

**SOUND AGRICULTURAL PRACTICE  
Opinion Number 17-1**

**SUBJECT:** Request for an Opinion Pursuant to Section 308 of the Agriculture and Markets Law as to the soundness of certain agricultural practices conducted by Jason Watts in the Town of Cairo, Greene County, New York

**REQUESTOR:** Jason Watts  
1184 Mountain Avenue  
Purling, NY 12470

**Preliminary Statement**

On September 22, 2016, Jason Watts requested that the Commissioner issue an Opinion as to the soundness of the production and marketing of his hogs on property that he rents, as it relates to odor and water quality. This request stems from complaints received from, and litigation initiated by, adjacent neighbors relating to noise, odor and water quality concerns.

The Department conducted a sound agricultural practice review of Mr. Watts' establishment of a hog farm on property that he rents located at Vienna Woods Road, Purling, NY, (SBL: 100.00.-5-44) which is owned by Mark Meddaugh.

The following information and findings have been considered in reaching this Opinion.

**Information Considered in Support of the Opinion**

**THE FARM**

1. On September 22, 2016, Robert Somers, Matthew Brower, and Nicole Persaud (Department of Agriculture and Markets staff) visited the Watts farm to examine Mr. Watts' hogs, the hog enclosures, manure management and discuss the farm's agricultural practices involving hog production.
2. Mr. Watts stated that he is a start-up operation and began raising hogs in 2015 on property owned by his uncle, Mark Meddaugh (approximately 28.20 acres). Department staff observed 14 hog pens on the property. Mr. Watts submitted information which indicates he intends to construct at least another pen within the row and may construct another parallel row of hog pens if his business continues to grow.
3. According to Mr. Watts, he constructed the hog pens at this location because of proximity to an existing well and shade from an existing tree line, which protects the hogs from getting sunburn.
4. According to documentation submitted by Mr. Watts, he spent \$35,772.18 to construct the pens, acquire breeding stock, purchase feed/supplies and for other expenses. According to Mr. Watts, the number of hogs varies; as of July 2017, there were 6 sows, 2 boars, and 2 recent litters. However, one boar, one sow and one of the two litters were to be sold at market. In 2016, Mr. Watts reports that 126 piglets were sold with gross receipts of \$12,156.48. Each sow produced approximately 25 piglets.

## WATTS FARM AGRICULTURAL PRACTICES

5. Department staff observed that the hog pens and surrounding property were clean, no accumulation of manure in the pens was observed and no manure storage was observed outside of the pens. A slight odor could be detected standing adjacent to the pens, but most of the sweet smell came from the hay that was covering the floor of the hog enclosures occupied by pigs. The wind was calm and Department staff did not detect odor at the property line. The outdoor temperature during this review was 65 to 74 degrees F (10 am to 12 pm). [[www.friendlyforecast.com](http://www.friendlyforecast.com)]
6. Mr. Watts stated that he followed Storey's Guide to Raising Pigs<sup>1</sup> (Klober) as his guide for the layout and design of his hog pens. Each hog enclosure has an outside dimension of 16' x 16' (pages 30-31 in Klober). Mr. Watts also used the "range house design" described in the Klober manual for each pen's shelter. Ms. Klober writes that this design keeps the house drier, blocks wind when openings are located away from prevailing winds and helps keep the hogs' body heat in the structure (pages 138-139). The spacing between each pen is 24 feet. The first pen is located approximately 30 feet from the farm's well.
7. Mr. Watts dug a trench parallel to the row of enclosures and installed a dry hydrant near the front right corner of each pen to provide fresh water to each hog pen. Pigs require a constant, fresh supply of clean water.<sup>2</sup> Pigs do not have sweat glands, therefore an ample supply of water is needed to keep them cool.<sup>3</sup>
8. Mr. Watts indicated that he provides hay and grain to the hogs to help control odor and flies.
9. On March 9, 2017, Dr. Somers revisited the farm for the purpose of taking water samples from the on-farm well. At this time, Dr. Somers reported that he observed a partial pallet of expired Hostess cakes in original wrapping and in boxes, located adjacent to the well. Mr. Watts stated that occasionally when he receives expired food products, he unwraps the food in a building where he lives, and then feeds the food to the hogs. Mr. Watts stated that he uses one of his existing buildings for this purpose to prevent the wrappers from littering the farm and neighboring lawns. The hog pens also have fly traps nearby, which are replaced every month. Mr. Watts stated that he rotates the use of the pens, and, during the growing season, he seeds the pens to clover. He puts a new litter of pigs or a pregnant sow into the pen when the grass is at least 8 inches tall. Mr. Watts stated that he also rotates the use of the pens to improve animal health.
10. Mr. Watts stated that he cleans the pens every week or two to help control odor. The manure is collected and hauled to the backyard of his residence where it is composted and used to fertilize/mulch his gardens and outdoor plants. Mr. Watts stated that he spreads the manure on the farm field if there is too much manure to compost. Department staff observed the compost pile behind Mr. Watts' residence.

