



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION



Office of Water Management

Agricultural Best Management Practices for Watershed Protection and Restoration

Citizens Advisory Council

June 17, 2014

Overview

- Agriculture Regulatory Requirements
- Regional Ag Watershed Assessment Program Initiative
- Regulatory Compliance = Plans + Ag BMPs



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Office of Water Management

Regulatory Requirements for Agriculture

Steve Taglang

Ag Operations by DEP Region

	<u># of FARMS</u>	
NWRO	8590	14%
NCRO	10608	18%
NERO	5386	9%
SWRO	9720	16%
SCRO	21754	37%
<u>SERO</u>	<u>3251</u>	<u>5%</u>
Total	59,309	100%

Note: The “# of FARMS” is from the 2012 Census data.

CAFO Operations by DEP Region

	<u>NPDES Permits</u>	
NWRO	3	1%
NCRO	59	16%
NERO	12	3%
SWRO	4	1%
SCRO	279	76%
<u>SERO</u>	<u>9</u>	<u>2%</u>
Total	366	100%

Note: March 2014 data.

Ag Regulatory Requirements

- Authority
 - Federal Clean Water Act
 - Pennsylvania Clean Streams Law
- Regulatory Requirements for Agriculture
 - Chapter 102: Erosion & Sediment Control
 - Chapter 91: Polluted Runoff (Manure)
 - Chapter 92: CAFO – Animal Operations
 - Chapter 83: CAO – Animal Operations (SCC)

Ag Regulatory Requirements

- **Chapter 102.4(a)**
 - Required for agricultural plowing and tilling
 - Written Ag E&S plan is required
 - NRCS Conservation Plan
 - Plan on-site; no requirement to submit to DEP
- These regulations became **effective in 1972.**
- Chapter 102 regulations revised November 2010.

Ag Regulatory Requirements

Chapter 102 Erosion & Sedimentation:

- Written plan to address:
 - Agricultural Plowing and Tilling
 - Animal Heavy Use Area (AHUA)
- “T” over crop rotation
- BMPs for fields with less than 25 percent cover within 100’ of stream
- Horse operations
- On-farm construction activities

Ag Regulatory Requirements

All Animal Operations

All operations generating/utilizing manure

* Regulated by DEP

Concentrated Animal Operations (CAOs)

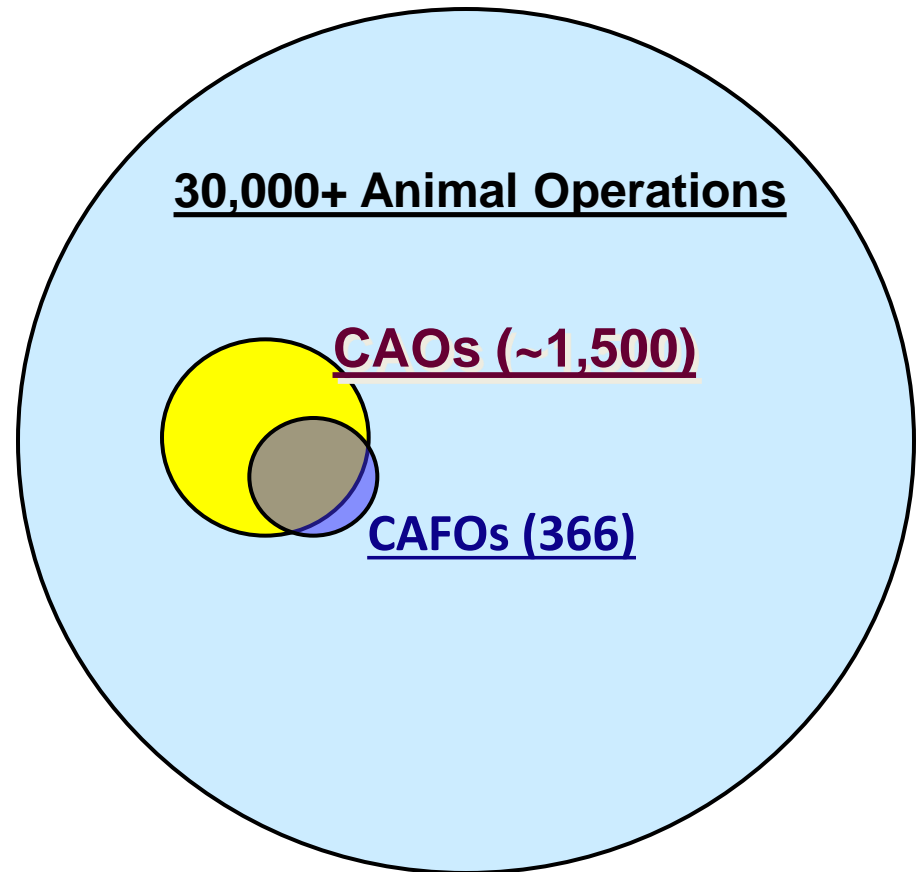
High animal density farms
farms > 2,000 lbs/acre animal density

