U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency

DRAFT ENVIRONMENTAL ASSESSMENT

Proposed Swine Barn Construction at:
Carroll County, TN Tax Map 061, Parcel 0001.00

Prepared By

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State Environmental Coordinator
July 28th, 2020
Proposed Action: The Farm Service Agency (FSA) of the United States Department of Agriculture (USDA) proposes to provide Farm Loan Program assistance to finance the construction of two swine barns, 200'X100' each capable of housing 2,600 head each for a total of 5,200 head, composters, including site preparation, pads, access road construction, utilities and other related infrastructure. The project would be located at 401 Bright Road, Huntingdon, TN in Carroll County. Tax Map 14, Parcel 001.00.

Type of Document: This is a site-specific Environmental Assessment

Lead Agency: USDA, FSA

Cooperating Agencies: None

Further Information: Anita W. Mullins, Farm Loan Officer, 630 High Street, Huntingdon, TN 38344

Comments: This Environmental Assessment (EA) was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, and FSA implementing regulations found in 7 CFR 799, as well as Public Law 91-140, 42 US Code 4321-4347, as amended.

A copy of the Draft EA (DEA) and related material is available at USDA, Farm Service Agency, 630 High Street, Huntingdon, TN 38344 or online at: https://www.fsa.usda.gov/state-offices/Tennessee/index
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1. INTRODUCTION

1.1 Background
The United States Department of Agriculture (USDA) Farm Service Agency (FSA) proposes to provide assistance for the construction of two – 200’X100’ wean-to-finish swine barns and related equipment that would be located on Carroll County Tax Map 061, Parcel 001.00 off Bright Road in Huntingdon, TN. The subject real estate is a 46.4-acre tract. Appendices contain maps and photos of the proposed project area. A detailed description of the components of the proposed project, the project sites and related surrounding area of potential effect are further described in Section 2.1 of this document.

1.2 Purpose and Need for the Proposed Action
The purpose of the proposed project/action is to implement USDA, FSA Programs, to make available economic opportunity to help rural America thrive, and to promote agriculture production that better nourishes Americans and help feed others throughout the world. FSA is tasked with this mission as provided for by the Food and Security Act of 1985 as amended, the Consolidated Farm and Rural Development Act as amended, and related implementing regulations found in 7 CFR Parts 762 and 764.

The need for the proposed action is to fulfill FSA’s responsibility to provide access to credit, and to help improve the stability and strength of the agricultural economy, including to start, improve, expand, transition, market, and strengthen family farming and ranching operations, and to provide viable farming opportunities for family and beginning farmers and meet the needs of small and beginning farmers, women and minorities. Specifically, in the case of this loan request, FSA’s need is to respond to the applicant’s request for funding to support the proposed action.

FSA Farm Loan Program Assistance is not available for commercial operations or facilities that are not family farms, or to those having the ability to qualify for commercial credit without the benefit of FSA assistance. The applicant has been determined to be a family farm as defined by 7 CFR 761.2. The proposed action would allow the applicant the opportunity to establish a family farming operation and provide the economic stability to meet the needs of the family.

In addition, swine integrators have a demand for new facilities such as these to provide an adequate supply for processing plants and keep them operating at an economically feasible capacity. Specialized livestock facilities such as those proposed, have a limited useful life as they become functionally obsolete as technology advances. Accordingly, a pipeline of new facilities is necessary to insure an adequate and economical supply of low-cost protein food for the nation.

1.3 Decision To Be Made
FSA’s decision is whether to:
• Approve the applicant’s loan request;
• Approve the request with additional mitigations; or
• Deny the loan request.
### 1.4 Regulatory Compliance

This Draft Environmental Assessment (DEA) is prepared to satisfy the requirements of NEPA (Public Law 91-190, 42 United States Code 4321 et seq.); its implementing regulations (40 CFR 1500-1508); and FSA implementing regulations, *Environmental Quality and Related Environmental Concerns – Compliance with the National Environmental Policy Act* (7 CFR 799). The intent of NEPA is to protect, restore, and enhance the human environment through well informed Federal decisions. A variety of laws, regulations, and Executive Orders (EO) apply to actions undertaken by Federal agencies and form the basis of the analysis.

All fifty states have enacted right-to-farm laws that seek to protect qualifying farmers and ranchers from nuisance lawsuits filed by individuals who move into a rural area where normal farming operations exist, and who later use nuisance actions to attempt to stop those ongoing operations. The Right to Farm law for Tennessee (TN. Code Title 43 Chapter 26) protects farming operations from nuisance claims when farms were established prior to the use of the area surrounding the agricultural operation for nonagricultural activities and those farms employ methods or practices commonly or reasonably associated with agricultural production.

### 1.5 Public Involvement and Consultation

Scoping is an early and open process to involve agencies, organizations, and the public in determining the issues to be addressed in the environmental document. Among other tasks, scoping determines important issues and eliminates issues determined not to be important; identifies other permits, surveys and consultations required with other agencies; and creates a schedule that allows adequate time to prepare and distribute the environmental document for public review and comment before a final decision is made. Scoping is a process that seeks opinions and consultation from the interested public, affected parties, and any agency with interests or legal jurisdiction.

#### 1.5.1 Internal Scoping

USDA Farm Production and Conservation (FPAC) staff of various specialties have been consulted regarding the purpose and need, issues and impact topics appropriate for consideration for the proposed activity. A site visit and pedestrian review was completed by Anita Mullins, FLO of the USDA Farm Service Agency on 1/27/2020. During the visit no concerns were noted therefore no report or notes referencing the site visit are needed.

#### 1.5.2 External Scoping

USDA FSA has completed research and the following tasks and efforts:

- Research of U.S. Fish and Wildlife Service (USFWS) - Information, Planning, and Conservation System (IPaC) about the project’s potential to affect federally listed species as required by the Endangered Species Act of 1973 See Appendix D.
- Consultation with the State Historic Preservation Officer (SHPO) to ensure that compliance with the requirements of Section 106 of the National Historic Preservation Act (NHPA) are
met and that adverse impacts to historic properties would not result from the project (See Appendix E).

- Consultation with Linda Langley, Coushatta Tribe of Louisiana, Tribal Historic Preservation Officers (THPO) and Kirk Perry, Historic Preservation Executive Officer, Chickasaw Nation to ensure that compliance with the requirements of Section 106 of the NHPA are met and that adverse impacts to historic properties that these Indian Tribes hold as religiously or culturally significant would not result from the project. (See Appendix E)

- FSA staff conducted a site visit and completed an FSA-858 Wetland Screening Tool Form as an official NRCS Wetland Determination was not available for the proposed site. Findings of the FSA-858 Form indicated that wetland resources would not be impacted by the proposed action. Further consultation with the U.S. Army Corps of Engineers (USACE) was not necessary to determine the absence, presence, and extent of wetlands and waters of the United States. (See Appendix J)

1.5.3 Public Involvement

The DEA documents are available for public review and comment during the public comment periods as provided in the published Notice of Availability. The draft and all underlying documents are available at USDA, Farm Service Agency, 630 High St. Huntingdon, TN 38344. Two Notice of Availability documents each describing the proposed operation were published in The Banner, McKenzie TN on 4/7/2020 through 4/20/2020. Written comments were received. Comments were compiled and reviewed. After consideration is was determined that the comments did not require alteration of the environmental assessment as written. Comments are attached. The DEA documents are also available for review online at: https://www.fsa.usda.gov/state-offices/Tennessee/index.
2. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Alternative A - Proposed Action

The proposed project would consist of two wean-to-finish swine barns located at 401 Bright Road, Huntingdon, TN in Carroll County. The proposed project includes the construction of the 2 wean-to-finish hog barns each with deep pit manure storage. Compost facility, site preparation, pads, access road construction, utilities and other related infrastructure. The barns would each have the capacity to house 2,600 head for a combined total of 5,200 head that would be located on the farm at maximum capacity. The integrator plans for each facility to be able to complete 1.5 production cycles each year. The integrator would determine the target weight of the finished product, which is dependent on supply and demand, integrator needs, and is always subject to change.

The farm is accessed via Bright Road which runs east to west and is located south of the proposed construction site. The Carroll County Road Superintendent was contacted to determine if the roads accessing the proposed site would be capable of handling the hog truck traffic. The Road Superintendent stated that “Renfroe Rd. should not be an issue, Bright Rd. is narrower than Renfroe Rd. but should not be an issue either. The roads should hold up. They handle large garbage trucks presently. If the roads need repairing, they (Highway Department) would have to repair.”