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<sup>1</sup> Klober, Kelly. "Storey's Guide to Raising Pigs". 1997. Storey Publishing.

<sup>2</sup> Fournier, Michael P. Raising Small Groups of Pigs. 2016. Pennsylvania State University.

<sup>3</sup> Fournier, Michael P. Raising Small Groups of Pigs. 2016. Pennsylvania State University.

## NEIGHBOR COMPLAINTS

11. On October 11, 2016 the Department mailed letters to fourteen property owners adjoining the parcel of land leased by Mr. Watts on the south side of Mountain Avenue and west of Vienna Woods Road, Purling, New York. The Department informed the adjoining landowners that it was conducting a sound agricultural practice review on the raising of hogs and invited them to comment on the issues related to odor and water quality. The neighboring landowners were requested to submit comments by November 11, 2016. The Department received letters from David and Stacey Infantino, Tracy and Robert MacGiffert, Elizabeth Hansen, Michele Hobart and Melinda Watts, all adjoining landowners to the Meddaugh parcel. The Department also received an e-mail from Doug and Lynn Ostrander.
12. By letter dated October 20, 2016, Melinda Watts of 1184 Mountain Avenue, Purling, NY, stated that she has lived adjacent to the subject parcel for 60 years. She stated that she enjoys going over to the farm to observe the sows and their babies. Ms. Watts stated that she has not noticed any strong odor and does not have any concerns with the quality of the water. She stated that the farmer has always kept the farm clean and well maintained.
13. Michele Hobart, 1176 Mountain Avenue, Purling, NY, by letter dated October 21, 2016, stated that she lives across the road from the hog operation. She is a 4th generation farmer and raises goats, chickens and cows. Ms. Hobart stated that she has not noticed any smell from the hog farm, and that it is kept clean and is well maintained.
14. By letter dated October 26, 2016, Elizabeth Hansen, 8 Vienna Woods Road, Purling, NY, stated that she has lived next to the farm since 1956. The use of the land has transitioned from a dairy to a goat farm and now to a hog farm. Ms. Hansen stated that the hog farm has been the neatest, cleanest and least aromatic of the three livestock operations. She stated that Mr. Watts runs a good operation, the animals are well taken care of and their shelter is neat and clean.
15. By letter dated November 7, 2016, David and Stacey Infantino, of 54 Vienna Woods Road, Purling, NY, stated that they have lived in their home since 2007. Their property borders the field where the hogs are being raised. They stated that since the town passed its new zoning law, Mr. Watts has been feverishly building pen after pen and adding more pigs to the farm. Mr. and Ms. Infantino stated that, at times, the smell of feces has been life altering. They further stated that they have grave concerns about their daughter's health due to her history with asthma. The Infantinos also stated that they have concerns with the quality of their water.
16. Mr. and Ms. Infantino stated that they contacted the NYS Department of Health and Dr. James Gray, DVM, of the Department of Agriculture and Markets and that both agencies told them that they have concerns with the new hog operation. [Dr. Gray is no longer with the Department.] It appears that the Infantinos informed the NYS Departments of Agriculture and Markets and Health that a concentrated animal feeding operation (CAFO) is located within 30 feet of their well and 5 feet from a well located near the first hog pen. They stated that the property exhibits a high water table and a retention pond in their back yard is 50 feet from the concentrated feeding site. The Department, during the course of this sound agricultural

practice investigation, determined that these statements are not accurate. Mr. and Ms. Infantino state that the Town's Health Officer requested that the Town issue a Cease and Desist Order and undertake an investigation.<sup>4</sup> However, the Infantinos stated that no action was taken by the Town. According to the Infantinos, Mr. Watts is attempting to intimidate a town official that lives near the hog facility and to harass his neighbors. They would like the County to conduct a dispute resolution process as established in Greene County's Right to Farm Law. The Infantinos provided a narrative, by date, describing issues associated with the hog operation; predominantly odor and its effect on outside activities of family members. The Infantinos also describe Mr. Watts' intent to establish a hog farm that would cause a nuisance to the neighbors.