* Regulated by PA SCC

Concentrated Animal Feeding Operations (CAFOs)

Based on animal numbers and/or animal density
Farms > 1,000 AEUs, CAOs > 300 AEUs, EPA head #'s

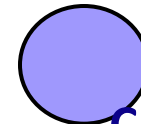
* Regulated by PA DEP



Ag Regulatory Requirements

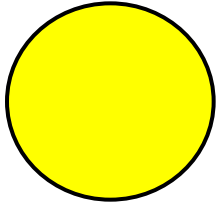
CAFO Program

- Federal NPDES program delegated to PA-DEP
- Regulates **largest** animal operations (CAFOs) defined as:
 - More than 1,000 Animal Units (750 cows, 2,500 sows, 1,000 horses);
 - More than 300 Animal units *and* a CAO (~230 cows);
- or
- Meet EPA animal threshold numbers
 - 500 horses
 - 700 mature dairy cows
 - 1,000 beef cattle
 - 2,500 market swine
 - 82,000 layers, dry manure
 - 125,000 broilers, dry manure
 - 10,000 sheep or lambs



CAFOs (366)

AG Regulatory Requirements



CAOs (~1,500)

- Largest farms required to have a ***Nutrient Management Plan***
- Plan designed to protect water quality AND crop yields:
 - Must be a written by a certified individual
 - Reviewed/Approved by SCC or County Conservation District

Ag Regulatory Requirement

- *A Manure Management Plan is required for all using manure... since 1986.*
- Plan designed to protect water quality AND crop yields:
 - Must be a written plan, kept on site.
 - Can be written by farmer or other non-certified individual.
 - 2011 Manure Management Manual Revisions.

30,000+ Animal Operations

Ag Regulatory Requirement

Ag Compliance

- Conservation District
 - 11,114 education outreach visits by conservation districts
- DEP “CBRAP” Inspections
 - 951 Inspections
 - 415 Enforcement Actions
 - \$123,000 in fines
- Regional Ag Watershed Assessments

Ag Regulatory Requirement

Regional Ag Watershed Assessments

- 2012 - Soft Run (Mifflin County)
- 2014 - Six Watersheds
 - Kaiser Run (Union County)
 - Kahle Lake (Venango County)
 - Mahantango Creek (Schuylkill County)
 - Beaver Creek (Bedford County)
 - Wolf Run/Deer Run/UNT Tohicken Creek (Bucks County)
 - Goose Run (Indiana County)
- Current Status



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Best Management Practices (BMPs)

Ag BMPs

- Cover Crops
- No-Till
- Waterways
- Terraces
- Diversions
- Barnyard Improvements
- Manure Storages
- Mortality Composters

Soil Erosion



Cover Crops



Cover Crops



Conventional Plowing and...