The site has a large open row crop field located in front of proposed site, trees surround the proposed barn site from 3 directions. The Area of Potential Effect (APE) is rural and contains numerous cattle, hay and crop farming operations. While similar hog operations are located in Carroll and neighboring counties due to the hog integrator being located in Henry, TN this would be the first Hog CAFO in the APE. The closest similar hog CAFO operation is located approximately 7.5 miles NE from the proposed site. Approximately 880 feet to the east of the proposed site is a blue line stream which is an unnamed tributary of Beaver Creek. The closest house is approximately 0.17 miles away from proposed barn site. The Carroll County Mayor was contacted to discuss any existing local or state zoning or setback requirements. Neither the State of Tennessee or Carroll County have zoning or setback requirements requiring minimum setbacks from area residences. FSA was provided with a copy of Tenn. Op. Atty. Gen. No. 18-30 (Tenn. A.G.) 2018 WL 3494004 which is a state law regarding county regulations of CAFOs. This document states that TN’s zoning statutes do not authorize counties to regulate CAFOs. Carroll County is rural and produces an abundance of grain, cotton, hogs, and cattle. From a review of the 2017 Census of Agriculture Data Carroll County ranks 33rd out of 95 TN Counties for hog production. These hogs are mainly housed in large CAFO type facilities due to an integrator being co-located in nearby Henry, TN.

From review of the NRCS Hydric Rating Map, slopes on the farm average 0-20% with the majority of the farm 0-8% slopes. All areas of the proposed disturbance site have a “0” Hydric Rating meaning that hydric soils are not present at the disturbance site. The applicant has been issued an NPDES Stormwater Permit ( Permit # TNR122287) which would require implementation and maintain measures that are sufficient to prevent pollution at the site as evidenced by the permit being granted by the TDEC, the regulatory authority. The proposed site for ground disturbance is currently pasture ground in sage grass. The barns would be stacked and running east to west. The barns would be accessed via Bright Road to the load out areas. Water to the proposed facilities would be provided via 2 separate individual private wells located on the NW corner of the barn sites. The most recent USGS water use estimate for
Carroll County was prepared in 2005. The total human population of the county at that time was 29,121. The total population served by public water supplies was 19,398. Population served by domestic wells was 9,723. Livestock use drawn from ground and surface water was estimated at 200,000 gallons each per day. Wells in the area range from 50’ to 200’. Adverse impacts to water quality would not be expected from construction of the proposed facilities which obtained an NPDES Stormwater Construction Permit to prevent discharges of silt and sediment during construction. Adverse impacts to water quality would also not be expected from operation of the proposed facilities following the guidelines of the site-specific Comprehensive Nutrient Management Plan provided for the proposal. Power to the proposed facilities would be provided by the Carroll County Electric Department. There would also be 2-1,000-gallon propane tanks installed on-site to provide heat. The propane would be purchased from local suppliers in the area. The proposed plan includes installation of a generator with a 100-gallon fuel tank that would be housed on-site.

Provisions of the site specific CNMP also include that the facility construct a waste impoundment structure according to NRCS Practice Standard 313 specifications to temporarily store waste such as manure, wastewater, and contaminated runoff as a function of an agricultural waste management system which would protect the environment and public health and safety. The manure pits at each barn would have a capacity of 1,094,583 gallons each. The annual estimated manure collected would be 800,000 gallons each. Each barn would have 499 days of maximum storage. A Compost facility would also be constructed to properly dispose of mortalities per NRCS Practice Standard 317. The operation plans to export all manure off-site to generate income for the operation as local farmers would use the manure as fertilizer as stipulated by the site-specific requirements of their respective CNMP in compliance with permissible TDEC, the responsible regulatory agency. The manure will be pumped and removed from the site once per year. To assist in mitigating odor concerns as mentioned by the public, the applicant proposes to install 6-8 air purifiers at the suggestion of the integrator. The exhaust fans would also be facing the existing wooded area around the site. At this time no additional buffers or trees are planned for installation since the proposed site would be surrounded by existing trees except for the front drive-in, load-out area.

Leveling at the pad sites would occur, with sloping to accommodate surface water runoff. The pads for the proposed houses would be slightly larger than the dimensions of the houses themselves. There would be additional leveling in the proposed load out area. Access roads leading to the proposed barns at both sites would require minimal grading and leveling. The proposal includes access roads for live haul of hogs, feed, and utility trucks. The access road to the proposed site, would all be covered with gravel. Trenches for the underground electric lines would be dug to an approximate depth of 3 feet deep.

There are no connected actions associated with this project proposal at this time with exceptions of the planned composter. The applicants have no intention of a future expansion of the proposed operation currently.

### 2.2 Alternative B - No Action Alternative

The No Action Alternative means the loans would not be made and the operation cumulatively described in Section 2.1 above (Proposed Action) would not be built. No significant changes to the proposed site would take place, the project would not move forward, and there would be no impacts.
2.3 Alternative C – Alternative Locations

Alternative locations would not be feasible, as the project would take place on property owned by the applicant. Due to the size and layout of the tract, re-locating the barns in a fashion other than what is being proposed would not be ideal. The current location of the proposed barns would provide minimal impact to trees on-site. The location would also provide for the most surrounding wooded areas which provide visual and auditory buffers. The proposed site would have the least impact on surrounding properties.

Alternative configurations were not considered due to the possibility of having a greater impact on the affected environment, but for integrated operations the farm owners/operators must comply with very specific logistical and design requirements.

2.4 Alternatives Considered but Eliminated From Analysis

Other locations for the farm or other uses for the land in question are not considered here because such options do not meet the purpose and need for the proposed action. The applicant also does not have the option to locate the proposed facilities elsewhere. The applicant has applied for assistance for the proposed construction of a new large CAFO. FSA’s decision to be made is to approve the loans for the proposed farms as designed, to deny the loan, or to approve the loan with additional mitigations, practices or methods that would be needed to minimize or eliminate impacts to protected resources.

Similarly, alternative designs of farm components are not considered as the producer’s agreement with a swine integrator requires adherence to the integrator’s construction and equipment specifications, which are in place to ensure consistency, maximize production, and reduce loss. Design alternatives that would involve modification of features and infrastructure put in place by an integrator would jeopardize the availability of livestock placement, be grounds for a potential loss of the contract with the integrator, and therefore the viability of the farm. Accordingly, this alternative would not warrant further consideration.
3. **AFFECTED ENVIRONMENT AND IMPACTS**

The impacts to several protected resources, as defined in FSA Handbook 1-EQ (Revision 3) Environmental Quality Programs for State and County Offices, are considered in this EA. Some resources are eliminated from detailed analysis following CEQ regulations (40 CFR 1501.7), which state that the lead agency shall identify and eliminate from detailed study the issues that are not significant or that have been covered by prior environmental review, narrowing the discussion of these issues in the document to a brief presentation of why they would not have a significant effect on the human or natural environment. Resources that are not eliminated are carried forward for detailed analysis. The table below shows the resources that are eliminated from detailed analysis and those carried forward. Section 3.1 contains discussions of those resources eliminated form detailed analysis. Section 3.2 describes the existing conditions for resources carried forward for detailed analysis and the anticipated impacts to those resources resulting from the Proposed Action.

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### 3.1 Resources Eliminated from Detailed Analysis

**Coastal Barrier Resources System**

Coastal barriers are eliminated from detailed analysis as there are no designated Coastal Barriers in Tennessee.

**Coastal Zone Management Areas**

Coastal Zone Management Areas are eliminated from detailed analysis because there are no Coastal Zone Management Areas in Tennessee.
Sole Source Aquifers

Sole source aquifers are eliminated from detailed analysis because there are no sole source aquifers in Tennessee.

Important Land Resources

While prime farmland is located on-site, prime and unique farmland, forestland and rangeland resources are eliminated from detailed analysis because the proposed action would not result in prime and/or important farmland being converted to a nonagricultural use.

Soils

Soils are eliminated from detailed analysis because the land would not be cropped and is therefore not subject to the Highly Erodible Land provisions of the Food Security Act.

Wetlands

Wetlands were eliminated from detailed analysis because there are no wetlands in the project area and the project would not result in discharge or fill into any wetlands. FSA reviewed NRCS Hydric Soil Maps and U.S. Fish and Wildlife’s Wetlands National Wetlands Inventory which indicated no wetlands or hydric soils at the proposed site of disturbance. FSA also completed a pedestrian survey of the project area on 3/25/2020. In addition, applicants executed Forms AD-1026 on 1/18/2020 to certify compliance with the highly erodible land and wetland conservation provisions.

Wild and Scenic Rivers/Nationwide Rivers Inventory (NRI)

The proposed project site is located near an unnamed tributary to Beaver Creek. Wild and Scenic Rivers/Nationwide Rivers Inventory are eliminated from detailed analysis because the Proposed Action is not located within ¼ mile of a Wild and Scenic River or River listed on the Nationwide Rivers Inventory, would not involve destruction or alteration or cause a disturbance to such a river. The nearest Federally listed Wild and Scenic River, The Obed River, located in the eastern part of TN will not be impacted. The nearest State listed Wild and Scenic River is the Hatchie River located in the Southwestern part of Tennessee. There are no rivers listed on the Nationwide Rivers Inventory in Carroll County and any contiguous counties that would be impacted.

Wilderness Areas

There are eleven wilderness areas in Tennessee all located in the eastern part of the state. Therefore, the proposed actions will not have an impact on Wilderness Areas.