17. By letter received on November 10, 2016, Tracy and Robert MacGiffert, of 9 Mountain View Lane, Purling, NY, stated that Mr. Watts is in violation of the Public Nuisance Abatement Law (Local Law No. 2 of 2016 of the Town of Cairo). Ms. MacGiffert suggested in her correspondence that the farm was established as a tool to harass the neighbors. She indicated that in January of 2016, she called the State Police based upon Mr. Watts' behavior because she was concerned about her family's safety. Ms. MacGiffert further stated that at times, the odor is so strong and extreme that they have to limit their time outdoors. She is also concerned about their drinking water because the land exhibits a high water table and flooding has occurred where water from higher ground (Watts' rented land) moves toward the lower properties adjacent to the field in question.
18. By e-mail dated November 11, 2016, Doug and Lynn Ostrander indicated that the establishment of the hog operation was directed at Dave Ostrander due to his position on the Town of Cairo Board and Mr. Watts' disagreement with actions taken by the Board. Mr. Ostrander stated that Mr. Watts threatened him and his daughter. Mr. Ostrander discussed the fact that Mr. Watts owns property on the north side of Mountain Avenue and could have located the hogs on his property rather than his uncle's. He indicated that Mike Bessire, of Cornell Cooperative Extension and a neighbor to the property bordering the hog operation, tried to convince Mr. Watts to move the hogs to his property north of Mountain Avenue.<sup>5</sup> Mr. Ostrander stated that Mr. Bessire believes that the hog operation may be agriculturally sound, but the placement of the pigs in close proximity to residential structures cannot be condoned by the farming community. He stated the Mr. Bessire supports the policy of good relationships within the community. Mr. Ostrander stated that they are aware that they live in an Agricultural District. He stated that the field in question has always been a hay field and is still farmed for hay. Mr. Ostrander stated that the collateral damage incurred by Mr. Watts' actions has seriously hindered the quality of life for his daughter, family and neighbors. Mr. Ostrander also made a statement about the foul odor emanating from the hog operation.

## **ODOR AND NOISE CONTROL**

19. Studies on odors show that ammonia and hydrogen sulfide affect a person's mood, causing him or her to feel angry and frustrated because of the smell, classifying odor a valid health

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<sup>4</sup> See additional discussion in paragraphs 25 and 26.

<sup>5</sup> Mr. Bessire did not submit any comments.

concern<sup>6</sup>. The authors examined setback distances for odor control to lessen impacts on human health. According to this study, predicting the intensity and duration of odors at a specific distance from a livestock facility is difficult and site-specific conditions could cause odors to travel farther than a "reasonable setback distance," up to 15 miles from the facility.

20. Odors from swine operations are attributable to three sources: buildings and facilities, outside storage structures and land application.<sup>7</sup> Of these three sources, the only source of odor applicable to the Watts farm is its buildings and facilities. Odors around buildings (pens) can be controlled by keeping the area clean, preventing manure from accumulating, keeping the hogs clean, picking up spilled feed and properly disposing of dead pigs.<sup>8</sup>
21. Mr. Watts has extended the electrical grid to the well's pump house and no longer uses a generator to power the pump that supplies fresh water to the hogs, in an effort to help mitigate noise complaints. He also stated that he will begin installing lights to the pens so he does not have to use the portable tower light array to illuminate the pens at night when he tends to the animals. Mr. Watts stated that he decided to place the animals near the fence line to take advantage of an existing water well that was drilled in 1971 or 1972. He said that the well is approximately 100 feet deep and is cased in steel. Mr. Watts further stated that he is also taking advantage of the trees along the fence row so that the hogs are shaded and not exposed to full sunlight where they may become sunburned.