Tilling



No-Till



No-Till



Contour Strips



Contour Strips



▶ Waterway Before Waterway After



▶ Diversion Before Diversion After



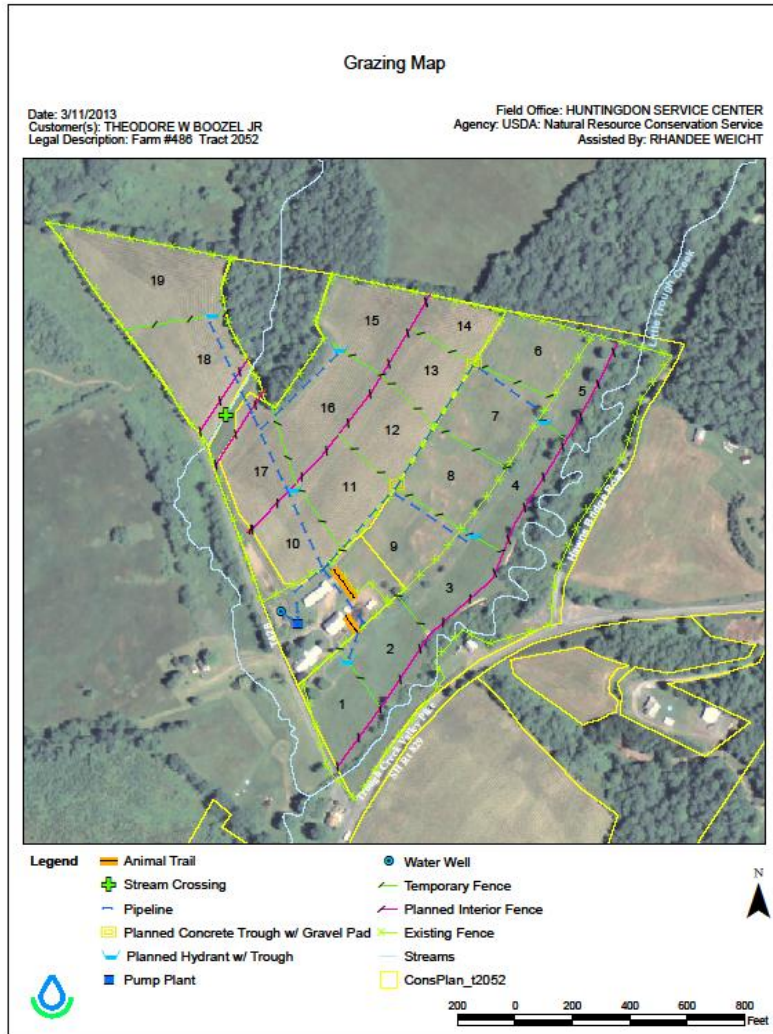
▶ Barnyard Before Barnyard After



▶ Walkway Before Walkway After



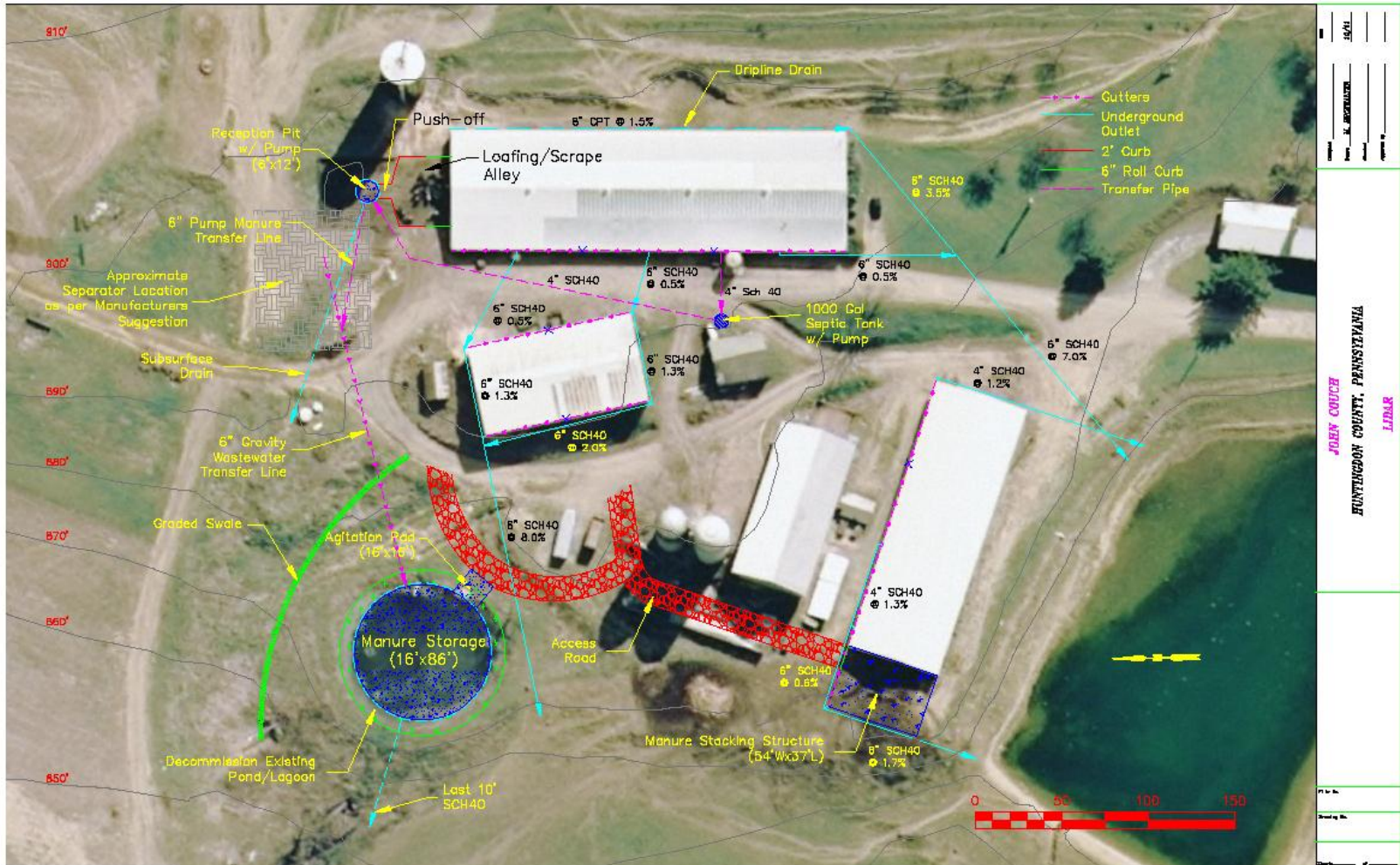
Planning



Planning is the basic regulatory compliance mechanism

- Conservation Plans
- Ag E&S Plans
- Nutrient Management Plans
- Manure Management Plans

Farm Map



Project No.	18/01
Client	JOBEX COUCE
Location	HUNTINGDON COUNTY, PENNSYLVANIA
Method	LIDAR
Scale	
Date	
Drawn By	
Checked By	

Manure Storage



Manure Storage



Manure Storage





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