National Natural Landmarks

There are thirteen National Natural Landmarks in Tennessee. The site of the Proposed Actions is not located near any of these nor does it threaten to alter or impair them. The closest, Reelfoot Lake is in neighboring Lake and Obion Counties, therefore National Natural Landmarks are eliminated from detailed analysis.

Socioeconomics and Environmental Justice

No impact to population, housing, income, or employment in the region are anticipated to result from the Proposed Action, nor are disproportionate adverse impacts to minority or low-income populations
anticipated. Therefore, socioeconomics and environmental justice are not carried forward for detailed analysis.

### 3.2 Resources Considered with Detailed Analysis

This section describes the environment that would be affected by implementation of the alternatives described in Chapter 2. Aspects of the affected environment described in this section focus on the relevant major resources or issues. Under the no action alternative, the proposed action would not be implemented. The no action alternative would result in the continuation of the current land and resource uses in the project area. This alternative will not be evaluated further in this EA.

#### 3.2.1 Wildlife and Habitat

**Existing Conditions**

The proposed project site is currently sage grass. Wildlife typical of such areas include whitetail deer, squirrels, wild turkeys, raccoons, opossums, and armadillos. A site visit was conducted by FSA staff on 3/25/2020, during the site visit no wildlife were observed by Agency Personnel.

An official list of threatened and endangered species and designated critical habitat for this area of Carroll County was obtained from the US Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) system. The following species are known to occur in this area of the county: Northern Long-eared Bat *Myotis septentrionalis* and Indiana Bat *Myotis sodalis*. The threatened and endangered species list states there are no critical habitats within the project area.

FSA consulted with the USFWS and TWRA on 03/30/2020 regarding the potential of the proposed actions to affect threatened and endangered species. USFWS responded on 04/01/2020 and agreed with FSA’s determination that the project is not likely to adversely impact threatened and endangered species. The TWRA responded on 03/31/2020 and stated they do not anticipate adverse impacts to state listed species under their authority due to the proposed project; provided that best management practices to address erosion and sediment are implemented and maintained. Issues that would be related to erosion and sediment are discussed in the SWPPP and CNMP.

**Impacts of Proposed Action**

According to the NPDES Permit #TNR122287 issued by TDEC an estimated 4.5 acres would be disturbed during construction at the proposed site. Based on findings there are no threatened or endangered species including bats and migratory birds which would be adversely impacted due to the proposed project.

#### 3.2.2 Cultural Resources

**Existing Conditions**

Because the Proposed Action involves some ground disturbing activities in areas not previously evaluated or previously disturbed to the depth required for the Proposed Action, cultural resources require detailed analysis. A site visit was conducted by USDA, Farm Service Agency. There are no sites listed on the National Register of Historic Places within 1 mile of the proposed sites.
FSA consulted with the Tennessee State Historic Preservation Office (SHPO) on 03/30/2020 and received a response on 04/07/2020. The letter provided by The SHPO indicates that after considering the documentation submitted, there are no National Register of Historic Places listed or eligible properties affected by the proposed undertaking. Furthermore, The SHPO had no objections to the proposed undertaking. Public commenters also provided information related to a log cabin located nearby and a Civil War Veteran Cemetery which is located on the 46.4 acre tract but outside of the area of disturbance. The log cabin is located approximately 2,500-3,000 ft NE of the proposed site. The Civil War Cemetery is located in a wooded area 1/3-mile West of the proposed disturbance site. The SHPO provided no objections to either the log cabin or cemetery in responses to FSA dated 6/8/2020 and 6/25/2020.

Additionally, FSA consulted with the following federally recognized Tribes: Chickasaw Nation and Coushatta Tribe of Louisiana. Letters describing the location and details of the Proposed Action were sent to these Tribes on 03/30/2020. Response was received from the Chickasaw Nation on 04/27/2020. The Chickasaw Nation concurred with FSA’s findings. FSA received no response from Coushatta Tribe of Louisiana.

### Impacts of Proposed Action

Based on the consultation with SHPO and the Tribes listed above, no impacts to known cultural resources would be anticipated to result from the Proposed Actions. Impacts to previously unidentified historic properties, including archaeological and historic resources, could occur during land clearing and construction. If such resources were encountered during construction, activities would stop, FSA state and national office personnel would be notified, the TN Historical Commission and/or Tribes would be contacted for further guidance.

#### 3.2.3 Water Quality

**Existing Conditions**

In Tennessee, The Tennessee Department of Environment and Conservation (TDEC) has the authority to enforce provisions of the Clean Water Act that are protective of water quality and to issue permits that are protective of water quality standards. This authority is delegated to TDEC by the Environmental Protection Agency. The TDEC Division of Water Resources issues Stormwater National Pollutant Discharge Elimination System (NPDES) Permits to protect surface waters from contamination from runoff associated with construction. Coverage under the permit is required for construction that causes ground disturbance in excess of 1 acre. The applicants have obtained the required NPDES permit which is identified as permit # TNR122287. TDEC is also responsible for issuing Non-stormwater NPDES Permits issued to facilities that discharge water. Animal Feeding Operations and Confined Animal Feeding Operations that do not discharge into waters of the state do not require NPDES permits for ongoing operations.

The applicants also submitted to TDEC application for a CAFO permit or Notice of Coverage for General State Operating Permit for Concentrated Animal Feeding Operations (CAFOs). The individual permit has not been issued due to TDEC going thru rule changes which currently are in a comment period. Therefore, there is no CAFO Permit that the State of TN can issue at this time. TDEC has suggested that they believe a permit may be available in Spring 2021. Once a permit is available the operator will be
required by state law to apply for and obtain a Large CAFO permit in the state of Tennessee. The proposed operation would be operating under TN State Law until such time that a CAFO permit is available for issuance in TN. This permit when issued by TDEC would indicate that the applicants are approved by TDEC to own and operate facilities which each are capable of safely housing 5,200 hogs. TDEC requires that the CAFO application information also contain a site-specific nutrient management plan (NMP). The applicants have already developed and provided a more detailed NMP which is referred to as a Comprehensive Nutrient Management Plan (CNMP). The applicants have provided this highly detailed document which was developed by a Certified CNMP Planner. The CNMP document maps out the proposed area, identifies, the volume of manure and animal mortalities that would be produced by such a facility, and puts in place plans to properly manage these issues. Please note that the proposal indicates the facilities would be 100% export only of waste, meaning all manure produced would be removed off-site and used as fertilizer on area farms as provided by the limitations of their respective nutrient management plans which are monitored by TDEC. The proposed facility plans to construct a waste impoundment structure according to NRCS Practice Standard 313 specifications to temporarily store waste such as manure, wastewater, and contaminated runoff as a function of an agricultural waste management system which would protect the environment and public health and safety. The manure pits at each barn would have a capacity of 1,094,583 gallons each. The annual estimated manure collected would be 800,000 gallons each. Each barn would have 499 days of maximum storage. Mortalities would be composted on-site, and the composter would be constructed per NRCS Conservation Practice Standard 317.

**Impacts of Proposed Action**

The Proposed Action would disturb 4.5 acres of land. The applicants have received coverage under a an NPDES General Permit. With adherence to the best management practices described in the SWPPP, minimal impacts to surface water from the proposed construction are anticipated. The farm would not discharge into waters of the state and therefore no impacts to state surface waters would be anticipated. NRCS Conservation Practice 313 states that that the waste storage facility should be at least 200 feet away from private wells and 300 feet away from public wells. Per the CNMP all waste would be hauled off-site to be used as fertilizer in compliance with TDEC requirements in order to be protective of surface water quality. The site-specific CNMP indicates that each barn will produce 800,000 gallons or a combined total of 1,600,000 gallons of manure annually. The in-house storage pits would be capable of handling 1,094,583 gallons each or a combined total of 2,189,166 gallons worth of manure. The operation would have 499 maximum days of manure storage. 100% of the manure would be sold per the CNMP and removed to other locations.

No significant impacts to water quality are anticipated to result from the Proposed Action.

**3.2.4 Air Quality**

**Existing Conditions**

The proposed farm would not be required to obtain an air permit in accordance with TDEC the state water permitting authority, since air emissions for defined criteria pollutants at the facility do not exceed the permitting thresholds considered protective of air quality. Potential air quality effects
considered here include odor and dust production, which may be associated with construction activities and the ongoing operations of the farm.

The site of the Proposed Actions lies in Carroll County in a rural area where agriculture, including livestock feeding operations, are common. Carroll County ranks 33rd out of 95 counties for production of hogs and pigs, many of which are housed at similar CAFO operations. The proposed construction site has areas of hardwood timber surrounding it from the south, east, and northern directions. These areas of trees will all help act as a natural buffer that would filter out odors, dust, and other particulate matter that would be produced at the proposed facilities. There are approximately 35 homes located within a 1 square mile radius of the proposed site with the closest home being approximately 900 feet west of the proposed barn site. The town center of McKenzie is located approximately 8.8 miles north of the proposed site. The town of Huntingdon is located approximately 5.5 miles northwest of the proposed site. The proposed farm would employ widely accepted methods and practices that are commonly and reasonably associated with agricultural hog production and in keeping with the existing zoning, set back and right to farm laws. The proposed operation also would install 6-8 air purifiers on each exhaust fan at the suggestion of the integrator. The exhaust fans would also be facing the existing wooded area around the project site.