#### **TOWN OF CAIRO REVIEW AND ENFORCEMENT**

22. The Watts hog farm is located within the Town's Mountain Top (MT) Zoning District. The Town of Cairo's Zoning Law, dated December 1, 2015, provides that a "farm" and "livestock agricultural" located within an agricultural district are permitted uses within the MT Zoning District (Schedule of Uses, Table 1). Zoning Law Section XX(C) defines "farm" consistent with the AML Section 301(11) "farm operation" definition.<sup>9</sup> The Town's definition of "agricultural use, livestock" includes the production, preparation and marketing of livestock. Hogs are not excluded from the Town's definition of livestock. Furthermore, the Town's definition of "agriculture" includes the term "livestock including...swine...".
23. Zoning Law Section VIII(B)(3)(e) exempts parcels located within an Agricultural District from building and fence height limitations, maximum lot coverage requirements, site plan

<sup>6</sup> Schmidt, D. and L.D. Jacobson. Odor and Odor Policy Criteria. 1995. University of Minnesota.

<sup>7</sup> Nicolai, Richard E. Managing Odors From Swine Waste. 1995. Agricultural Engineering Update. University of Minnesota.

<sup>8</sup> Nicolai, Richard E. Managing Odors From Swine Waste. 1995. Agricultural Engineering Update. University of Minnesota.

<sup>9</sup>A farm does not have to meet the AML Section 301(11) farm operation definition to receive a sound agricultural practice opinion. Mr. Watts presented individual receipts and a copy of his Schedule F to the Department to verify sales. The AML Section 301(11) farm operation definition does not specify minimum gross sales and acreage, however, the operation must be a "commercial enterprise." Based upon the information provided, including, Mr. Watts' sales records, and the AML Section 301(2)(e) definition of raising of livestock, expenses laid out to start the farm and time spent to manage the operation, the Department has determined that Mr. Watt's hog farm meets the statutory definition of "farm operation."



review/special use permit approvals, and does not require farm worker housing to be located on a separate lot. Agricultural structures must meet all front, side and rear setbacks as specified in Section IV of the Zoning Law; however, setbacks are not specified in this section of the Zoning Law. Zoning Law Section V contains a 50-foot side yard requirement. Zoning Law XX Definitions, defines "agricultural structure," in part, as a structure designed and constructed to house farm implements, hay, grain, poultry, livestock, or other horticultural products. The Zoning Law provides further that this structure is used in the raising, growing, processing or storage of agricultural products by a farmer engaged in a farming operation and examples of such structures are provided (e.g. barns, sheds, poultry houses).

24. The Town of Cairo adopted Local Law No. 2 of 2016 (Public Nuisance Abatement) on January 4, 2016. Section 2(10) states, in pertinent part, that a public nuisance includes, but shall not be limited to, any building, structure or property where a public health risk may exist as the result of discharge, emission, or release into the atmosphere or onto or under the ground from any source of "...dust, cinders, dirt, oxides, gases, vapors, odors, toxic or radioactive substances, waste, particulate, solid, liquid, gaseous matter, human or animal feces from a source not associated with a sound and acceptable agricultural use or operation or any other materials in such place."
25. By letter dated August 20, 2015, Cairo Town Health Officer, Robert M. Schneider, M.D., wrote to the Town of Cairo Board of Health and asked the Town to investigate the public health risk associated with the Watts' hog farm. He stated that noxious fumes are mentioned [by the neighbors] to cause medically related illness. Other potential harm to the public includes airborne dust from the manure that may affect immunocompromised individuals in the vicinity of the farm. Dr. Schneider stated that the more serious public health risk is contamination to surface and ground water. Dr. Schneider states that his letter is a formal request to objectively investigate this matter and remedy the public health risk as soon as possible.
26. In an undated letter from Dr. Schneider to Town of Cairo Code Enforcement Officer (CEO) Stacy Sprague, Dr. Schneider states that, with regards to their conversation on October 11, 2016, he is writing again to give his opinion on the public health risk that exists with the hog farm. Dr. Schneider states that he thought that a 300-foot setback from the property line was adequate to mitigate public health risks due to the size of the agricultural operation. He further indicated that the dander and bacterial issues associated with this type of business is a "serious public health risk" and that one of the affected families has a child with reactive airway disease. Dr. Schneider further recommends that in addition to a 300-foot setback, a berm or occlusive fencing be constructed to mitigate the problem. However, Dr. Schneider's recommendations were not supported by or based upon any scientific findings or regulatory requirements relating to such operations.
27. On February 16, 2017, Dr. Somers called the Town CEO Stacy Sprague to verify if the Town issued any violation notices to Jason Watts, and to determine the status of its investigation into his swine operation. Ms. Sprague was not in the office, but Dr. Somers spoke with Evelyn Gabrielsen, Zoning Enforcement Clerk. She indicated that Mr. Watts was not issued any violations and the Town found him in compliance with the Zoning Code. Dr. Somers asked if the three official site visit reports were all that were prepared by CEO Sprague, and Ms.

