Wetted Diameter:	102	feet

Sprinkler Spacings

Desired Spacing (%):	60	%
Design Spacing(feet):	61.2	*PVC irrigation pipe normally comes in 20' pieces,
		so round to the nearest multiple of 20.
Actual Spacing (feet):	80	feet
Actual Spacing (%):	78	% *EXCESSIVELY SPACED

Application Rate

Application Rate = (96.3xFlowrate)/sprinkler spacing squared

Design App. Rate =	0.15	in/hr

Run Time per Set

Run time per set = Desired application / Design application rate = hours

Desired app. (in.) =	0.5	inches
Run time per set =	3.29	hours

Mainline Velocity

Velocity = .408 x Flowrate / pipe diameter squared feet/sec.**

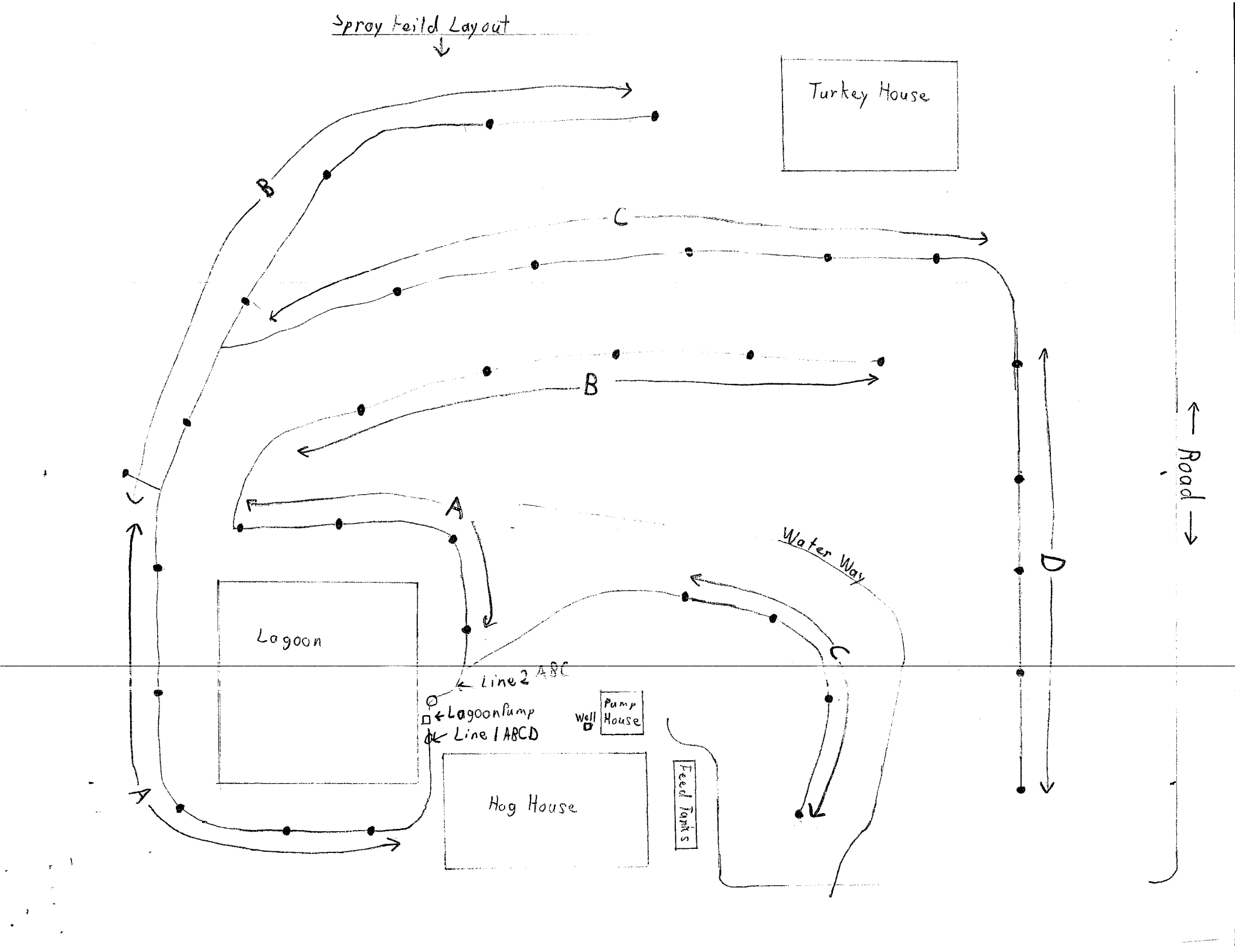
**For buried pipelines, velocity should be below 5 feet per second