**Impacts of Proposed Action**

Construction activities that disturb the soil surface could generate dust. Such impacts would be minor, temporary and localized, generally confined to the farm property and ongoing only during construction. Exposed soils could be wet down to control fugitive dust. Similarly, during construction, minor and localized emissions associated with heavy machinery could be expected. None of the proposed construction related impacts would have a significant or long-term adverse impact to surrounding air quality.

During operation of the farm, roads used by delivery trucks would be graveled to minimize dust associated with travel. Dust generated while the facility is in operation would occur mostly during feeding. Odor would be controlled through management of the barns’ ventilation systems, as is required by integrators for livestock health. Dilution of odors is caused through the mixing of odors with ambient air and is a function of distance, topography, and meteorological conditions. Prevailing winds are from the south and would serve to facilitate the dispersion of odors to a northern direction. Based on the climate of the southeastern United States, there would be a few days in the year when weather conditions and humidity may cause odor to linger in the vicinity. Based on the installation of air purifiers on each exhaust fan and the fans exhausting toward the three wooded areas surrounding the proposed site, odor impacts are expected to be minimal.

3.2.5 *Floodplains*

**Existing Conditions**

The Proposed Action would involve disturbance of 4.5 total acres just north of Bright Road. Based on FEMA Flood Panel 47017C0150C, the proposed site is not located in a floodplain or near a floodplain.
Impacts of Proposed Action

Impacts to floodplains are not expected. All proposed structures and ground disturbance, including the access road would be built outside of existing floodplains.

3.2.6 Noise

Existing Conditions

Existing conditions on site are generally quiet, although noise from farm tractors and equipment, truck traffic, cattle, and other farming and human activity does exist, but is temporary in nature.

Impacts of the Proposed Action

The Proposed Action would establish a hog operation consisting of 5,200 head of hogs. Noise levels would increase slightly during normal, daylight working hours during the construction phase of this project, which typically lasts about 6 months. Upon completion, noise from the Proposed Action would permanently increase noise levels in this area; however, noise from livestock would be insignificant as they are contained within the houses which are set back from property lines and further muffled by insulation within these structures and existing vegetative buffers. These measures would also aid in mitigating periodic equipment usage and truck noise associated with the movement of livestock, feed, supplies and materials. Such activities would rarely take place other than during daylight hours, be infrequent in nature, of brief duration and low intensity. Similarly, noise from generators would be limited to a few minutes of periodic testing and they would only operate on a temporary basis in the event of emergencies should power be lost. As such noise would be of irregular and infrequent duration and would not be significant. Additionally, Tennessee’s Right to Farm Law protects operation of farms that were established prior to the use of the area surrounding the agricultural operation for nonagricultural activities and those farms which employ methods or practices commonly or reasonably associated with agricultural production. As integrated hog production is a mainstay of the state’s economy the related production methods have long been the accepted prevailing practice for widespread production both in Tennessee and throughout the country.

Implementing the Proposed Action would increase noise levels in the immediate vicinity during the limited period of construction. This increase would be temporary, resulting from operation of heavy equipment during normal working hours. Construction of a facility this size would typically take 6 months from start to finish.

Truck traffic servicing the facility would occur infrequently and during normal daylight working hours. Livestock hauling and feed delivery, requires occasional truck and equipment operation during the evening and early morning hours. The farm’s backup generator would only be in operation during a power outage or for routine testing.

The proposed action is not expected to significantly affect ambient noise levels in the area or the nearest dwelling.
4. **Cumulative Impacts**

The cumulative impacts analysis is important to understanding how multiple actions in a particular time and space (e.g., geographic area) impact the environment. The CEQ regulations define cumulative effects as “...the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions” (40 CFR § 1508.7). Whereas the individual impact of one project in a particular area or region may not be considered significant, numerous projects in the same area or region may cumulatively result in significant impacts.

Cumulative impacts most likely arise when a relationship exists between a proposed action and other actions occurring in a similar location or time period. Actions overlapping with or in proximity to the proposed action would be expected to have more potential for a relationship than those more geographically separated. Similarly, actions that coincide in time, may have the potential for cumulative impacts.

Establishing an appropriate scope for cumulative impacts analysis is important for producing meaningful analysis that appropriately informs agency decision making. This involves identifying geographic or temporal boundaries within which to identify other activities that could contribute to cumulative impacts to resources. Boundaries should consider ecologically and geographically relevant boundaries which sustain resources of concern. Temporal boundaries will be dependent on the length of time the effects of the proposed action are estimated to last and analysis commensurate with the project’s impact on relevant past, present, and reasonably foreseeable activities within those boundaries. For example, small scale projects with minimal impacts of short duration would not likely contribute significantly to cumulative impacts. CEQ guidance (2005) reinforces this, stating:

“The scope of the cumulative impact analysis is related to the magnitude of the environmental impacts of the proposed action. Proposed actions of limited scope typically do not require as comprehensive an assessment of cumulative impacts as proposed actions that have significant environmental impacts over a large area. Proposed actions that are typically finalized with a Finding of No Significant Impact usually involve only a limited cumulative impact assessment to confirm that the effects of the proposed action do not reach a point of significant environmental impacts”

This cumulative impact analysis focuses on the potentially affected resource (identified in section 3.2 of this document) and uses natural local boundaries to establish the geographic scope within which cumulative impacts could occur. Relevant past, present and reasonably foreseeable activities identified in Section 4.2 are based on potential geographic and temporal relationships with the proposed action within those identified boundaries. Cumulative effects on those resources are described in Section 4.3.
4.1 Past, Present and Reasonably Foreseeable Actions

Analysis of cumulative analysis is forward looking and focuses on Carroll County where the proposed action would be implemented and the related area which includes the resources of concern. The purpose is to assess if the reasonably foreseeable effects of the proposed action would have an additive relationship to other past effects that would be significant, and to examine its relationship other actions (e.g. Federal, State, local, and private activities) that are currently taking place or are expected to take place in the reasonably foreseeable future.

Federal, State, local, and private activities that are currently taking place, have occurred in the past, or may reasonably be assumed to take place in the future in the cumulative effects area include the following: Per US Census Quick Facts Carroll County encompasses 599.25 square miles, and has a population of 28,020. Per the 2017 Census of Agriculture there were at the time, 662 farms encompassing 169,536 total acres or an average farm size of 256 acres. Carroll County ranks 33th in the state for hog production.

4.2 Cumulative Analysis

Some resources considered for detailed analysis above (in Section 3.2) could be directly or indirectly affected by the Proposed Actions and therefore the Proposed Actions could contribute to additive or interactive cumulative effects to these resources. For other resources, no such contributions to cumulative effects are anticipated because no direct or indirect impacts would occur based on program requirements.

The significance of cumulative effects is dependent on how impacts compare with relevant thresholds, such as regulatory standards. Regulatory standards can restrict development by establishing thresholds of cumulative resource degradation (CEQ 1997):

“Government regulations and administrative standards...often influence developmental activity and the resultant cumulative stress on resources, ecosystems, and human communities. They also shape the manner in which a project may be operated, the amount of air or water emissions that can be released, and the limits on resource harvesting or extraction.”

Cumulative effects in this analysis are described relative to regulatory standards and thresholds in accordance with CEQ guidance. FSA relies on the authority and expertise of regulatory agencies, which have broad knowledge of regional activities that could affect the sensitive resources they are responsible for protecting, and to ensure through their permitting and consultation processes that its activities are not likely to contribute to significant negative cumulative resource impacts.

4.2.1 Wildlife and Habitat

Contributions of the Proposed Action to cumulative impacts include removal of existing vegetation and the loss and fragmentation of wildlife habitat. No impacts to Threatened and Endangered Species are anticipated based on program requirements. The applicants also propose to replant disturbed areas around the proposed sites with permanent vegetation and grasses after construction of the proposed facilities, which could provide some value as wildlife habitat. Such impacts would add to vegetation and
habitat lost as a result of past, present and reasonably foreseeable activities in the region of the Proposed Actions including loss of native vegetation communities to agriculture, residential and commercial development and road building, recreation and other human activities. The Proposed Actions would not be anticipated to result in long term or adverse impacts or to endangered species or their habitat. No cumulative impacts are anticipated based on program requirements.

4.2.2 Cultural Resources

Based on program requirements, which call for coordination and consultation with State and Tribal Historic Preservation Offices, no impacts to known cultural resources are expected to result from the Proposed Actions. There is the potential for encountering unknown cultural resources during construction. Though unlikely, potential loss and damage to unknown cultural resources could occur, adding to similar potential impacts from other past, ongoing, and future developments that have the potential to degrade and destroy cultural resources.