Gabrielsen responded that the three reports contained in the packet of information provided to Mr. Watts from his FOIL request were the only reports written by Ms. Sprague.

28. On February 17, 2017, Dr. Somers spoke with Ms. Sprague. She confirmed what Ms. Gabrielsen had stated and emailed Dr. Somers a copy of her field reports and a copy of the Town's Local Law No. 2 of 2016 (Public Nuisance Abatement).
29. According to Ms. Sprague's field reports, she visited the Watts farm on June 13, 2016, at 11:30 am. She examined pig pen setbacks from the closest neighboring well; setbacks of the pens from the property line; cleanliness of the pens, hogs and farm; and odor. Ms. Sprague stated that the Infantino water well is over 100 feet from the first pig pen and the distance from the pig pen to the rock wall (property boundary) is 25 feet, 10 feet over the required 15-foot setback.<sup>10</sup> Scrap food was not found in the pens, hay was inside the pen and some mud was present. The pigs appeared to be healthy and clean. Ms. Sprague stated that there were 14 pig pens in a single line running down the back side of the Meddaugh property. The site was well kept and there was no evidence of stockpiled manure on the site or excessive manure in the pens. The grass between the pens was being maintained. An open trench was present running along the pens so that a licensed electrician could install an electric line and lights to each pen. A water spigot was present at each pen. Ms. Sprague stated that the odor of the pigs was strong as she walked along the pig pens, but it dissipated at 50 feet from the pens toward a neighbor's home (Infantino). Ms. Sprague concluded that there was no evidence of any violations of local or state ordinances. According to archived weather data obtained from [www.FriendlyForecast.com](http://www.FriendlyForecast.com), the temperature in Cairo, New York was 65 degrees at 11:00 am and 62 degrees at 12:00 pm. It was mostly cloudy and winds were from the Northwest at 17 to 27 MPH.
30. According to Ms. Sprague, she visited the farm again on June 29, 2016. She evaluated the same checklist as found in her June 13th site visit report. Ms. Sprague measured the distance from the closest neighboring well to the first pig pen. The separation distance was approximately 164 feet. She found hay in the pen and no evidence of excessive pig manure and the pigs appeared to be healthy and clean. There were no food scraps present, the site was well kept, and no evidence of stockpiled manure was on site. The electric trench was still open. There was no odor and the temperature was 83 degrees. Ms. Sprague stated that she found no evidence of any violations of local or state ordinances.
31. On July 7, 2016, Ms. Sprague and Henry Bignell, Senior Livestock Resource Educator from CCE, visited the Watts farm at 12 pm. Ms. Sprague wrote in her field report that she did not notice any odor while standing at the edge of the pig pens. At the time of their visit, it was hot and humid. There was minimal manure in the pens. Other than the wallow hole, the rest of the pen contained hay. Ms. Sprague reports that Mr. Bignell stated that there was nothing more that Mr. Watts could do to improve his farm. According to Ms. Sprague, Mr. Bignell stated that "if he was blindfolded, he wouldn't even know that he was on a pig farm." Mr. Bignell stated that his only concern would have been stockpiled manure on the farm, but none was observed.

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<sup>10</sup> Zoning Law Section V lists a 50-foot side yard setback in the Mountain Top (MT) District. The CEO indicates that there is a 15-foot setback, however.