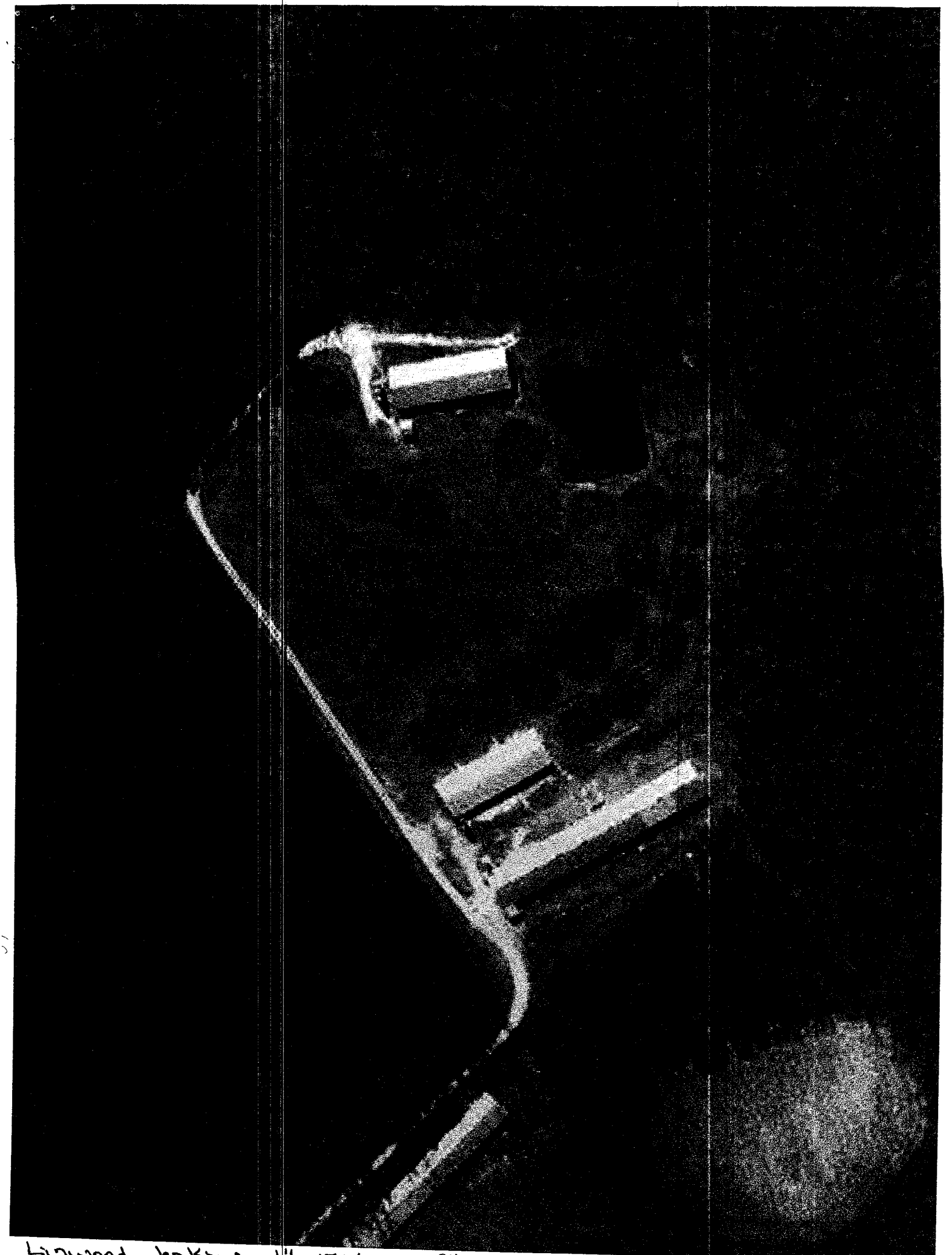
Pipe size:	2	inches
# Sprinklers Oper.:	4	
Velocity=	4.12	ft/sec.

Maximum Lateral Line Entrance Velocity

Pipe size:	2	inches
# Sprinklers Oper.:	4	
Velocity =	4.1208	ft/sec.

Maximum Mainline Friction Loss						
Lateral Used:	D					
Total distance:	1500	feet				
Friction Loss is figured using Hazen/William's Equation						
Friction Loss=	3.15	feet/100 feet				
Max. Mainline Loss =	47.2	feet or	20.4	psi		
Maximum Lateral Line Loss						
Lateral line friction loss is determined using the assumption that 3/4 of the Friction Loss occurs in the first 1/3 of the lateral line						
Total Lateral Length:	320	feet				
# sprinklers on Lat.:	4					
Frict. Loss at 1/3 lat.	3.36	feet				
Max. Lateral Loss:	4.48	feet or	1.94	psi		
Total Dynamic Head						
Sprinkler Pressure:	55	psi				
Lateral Line Loss:	1.94	psi				
Elevation head:	0	psi				
Mainline loss:	20.4	psi				
Suction head and lift:	2.1	psi				
5% fitting loss:	4.0	psi				
TOTAL(TDH) =	83.5	psi or	192.8	feet		
Horsepower Required						
Horsepower = Flowrate x TDH(feet) / 3960 / Pump effeciency						
Pump Description:	Monarch					
Pump Efficiency:		%				
Horsepower Req'd:	#DIV/0!	Hp				


Spray Feild Layout
Turkey House
B
C
B
A
Water Way
D
Road
Lagoon
C
Line 2 ABC
Lagoon Pump
Line 1 ABCD
Well
Pump House
Hog House
Feed Tanks
A



Linwood Jenkins 1" - 150'

34 sprinklers - excessively spaced