4.2.3 Water Quality

During construction of the Proposed Actions there is the potential for mobilization of exposed soil; however those impacts would be temporary and minor, and minimized by adherence to terms of the SWPPP. Such impacts would add to impacts to water quality resulting from residential, municipal, industrial, and commercial development, particularly the use of septic systems, as well as runoff from roads and development, and agricultural production. Once the disturbed areas are revegetated or otherwise stabilized, no impacts to water quality would be expected. By following the site-specific CNMP guidelines for storage and disposal of waste off-site and by adherence to the NRCS Composting guidelines no adverse water quality impacts would be expected in the operation phase of the proposed facilities. Since there are no long-term effects to water quality, the proposed action would not be expected to contribute significantly to cumulative effects to water quality.

4.2.4 Air Quality

The site of the Proposed Actions lie in the Big Buck Community a rural area in Carroll County. The proposed site has several acres of timber surrounding it from three directions. These areas of trees will all help act as a natural buffer that would filter out odors, dust, and other particulate matter that would be produced at the proposed facilities. Per integrator suggestion, the applicant also proposes to install 6-8 air purifiers on each exhaust fan. The exhaust fans would also be pointed and exhausting into the wooded areas of the proposed site further mitigating potential odor impacts.

Additionally, Tennessee’s Right to Farm Law protects operation of farms that were established prior to the use of the area surrounding the agricultural operation for nonagricultural activities and those farms which employ methods or practices commonly or reasonably associated with agricultural production. As integrated swine production is a mainstay of the state’s economy the related production methods have long been the accepted prevailing practice for widespread production both in Tennessee and throughout the country.
Dust would be generated from soil disturbance and equipment usage during construction and during operation as a result of equipment use, delivery trucks, and feeding systems. Such impacts would be minor, intermittent, and localized. Though such impacts are not expected to be significant, they would add to dust generated by other activities in the immediate vicinity of the farm.

Odor impacts from the proposed action including from the barns, manure storage pits, and land application of manure on surrounding farms, though not significant, would add to other sources of odor in the area including existing cattle and swine farms located in the county.

### 4.2.5 Floodplains

The Proposed Action would not involve proposed construction activities within a floodplain. No cumulative impacts would be expected.

### 4.2.6 Noise

Increases in noise levels would be minimal compared to existing conditions. There are no local or state noise ordinances, based on Program Requirements.

### 4.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

NEPA requires that environmental analysis include identification of any irreversible and irretrievable commitments of resources which would be involved should an action be implemented. The term irreversible refers to the loss of future options and commitments of resources that cannot be renewed or recovered or can only be recovered over a long period. Irreversible commitments apply primarily to the use of nonrenewable resources, such as minerals or cultural resources, or to factors such as soil productivity, that are renewable only over a long period. Irretrievable refers to the loss of production or use of natural resources. For example, when a road is built through a forest, some, or all of the timber production from an area is lost irretrievably while an area is serving as a road. The production lost is irretrievable, but the action is not irreversible. If the use changes, it is possible to resume timber production. No irreversible resource commitments would occur as a result of the Proposed Action. Irretrievable resources include those raw materials and fuels used during construction.
## 5. List of Preparers and Persons and Agencies Contacted

### List of Preparers

<table>
<thead>
<tr>
<th>Name and Title</th>
<th>Education and Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tim Storey, State Environmental Coordinator, FSA, Tennessee</td>
<td>BS, Agriculture and Ag Communications Years of Experience: 10 years</td>
</tr>
<tr>
<td>Anita W. Mullins Farm Loan Officer, FSA, Tennessee</td>
<td>Years of Experience: 37 years</td>
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</table>

### Persons and Agencies Contacted

<table>
<thead>
<tr>
<th>Name and Title</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austin Pork, LLC</td>
<td>Applicant</td>
</tr>
<tr>
<td>E. Patrick McIntyre, Jr.</td>
<td>Tennessee SHPO</td>
</tr>
<tr>
<td>Linda Langley</td>
<td>Coushatta Tribe of Louisiana</td>
</tr>
<tr>
<td>Kirk Perry</td>
<td>Chickasaw Nation</td>
</tr>
<tr>
<td>Dustin Boles</td>
<td>Tennessee USFWS</td>
</tr>
<tr>
<td>Rob Todd</td>
<td>Tennessee TWRA</td>
</tr>
<tr>
<td>Ricky Scott</td>
<td>Carroll County Road Board Commissioner</td>
</tr>
<tr>
<td>Joseph Butler</td>
<td>Carroll County Mayor</td>
</tr>
</tbody>
</table>
6. REFERENCES


EPA – Environmental Justice Screening and Mapping Tool:  https://www.epa.gov/ejscreen

FEMA:  https://msc.fema.gov/portal


IPAC (Information:  https://ecos.fws.gov/ipac/

National Park Service – National Natural Landmarks:  
https://www.nps.gov/subjects/nnlandmarks/index.htm

National Park Service – Nationwide Rivers Inventory:  
https://www.nps.gov/subjects/rivers/nationwide-rivers-inventory.htm

National Register of Historic Places:  https://www.nps.gov/subjects/nationalregister/index.htm

National Wild and Scenic Rivers:  https://rivers.gov/

NEPASSIST:  https://www.epa.gov/nepa/nepassist

Prevailing Wind Patterns:  http://windhistory.com/map.html#4.00/36.00/-95.00


USDA Census of Agriculture County Profile:  
https://www.agcensus.usda.gov/Publications/2012/Online_Resources/County_Profiles/

US Census Bureau:  
https://www.census.gov/quickfacts/fact/table/carrollcountytennessee,US/PST045219

USFWS – Wetlands Mapper:  https://www.fws.gov/wetlands/Data/Mapper.html


7. **EA Determination and Signatures**

**Environmental Determination** – The FSA preparer of the EA determines:

1. Based on an examination and review of the foregoing information and supplemental documentation attached hereto, I find that this proposed action
   would have a significant effect on the quality of the human environment and an Environmental Impact Statement (EIS) must be prepared;
   
   X would not have a significant effect on the quality of the human environment and, therefore, an EIS will not be prepared.

2. I recommend that the Project Approval Official for this action make the following compliance determinations for the below-listed environmental requirements.

<table>
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<tr>
<th>Not in compliance</th>
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<th>Not applicable</th>
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<tr>
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<td>National Historic Preservation Act</td>
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3. I have reviewed and considered the types and degrees (context and intensity) of adverse environmental impacts identified by this assessment. I have also analyzed the proposal for its consistency with FSA environmental policies, particularly those related to important farmland protection, and have considered the potential benefits of the proposed action. Based upon a consideration of these factors, from an environmental standpoint, this project may:

   X Be approved without further environmental analysis and a Finding of No Significant Impact (FONSI) prepared.

   Not be approved because of the reasons identified under item b.

<table>
<thead>
<tr>
<th>Signature of Preparer</th>
<th>Date</th>
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<tbody>
<tr>
<td>Tim Storey</td>
<td>July 27th, 2020</td>
</tr>
</tbody>
</table>

Name and Title of Preparer (print)
Environmental Determination – FSA State Environmental Coordinator determines:

Based on my review of the foregoing Environmental Assessment and related supporting documentation, I have determined:

X The appropriate level of environmental review and assessment has been completed, and substantiates a Finding of No Significant Impact (FONSI); therefore, an EIS will not be prepared and processing of the requested action may continue without further environmental analysis. A FONSI will be prepared.

The Environmental Assessment is not adequate and further analysis or action is necessary for the following reason(s):

The Environmental Assessment has established the proposed action cannot be approved for the following reason(s):

Additional SEC Comments:

<table>
<thead>
<tr>
<th>Signature of SEC</th>
<th>Date: July, 27th 2020</th>
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<tbody>
<tr>
<td>Tim Storey</td>
<td></td>
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<tr>
<td>Printed Name</td>
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</table>
Proposed Construction of 2 Hog Barns in Carroll Cty.
at 2375 Renfroe Road in Huntingdon, TN

Map Created on 3/26/2020
Map Scale 1:24,000 / Trezevant East
Site Visit Photos 03/25/2020
Proposed construction of 2 hog barns in Carroll County, TN
Off Bright Rd., Huntingdon, TN

View to the North
Site Visit Photos 03/25/2020
Proposed construction of 2 hog barns in Carroll County, TN
Off Bright Rd., Huntingdon, TN

View to the South
Site Visit Photos 03/25/2020
Proposed construction of 2 hog barns in Carroll County, TN
Off Bright Rd., Huntingdon, TN

View to the East
Site Visit Photos 03/25/2020
Proposed construction of 2 hog barns in Carroll County, TN
Off Bright Rd., Huntingdon, TN

View to the West
Nutrient Management Plan (NMP)
(Version 3, 8/17/2016 Format)

The Nutrient Management Plan (NMP) is an important part of the conservation management system (CMS) for your Animal Feeding Operation (AFO). This NMP documents the planning decisions and operation and maintenance information for the AFO.