### **Water Quality Issues**

32. According to information provided, the neighbors contacted the Department of Environmental Conservation (DEC) concerning the Animal Feeding Operation (AFO) and whether or not permits were required from DEC. Mr. Watts' hog operation does not exceed the number of swine needed for a Medium or Large Concentrated Animal Feeding Operation (CAFO) according to Appendix A of the DEC CAFO General Permit. A Medium CAFO must contain 750 to 2,499 swine, each weighing 55 pounds or more or 3,000 to 9,999 swine weighing less than 55 pounds each to meet the animal threshold units. According to information provided to Mr. Watts pursuant to a FOIL request, CEO Sprague spoke with Ed Paligreeny (Air Quality) and Rebecca Mitchell (Ground Water), NYS DEC, and was informed that the CAFO regulations pertain to larger operations. Ms. Sprague also spoke to Matt Currey of the NYS Department of Health on July 13, 2016. According to information submitted, Mr. Currey stated that DOH does not have regulations for existing wells, but the hog pens meet, and exceed the standards for new well construction [see 10 NYCRR, Appendix 5-B – attached].
33. The Department's "Guideline for Review of Local Laws Affecting Nutrient Management Practices...Animal Waste Storage/Management" discusses the NYS DOH's standards for water well construction (10 NYCRR, Appendix 5-B). The NYS DOH standards include a minimum distance of 100 feet between a new well and barnyards, silos, barn gutters and animal pens and 200 feet between a new well and storage areas for a manure pile. Upon review and inspection, the 200-foot setback may be reduced to 100 feet if the area is managed to prevent contamination of surface and ground water. The DOH setback requirements apply to well drillers who construct new wells; the setbacks do not apply to pre-existing wells. Therefore, the Department finds that it is reasonable for barnyards, silos, barn gutters, livestock confinement structures and animal pens to be set back from existing water wells by 100 feet. According to CEO Sprague, the separation distance from the closest hog pen to the Infantinos' well, which is the closest neighboring well to the farm, is approximately 164+ feet.
34. On January 10, 2017, Matt Brower, Department Environmental Analyst and Nutrient Management Specialist, and Dr. Somers visited the Watts farm to obtain elevation information to determine overland flow direction of water leaving the hog pens during storm events. A Topcon AT-G6 Auto Level was used to determine elevations for the base of the rock wall separating the Meddaugh property from the Infantino property, road elevations and the elevation of the field north of the hog pens. Neighbors raised concerns that water was leaving the farm and flowing into a depression located behind the Infantino residence. Rock wall elevations and hog pen elevations were obtained for pens one (closest to the farm well), two, five and seven. It was determined that the elevation at the base of the rock wall was from 0.33' to 0.96' higher in elevation than the corresponding hog pen. The point with the least difference in elevation was hog pen number 2, which is 0.33 feet lower than the rock wall. The corresponding site on the rock wall appeared to be used as a path between the Infantino and Meddaugh properties because most of the rocks had been removed. It was also determined that the slope of the access road to the pens, that runs between and parallel to the rock wall and the hog pens, sloped to the east toward Vienna Woods Road. In addition, the open field to the north of the hog pens is slightly lower in elevation than the base of the rock wall. The



field in general is nearly level and has a slope of less than 2 percent.<sup>11</sup> Department staff determined, based upon field observations and measurements, that under normal storm events overland flow from a climatic event would move down the farm road and/or into the open field and away from the depression located behind the Infantino residence.