Farm/Facility: 401 Bright Rd (Physical) [Redacted]
Owner/Operator: [Redacted]
Plan Period: Oct 2020 - Sep 2025

Certified Nutrient Management Plan (NMP) Planner

As a Certified Nutrient Management Plan (NMP) Planner, I certify that I have reviewed the Nutrient Management Plan and that the elements of the document are technically compatible, reasonable and can be implemented.

Signature: [Signature] Name: J.L. Workman IV Title: Workman Consulting LLC TSP Certification Credentials: TSP 10-6854 Date: 2-25-20

Conservation District (Optional)

As a Conservation District employee, I have reviewed the Nutrient Management Plan and concur that the plan meets the District's conservation goals.

Signature: [Signature] Name: Date: 
Title:

Owner/Operator

As the owner/operator of this NMP, I, as the decision maker, have been involved in the planning process and agree that the items/practices listed in each element of the NMP are needed. I understand that I am responsible for keeping all necessary records associated with implementation of this NMP. It is my intention to implement/accomplish this NMP in a timely manner as described in the plan.

Signature: [Signature] Name: Date: 3-2-20
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1.2. Farmstead Conservation Practices – Record of Decisions
1.3. Farmstead Conservation Practices – Implementation Requirements
1.4. Animal Inventory
1.5. Manure Storage Information
1.6. Planned Manure Exports
1.7. Planned Manure Imports
1.8. Planned Internal Transfers of Manure
1.9. Brief Description of or Additional Information about Animal Feeding Operation (Optional)

Section 2. Crop and Pasture (Land Treatment)

2.1. Maps of Fields, Soils, Application Setbacks, Existing and Planned Crop and Pasture Conservation Practices
2.2. Crop and Pasture Conservation Practices – Record of Decisions
2.3. Crop and Pasture Conservation Practices – Implementation Requirements
2.4. Predicted Soil Erosion

Section 3. Nutrient Management Plan (590)

3.1. Nitrogen and Phosphorus Risk Analyses Results
3.2. Manure Application Setback Distances
3.3. Soil Test Result Data
3.4. Manure Nutrient Analyses
3.5. Planned Crops and Fertilizer Recommendations
3.6. Planned Nutrient Applications
3.7. Field Nutrient Balance
3.8. Manure Inventory Annual Summary (Optional)
3.9. Fertilizer Material Annual Summary (Optional)
3.10. Plan Nutrient Balance
Section 1. Farmstead (Production Area)

1.1. Maps of Existing and Planned Farmstead Conservation Practices
1.2. Farmstead Conservation Practices -- Record of Decisions

Waste Storage Facility (313)

<table>
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<th>Facility(s)</th>
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A waste impoundment structure has been constructed, according to NRCS specifications to temporarily store waste such as manure, wastewater, and contaminated runoff as a function of an agricultural waste management system which will protect the environment and public health and safety. Practice lifespan is 15 years. Refer to design drawings and practice standard 313 for additional information.

Heavy Use Area Protection 561

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Protect heavily used areas by providing soil protection with vegetation, surfacing material or mechanical structures. Areas exposed from cattle walking to and from buildings.

Critical Area Planting (342)

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</tbody>
</table>

Critical area planting will be done to stabilize the soil, reduce damage from sediment and runoff to downstream areas, and improve wildlife habitat and visual resources. Adapted vegetation such as trees, shrubs, vines, grasses, or legumes will be established to limit severe erosion or sediment damage. See additional narrative for specific recommendations on seeding rates, dates, fertility requirements, and construction shaping required.

Or
Maintain areas around buildings and composter to ensure clean water is diverted from production areas and erosion is limited.

**Composting Facility (317)**

Create composting facility to properly dispose of dead hogs. Compost will need to be tested for nutrient levels. See Practice Standard 317.

<table>
<thead>
<tr>
<th>Field(s)</th>
<th>Planned amount (No.)</th>
<th>Month</th>
<th>Year</th>
<th>Amount Applied</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.0</td>
<td>10</td>
<td>2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All dead pigs must be immediately put in the compost facility and covered with a carbon matter. Suggested carbon matter is sawdust.

All NRCS conservation practices shall be installed, operated and maintained according to NRCS conservation practice standards and associated technical specifications.
Composting Small Ruminants in Tennessee

Ricky C. Skelton, Central Region Goat Specialist

Producers of small ruminants have long been plagued with the issue of how to dispose of dead production animals, as well as afterbirth and stillborn animals. Traditionally, small ruminant producers in Tennessee have limited land areas that they use for this livestock enterprise. Many times, the available land is already in use for pastures and other production parts of the enterprise. Often, this land is totally unsuited for other enterprises. To protect the health of both ruminant herds and farm personnel and avoid air, soil, and water contamination and avoid problems with both agricultural and non-agricultural neighbors, the producer must use both biologically and environmentally safe methods of dead animal disposal.

In many cases, composting is the only viable avenue that these producers have to dispose of dead animals. Composting is a planned and managed process that promotes aerobic degradation of organic matter. The action of Thermophilic aerobic bacteria converts nitrogen-rich (dead animals) and carbonaceous (straw, sawdust, etc.) materials into humic acids, bacterial biomass, and organic residue. During the process, heat, carbon dioxide, and water are generated as by-products. The resulting product is free from harmful pathogens, is nutrient-rich and can be used as fertilizer.

In composting, the material mix is very important. A proper balance of carbon and nitrogen is required to have a clean, efficient composting unit. When the balance is correct, along with adequate levels of air and water, the composting process results in nearly complete disposal of dead ruminants with little odor and runoff.

Producers need to understand that wood will not compost. Recently, I dug into a compost pile that was more than 20 years old and found wood that had been buried for more than 10 years that was still intact. It did show some water damage, but the composting had not destroyed the wood. Hair, on the other hand, seems to compost well.

Producers can use straw, decomposing hay, spoiled forage or even manure to compost small ruminants, but sawdust or wood chips seem to be best. A combination of waste forages as a base with sawdust or wood chips as the cover material seems to have served well in other areas of composting.

A simple system that has worked in similar operations consists of a bin with a concrete bottom and wood sides. The boards on the sides should have 1/2 to 1-inch gaps between the boards to allow proper airflow. Bins should be located close to a water source, but not in direct contact with the herd or flock. Having a water source close will allow additional moisture to be added as needed to ensure that the 50-60 percent moisture level is maintained during the composting process.

Some producers have found that a roof or cover is advantageous when composting during periods of excessive rainfall. While it is not necessary to have such a bin, a container of some type is helpful to control the amount of carbon-based materials used in the composting. A single bin of 8 to 10 square feet should be adequate for a flock or herd of 25 to 30 head. This is extremely important because of the limited amount of sawdust available in most areas. Producers can contact tree-trimming services and ask to have chips from their chippers unloaded. This
will provide a ready source of carbon for composting, but will require the producer to have a place to store the chips. The chips do not have to be stored under shelter, but need to be in an area that is accessible in all types of weather.

For a composter to work at its best, the carbon-to-nitrogen ratio should be 30:1 (30 parts carbon to 1 part nitrogen). The carbon source is very important in allowing air penetration and holding moisture in the pile. While wood chips tend to dry out more quickly than sawdust, chips are much better in allowing needed oxygen flow into the compost area. To encourage bacterial growth and rapid composting, the mixture must be 50-60 percent moisture. If a handful feels moist, but no water can be squeezed from it, the mixture is probably okay. Another positive for the wood chips is that they tend to absorb odor and retain good "structure" for long periods of time. This means that they allow air to naturally pass into and filter out of the covered carcass.

In static pile composting, the following steps need to be carried out. First, spread a layer of 2 feet of carbon. If not using a bin, this layer should be on a slight slope that is downhill from property lines, water sources or sink holes. Next, the material to be composted should be placed squarely on the center of the base material on all sides and exterminates at least 1 foot away from the edge. Closer proximity to sides of a bin is acceptable. If composting is done without a bin, the full 1 foot from the sides is recommended. The third step should be covering the carcass with the carbon source at least 2 feet deep. Research has shown that a 120-pound carcass will require about 12 cubic feet of sawdust or wood chips. It is important to remember that the cover material should be mounded to prevent rain from collecting on the pile. Producers may want to purchase a composting thermometer to use in monitoring the pile. These are very handy to make sure that the pile is heating up properly. When the temperature remains above 130 degrees F for three consecutive days, disease-causing pathogens within the pile will be destroyed. In most cases, vermin will not disturb the composting pile, but it may be necessary, if using the bin method, to place a barrier across the front of the bin.

In most cases of active composting, the carcass will be transformed into a substance that can be used as a fertilizer. Turning the pile occasionally will speed up the degradation, but is not required if the compost pile has been constructed correctly. Once the bin or compost pile has been started, the process works well and is low in cost, has little odor, does not promote the growth of flies or other annoying insects and is environmentally friendly.
### 1.4. Animal Inventory

<table>
<thead>
<tr>
<th>Animal Group</th>
<th>Type or Production Phase</th>
<th>Number of Animals</th>
<th>Average Weight (lbs)</th>
<th>Confinement Period</th>
<th>Manure Collected (%)</th>
<th>Manure Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swine 1</td>
<td>Wean-to-finish pig</td>
<td>2,600</td>
<td>140</td>
<td>Jan Early - Dec Late</td>
<td>100</td>
<td>Barn 1</td>
</tr>
<tr>
<td>Swine 2</td>
<td>Wean-to-finish pig</td>
<td>2,600</td>
<td>140</td>
<td>Jan Early - Dec Late</td>
<td>100</td>
<td>Barn 2</td>
</tr>
</tbody>
</table>

a. The average number of animals present in the production facility at any one time.
b. If manure collected is less than 100%, this indicates that the animals spend a portion of the day outside of the production facility or the production facility is unoccupied one or more times during the confinement period.

Average weight comes from top weight 270 + beginning weight of 10 = 280 / 2 = 140. This facility will have approximately 2 turns a year.

### 1.5. Manure Storage Information

<table>
<thead>
<tr>
<th>Storage ID</th>
<th>Type of Storage</th>
<th>Pumpable or Spreadable Capacity</th>
<th>Annual Manure Collected</th>
<th>Maximum Days of Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barn 1</td>
<td>In-house storage pit</td>
<td>1,094,583 gal</td>
<td>800,000 gal</td>
<td>499</td>
</tr>
<tr>
<td>Barn 2</td>
<td>In-house storage pit</td>
<td>1,094,583 gal</td>
<td>800,000 gal</td>
<td>499</td>
</tr>
</tbody>
</table>
### 1.6. Planned Manure Exports

<table>
<thead>
<tr>
<th>Month-Year</th>
<th>Manure Source</th>
<th>Amount</th>
<th>Receiving Operation</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 2022</td>
<td>Barn 1</td>
<td>600,000 gal</td>
<td>Tommy Surber</td>
<td>McKenzie Tn</td>
</tr>
<tr>
<td>Jan 2022</td>
<td>Barn 2</td>
<td>1,000,000 gal</td>
<td>Tommy Surber</td>
<td>McKenzie Tn</td>
</tr>
<tr>
<td>Feb 2023</td>
<td>Barn 1</td>
<td>400,000 gal</td>
<td>Tommy Surber</td>
<td>McKenzie Tn</td>
</tr>
<tr>
<td>Feb 2023</td>
<td>Barn 2</td>
<td>800,000 gal</td>
<td>Tommy Surber</td>
<td>McKenzie Tn</td>
</tr>
<tr>
<td>Feb 2024</td>
<td>Barn 1</td>
<td>900,000 gal</td>
<td>Tommy Surber</td>
<td>McKenzie Tn</td>
</tr>
<tr>
<td>Feb 2024</td>
<td>Barn 2</td>
<td>900,000 gal</td>
<td>Tommy Surber</td>
<td>McKenzie Tn</td>
</tr>
<tr>
<td>Feb 2025</td>
<td>Barn 1</td>
<td>400,000 gal</td>
<td>Tommy Surber</td>
<td>McKenzie Tn</td>
</tr>
<tr>
<td>Feb 2025</td>
<td>Barn 2</td>
<td>800,000 gal</td>
<td>Tommy Surber</td>
<td>McKenzie Tn</td>
</tr>
</tbody>
</table>

Possible Receiving operation

### 1.7. Planned Manure Imports

<table>
<thead>
<tr>
<th>Month-Year</th>
<th>Manure's Animal Type</th>
<th>Amount</th>
<th>Originating Operation</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>(None)</td>
<td></td>
</tr>
</tbody>
</table>

### 1.8. Planned Internal Transfers of Manure

<table>
<thead>
<tr>
<th>Month-Year</th>
<th>Manure Source</th>
<th>Amount</th>
<th>Manure Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>(None)</td>
</tr>
</tbody>
</table>
will be building a new hog farm. This hog farm will be two buildings of 2,600 head each and these buildings will be a wean to finish operation contracted through Tosh Farms. Tosh farms will provide the feed management and deliver feed when needed. All manure will be stored in an under floor pit and will be applied to fields. Closest non family owned house is 900 feet away. Normal mortalities will be composted. Manure will be applied to Mr. [Redacted] field around the barns and all excess will be exported to [Redacted] and injected and applied spring or fall prior to planting corn.

Sampling, Calibration and Other Statements

- Manure sampling frequency
  Manure will be sampled each time it is applied and sent to an accredited lab.
  (Follow guidelines from attached at end of document)

- Soil testing frequency
  All fields in this document shall be tested annually by an accredited lab.
  (Follow guidelines from UT attached at end of document.)

- Equipment calibration method and frequency
  Application Equipment will be calibrated each time manure is applied.

- Clean water diversion
  No clean water will enter pit. It is sealed off from outside water.

- Measures to prevent direct contact of animals with water
  All animals will remain inside above the under floor pit.

- Soil testing frequency
  Equipment calibration method and frequency

- Clean water diversion
  Measures to prevent direct contact of animals with water
Natural Resource Concerns

If checked, the indicated resource concerns have been identified and have been addressed in this plan.

### Soil Quality Concerns

<table>
<thead>
<tr>
<th>Soil Quality Concern</th>
<th>Activities to Address Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Ephemeral Gully Erosion</td>
<td>Waterways in place where gullies where an issue.</td>
</tr>
<tr>
<td>X Gully Erosion</td>
<td>Crops are grown in a corn, winter wheat and soybean rotation.</td>
</tr>
<tr>
<td>Sheet and Rill Erosion</td>
<td></td>
</tr>
<tr>
<td>Stream/Ditchbank Erosion</td>
<td></td>
</tr>
<tr>
<td>Wind Erosion</td>
<td></td>
</tr>
</tbody>
</table>

### Water Quality Concerns

<table>
<thead>
<tr>
<th>Water Quality Concern</th>
<th>Activities to Address Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Facility Wastewater Runoff</td>
<td>Wastewater remains in underground pit.</td>
</tr>
<tr>
<td>Manure Runoff (Field Application)</td>
<td></td>
</tr>
<tr>
<td>X Manure Runoff (From Facilities)</td>
<td>Manure is underground sealed pit.</td>
</tr>
<tr>
<td>Nutrients in Groundwater</td>
<td></td>
</tr>
<tr>
<td>Nutrients in Surface Water</td>
<td></td>
</tr>
<tr>
<td>Silage Leachate</td>
<td></td>
</tr>
<tr>
<td>Excessive Soil Test Phosphorus</td>
<td></td>
</tr>
<tr>
<td>Tile-Drained Fields</td>
<td></td>
</tr>
<tr>
<td>Other Concern</td>
<td>Activities to Address Concern</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>----------------------------------------------------</td>
</tr>
<tr>
<td>Acres Available for Manure Application</td>
<td>Surber Farms is receiving all manure not applied by Mr. Austin</td>
</tr>
<tr>
<td>Aesthetics</td>
<td></td>
</tr>
<tr>
<td>X Maximize Nutrient Utilization</td>
<td>Manure applied on 2 year P basis.</td>
</tr>
<tr>
<td>Minimize Nutrient Costs</td>
<td></td>
</tr>
<tr>
<td>X Neighbor Relations</td>
<td>Setbacks from house in place.</td>
</tr>
<tr>
<td>Profitability</td>
<td></td>
</tr>
<tr>
<td>Regulations</td>
<td></td>
</tr>
<tr>
<td>Soil Compaction</td>
<td></td>
</tr>
<tr>
<td>X Time Available for Manure Application</td>
<td>Spring or Fall</td>
</tr>
<tr>
<td>Odors</td>
<td></td>
</tr>
<tr>
<td>Air Quality</td>
<td></td>
</tr>
<tr>
<td>X Biosecurity</td>
<td>Plan in Place</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Normal Animal Mortality Management

To decrease non-point source pollution of surface and ground water resources, reduce the impact of odors that result from improperly handled animal mortality, and decrease the likelihood of the spread of disease or other pathogens, approved handling and utilization methods shall be implemented in the handling of normal mortality losses. If on-farm storage or handling of animal mortality is done, NRCS Standard 315, Animal Mortality Facility, will be followed for proper management of dead animals.

Plan for Proper Animal Mortality Management

The following narrative describes how normal animal mortality will be managed in a manner that protects surface and ground water quality.

[Box]

will build a concrete compost building with a roof. The farm will use a carbon matter such as sawdust to cover dead pigs. The farm will provide some form of a fence to keep animals out. The compost will be turned bi-annually or more often if necessary. If compost is land applied a sample will be taken sent to an accredited lab and then applied according to NRCS Code 590 and shown in records. However, this facility is not expected to generate enough dead animals to need to land apply because death should stay below 3%. Other facilities with Tosh Farms have built composters of the same size and they have not needed to land apply during the first permit period.