35. According to soil survey information contained within the Greene County Soil Survey, the area where Mr. Watts' hogs are housed is mapped as Tioga loam (Ta). These soils are found on flood plains and contain inclusions of other soils, such as Chenango gravelly loam (CnA). Chenango soils are found on outwash plains and terraces (see attached soils map). According to floodplain data acquired from the Federal Emergency Management Agency (FEMA), the 100-year and 500-year floodway is located adjacent to an unnamed stream, south of the Meddaugh property and behind the neighboring houses south of the hog facility. The floodway generally follows the soil survey area delineated as *Fluvaquents-Udifulvents complex, frequently flooded* (Fu). Department staff did not observe signs of flooding on-site and no information was provided that the property where the hogs are located has flooded. It is believed that due to the lack of flooding, the soils associated with the hog facility are Chenango gravelly loam. These soils are well drained and somewhat excessively drained, exhibit moderate or moderately rapid permeability in the subsoil and rapid permeability in the substratum, and have a seasonal high water table of more than 6 feet.<sup>12</sup>
36. On March 9, 2017, Dr. Somers visited the Watt's farm and took water samples from the first dry hydrant closest to the well house. Samples were collected in bottles acquired from St. Peter's Hospital Environmental Laboratory, 19 Warehouse Row, Albany, New York. A bottle labeled Total Coliform and another bottle labeled Nitrate were used for the collection of water samples from the first dry hydrant. The water was left running for five minutes, collected in a 5-gallon pail, and emptied onto the adjacent field to flush the system, as described in the St. Peters Hospital Environmental Laboratory literature. Once the system was flushed, samples were collected, placed into a cooler with ice, and within an hour, placed in a refrigerator at 10B Airline Drive, Albany, New York. The water samples were taken to St. Peter's Hospital Environmental Laboratory and received by the lab at 9:44 a.m. the following morning on March 10, 2017. The lab performed an analysis of the samples and found the sample to be NEGATIVE for Total Coliform and NEGATIVE for *Escherichia coli*. The sample was also NEGATIVE when screened for total residual chlorine. The Nitrate sample contained 0.03 mg/L of Nitrate as elemental Nitrogen, which is below the federal nitrate drinking water standard 10 mg/L, established by the Environmental Protection Agency. NYSDOH Part 5, Subpart 5-1, Public Water Systems Tables, Table 2 establishes a 10 mg/L level for Total Nitrate and nitrite, but allows a Maximum Contaminant Level of 20 mg/L for noncommunity water systems if certain conditions are met. The St. Peter's Laboratory stated that all test results are within acceptable limits (see attached laboratory analysis).
37. A review of scientific literature provides that in rural areas, nitrate is one of the most common groundwater contaminants.<sup>13</sup> The authors of this study state that the primary source of the

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<sup>11</sup> William A. Broad, Soil Survey of Greene County, New York. 1993. USDA Soil Conservation Service.

<sup>12</sup> Ibid, 6

<sup>13</sup> McCasland, Margaret, Nancy M. Trautmann, Keith S. Porter and Robert J. Wagenet. Nitrate: Health Effects in Drinking Water. 2012. Cornell University

contaminant comes from "...fertilizers, septic systems and manure storage or spreading operations." In a paper written by the Water Research Center<sup>14</sup>, nitrate is present in low concentrations throughout most of Pennsylvania, but in intensively farmed areas, nitrate-nitrogen concentrations approach or exceed 10mg/L. Nitrates in drinking water above 10 mg/L is considered a significant health concern, particularly to infants. The Water Research Center suggests that if domestic wells are located near point sources of contamination (livestock facilities and sewage disposal areas), the wells should be tested at least once a year to monitor fluctuations in nitrate concentration. The well on the Meddaugh property is the only well that is located closer than 100 feet from a livestock holding pen. The number of animals contained within those pens are small when compared to facilities cited in the general literature, which house thousands of animals.

### Findings

Based upon the facts, information and circumstances described above, and in consultation with the Advisory Council on Agriculture, the New York State College of Agriculture and Life Sciences at Cornell, the Natural Resources Conservation Service and the Sound Agricultural Practice Guidelines<sup>15</sup> by which agricultural practices are evaluated, I find the following:

1. The Department has found no evidence or received other information indicating that Mr. Watts is in violation of federal, state or local law resulting from the raising of hogs on land rented from Mark Meddaugh. According to the Town CEO, Mr. Watts is in compliance with the Town Code. He has not been cited for any violations from the Town, the County Health Department or the Department of Environmental Conservation.
2. The Department has found no evidence that the raising of hogs in their current location has resulted in bodily harm or property damage off the site. Although neighbors allege that the quality of their drinking water may be impacted, no evidence has been presented to indicate that their wells have been contaminated. The Department drew water samples which were analyzed by the St. Peter's Hospital Environmental Laboratory and concluded that the well water on the Meddaugh property is negative for E. Coli and the nitrate level does not exceed, and is significantly below, the EPA and NYS DOH's drinking water standard. The Department's *Guideline for Review of Local Laws Affecting Nutrient Management Practices...Animal Waste Storage/Management* states that 100 feet from a well is a reasonable setback from animal pens. This is a guideline, not a requirement.

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<sup>14</sup> Brian Oram. Nitrates and Nitrites in Drinking Water and Surfacewaters. Water Research Center. Dallas, Pennsylvania. [www.water-research.net/index.php/nitrate](http://www.water-research.net/index.php/nitrate).

<sup>15</sup> On November 1, 1993 the NYS Advisory Council on Agriculture published its report entitled *Protecting the Right of New York Farmers to Engage in Sound Agricultural Practices*. The Council developed guidelines to assist the Commissioner of the Department of Agriculture and Markets in determining what is sound pursuant to Section 308 of the Agriculture and Markets Law. The Guidelines state that the practice 1) should be legal; 2) should not cause bodily harm or property damage off the farm; 3) should achieve the results intended in a reasonable and supportable way; and 4) should be necessary. The sound agricultural practices guidelines recommended by the Advisory Council on Agriculture are given significant weight in assessing agricultural practices.

Based upon site topography and well tests, it does not appear that the quality or the potability of the groundwater has been affected by the hog farm. At this time, test results do not indicate that a water quality problem exists. Furthermore, due to the layout of the land, absent modifications to the land from human activity, it is unlikely that the overland flow of water will enter the Infantino property.

The Department's investigation and review of written statements submitted by neighbors and others show a wide variation in the perception of the nature, frequency and intensity of the odor emanating from the farm. Studies suggest that odor may cause various health problems, including respiratory problems, allergies and nausea. Department staff and the Town's Code Enforcement Officer have detected no unusually strong odor from the farm during numerous visits made during the course of the review. Although most of the studies concerning odor are conducted on farms where high concentrations of animals are confined in a building, they indicate that the levels of certain gases outside of a swine facility are of such concentrations to not cause health problems. In fact, scientific studies indicate that the compounds coming from swine facilities do not exceed safe air standards and are not hazardous to humans because they are diluted once outside the facility.<sup>16,17</sup> Since odor is partially related to management, Mr. Watts should be sensitive to his neighbors' concerns and clean the pens more often when the temperature, wind conditions, rainfall and humidity cause the odor to spike. However, depending upon climatic conditions, from time to time, odor from livestock operations may be detected off-site. Since the manure is not stockpiled on site and is taken to a compost pile located behind the Watts' residence, the Department is not aware of any further agricultural management practices that can be used to reduce odor.

3. The Department found that Mr. Watts' animal husbandry practices, in the raising of hogs for market, are reasonable and supportable. Mr. Watts' sales records indicate that he is selling the hogs to local customers, and at auction. Further, the raising of the hogs at their current location has produced market hogs in a reasonable and supportable manner. The Department asked Mr. Watts if the hog pens could be moved to a location closer to a well found on the same Meddaugh parcel, but adjacent to Mountain Avenue. Mr. Watts stated that his uncle raises goats on his property directly across the road from that well. Since Mr. Watts' uncle sells his goats to individuals who do not eat pork, the presence of a hog operation adjacent to where the goats are being raised would, more than likely, diminish the marketability of his goats. Therefore, this is not a feasible alternative.
4. Information received by the Department indicates that Mr. Watts is raising and selling hogs in support of his farm operation on rented land that is owned by his uncle. His operation is relatively small and based upon conversations with Mr. Watts, he has been able to successfully raise piglets and sell the same to the public. He has brought electricity to the site to run the well pump and has plans to install lights to each pen to eliminate the need for a generator on the site. This will drastically reduce the noise levels. Pigs require a

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<sup>16</sup> Miner, Ronald J. and Clyde L. Barth. Controlling Odors from Swine Buildings. 1988. Pork Industry Handbook. PIH-33 (REV).


<sup>17</sup> Swine Odor Task Force. Options for Managing Odors. 1995. North Carolina State University.

constant, fresh supply of clean water. This location is near an existing well and shade from an existing tree line protects the hogs from getting sunburn.

### Conclusion

Based on the information and findings set forth above and in accordance with section 308 of the Agriculture and Markets Law, I conclude that the production and marketing of hogs by Mr. Watts, as it relates to noise, odor and water quality of the surrounding area, as described above, is sound.

8/8/17  
Date

  
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RICHARD A. BALL  
Commissioner of Agriculture and Markets