Emergency Response Plan

In Case of an Emergency Storage Facility Spill, Leak or Failure

Implement the following first containment steps:

a. Stop all other activities to address the spill.
b. Stop the flow. For example, use skid loader or tractor with blade to contain or divert spill or leak.
c. Call for help and excavator if needed.
d. Complete the clean-up and repair the necessary components.
e. Assess the extent of the emergency and request additional help if needed.
Implement the following first containment steps:

a. Stop all other activities to address the spill and stop the flow.
b. Call for help if needed.
c. If the spill posed a hazard to local traffic, call for local traffic control assistance and clear the road and roadside of spilled material.
d. Contain the spill or runoff from entering surface waters using straw bales, saw dust, soil or other appropriate materials.
e. If flow is coming from a tile, plug the tile with a tile plug immediately.
f. Assess the extent of the emergency and request additional help if needed.

Emergency Contacts

<table>
<thead>
<tr>
<th>Department / Agency</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire</td>
<td>731-352-3306</td>
</tr>
<tr>
<td>Rescue services</td>
<td>731-352-3306</td>
</tr>
<tr>
<td>State veterinarian</td>
<td>615-837-5120</td>
</tr>
<tr>
<td>Sheriff or local police</td>
<td>731-986-8947</td>
</tr>
</tbody>
</table>

Nearest available excavation equipment/supplies for responding to emergency

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Contact Person</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trackhoe</td>
<td>Clay Sydnor</td>
<td>731-225-5531</td>
</tr>
</tbody>
</table>

Contacts to be made by the owner or operator within 24 hours

<table>
<thead>
<tr>
<th>Organization</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPA Emergency Spill Hotline</td>
<td>1-800-928-2380</td>
</tr>
<tr>
<td>County Health Department</td>
<td>731-986-1990</td>
</tr>
<tr>
<td>Other State Emergency Agency</td>
<td></td>
</tr>
</tbody>
</table>
Be prepared to provide the following information:

a. Your name and contact information.
b. Farm location (driving directions) and other pertinent information.
c. Description of emergency.
d. Estimate of the amounts, area covered, and distance traveled.
e. Whether manure has reached surface waters or major field drains.
f. Whether there is any obvious damage: employee injury, fish kill, or property damage.
g. Current status of containment efforts.

h. Biosecurity Measures

i.

j. Biosecurity is critical to protecting livestock and poultry operations. Visitors must contact and check in with the producer before visiting the operation or entering any production or storage facility.

k.

l. The following narrative describes how animal veterinary wastes (including medical equipment, empty containers, and sharps and expired medications) will be managed at the operation.

m. [Redacted] will dispose of sharps in an approved sharps container and will dispose of all empty containers and expired medications according to label. All medicines will either be kept in climate controlled room or sent back to Tosh Pork.

Catastrophic Animal Mortality Management

Refer to NRCS standards, or state guidance, regarding appropriate catastrophic animal mortality handling methods.

Plan for Catastrophic Animal Mortality Management

The following narrative describes how catastrophic animal mortality will be managed in a manner that protects surface and ground water quality. All national, state and local laws, regulations and guidelines that protect soil, water, air, plants, animals and human health must be followed.
The areas in yellow are suitable for catastrophic burial. Next best option is to call Griffin Industries at 731-885-9361.

Contact state Vet first.

**Important!** In the event of catastrophic animal mortality, contact the following authority before beginning carcass disposal:

Authority name State Vet

Contact name Charles Hatcher

Phone number 615-837-5183
# Catastrophic Event, Large Animal Mortality, Burial

<table>
<thead>
<tr>
<th>Map unit symbol</th>
<th>Map unit name</th>
<th>Rating</th>
<th>Component name (percent)</th>
<th>Rating reasons (numeric values)</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fa</td>
<td>Falaya silt loam, occasionally flooded</td>
<td>Very severely limited</td>
<td>Falaya (92%)</td>
<td>Wetness (1.00)</td>
<td>12.0</td>
<td>15.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Flooding (0.50)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LeB</td>
<td>Lexington silt loam, 2 to 5 percent slopes</td>
<td>Somewhat limited</td>
<td>Lexington (95%)</td>
<td>Seepage (0.52)</td>
<td>6.9</td>
<td>0.8%</td>
</tr>
<tr>
<td>LeD2</td>
<td>Lexington silt loam, 8 to 12 percent slopes, moderately eroded</td>
<td>Severely limited</td>
<td>Lexington (100%)</td>
<td>Seepage (0.52)</td>
<td>1.6</td>
<td>2.3%</td>
</tr>
<tr>
<td>PrB</td>
<td>Providence silt loam, 2 to 5 percent slopes</td>
<td>Very severely limited</td>
<td>Providence (99%)</td>
<td>Wetness (1.00)</td>
<td>28.5</td>
<td>36.1%</td>
</tr>
<tr>
<td>PrC2</td>
<td>Providence silt loam, 5 to 8 percent slopes, moderately eroded</td>
<td>Very severely limited</td>
<td>Providence (99%)</td>
<td>Wetness (1.00)</td>
<td>7.3</td>
<td>9.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Water gathering surface (0.33)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Slope (0.16)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PrD2</td>
<td>Providence silt loam, 8 to 12 percent slopes, moderately eroded</td>
<td>Very severely limited</td>
<td>Providence (99%)</td>
<td>Wetness (1.00)</td>
<td>0.0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Slope (0.84)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Water gathering surface (0.33)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SmE</td>
<td>Smithdale fine sandy loam, 12 to 25 percent slopes</td>
<td>Very severely limited</td>
<td>Smithdale (99%)</td>
<td>Slope (1.00)</td>
<td>4.6</td>
<td>5.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Seepage (0.52)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Adsorption (0.05)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SmE3</td>
<td>Smithdale fine sandy loam, 12 to 20 percent slopes, severely eroded</td>
<td>Very severely limited</td>
<td>Smithdale (100%)</td>
<td>Slope (1.00)</td>
<td>17.8</td>
<td>22.5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Seepage (0.52)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Adsorption (0.01)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Totals for Area of Interest</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>79.0</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rating</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very severely limited</td>
<td>70.3</td>
<td>88.9%</td>
</tr>
</tbody>
</table>

---

Natural Resources Conservation Service

Web Soil Survey
National Cooperative Soil Survey

2/15/2020
Page 3 of 7
<table>
<thead>
<tr>
<th>Rating</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somewhat limited</td>
<td>8.6</td>
<td>8.8%</td>
</tr>
<tr>
<td>Severely limited</td>
<td>1.8</td>
<td>2.3%</td>
</tr>
<tr>
<td>Totals for Area of Interest</td>
<td>79.0</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Description

"Catastrophic Event, Large Animal Mortality, Burial," is a method of disposing of deceased animals as a result of a large scale natural disaster such as a hurricane. The animals are disposed of by placing the carcasses in successive layers in an excavated and sloped pit. The carcasses are spread, compacted, and covered daily with a thin layer of soil that is excavated from the pit. When the pit is full, a final cover of soil material at least 2 feet thick is placed over the burial pit.

Soils are rated based on their limitation for burial of large animals following a catastrophic event. Catastrophic events include, but are not limited to, hurricanes, wildfires, flooding, and tornadoes. Limitations for burial of large animals during a catastrophic event are based primarily on contamination of groundwater, trafficability of excavation equipment, site selection, and site reclamation.

While some general observations may be made, on-site evaluation is required before the final site is selected. Improper site selection, design, or installation may cause contamination of ground water, seepage, and contamination of stream systems from surface drainage or floodwater. Potential contamination may be reduced or eliminated by installing systems designed to overcome or reduce the effects of the limiting soil property. The rating is for soils in their present condition and does not consider present land use.

Ratings are based on properties and qualities to the depth normally observed during soil mapping (approximately 6 or 7 feet). However, because pits may be as deep as 15 feet or more, geologic investigations are needed to determine the potential for pollution of ground water as well as to determine the design needed. These investigations, which are generally arranged by the pit developer, include the examination of stratification, rock formations, and geologic conditions that might lead to the conducting of leachates to aquifers, wells, watercourses, and other water sources. The presence of hard, nonstratifiable bedrock, bedrock crevices, or highly permeable strata in or immediately underlying the proposed pit bottom is undesirable because of the difficulty in excavation and the potential contamination of underground water.

Properties that influence the risk of contamination of groundwater, ease of excavation, trafficability, and revegetation are major considerations. Soils that flood or have a water table within the depth of excavation present a potential contamination hazard and are difficult to excavate. Slope is an important consideration because it affects the work involved in road construction, the performance of the roads, and the control of surface water around the pit. It may also cause difficulty in constructing pits for which the pit bottom must be kept level and oriented to follow the contour.

The ease with which the pit is dug and with which a soil can be used as daily and final covers is based largely on texture and consistence of the soil. The texture and consistence of a soil determine the degree of workability of the soil both when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and difficult to place as a uniformly thick cover over
a layer of carcasses. The uppermost part of the final cover should be soil material that is favorable for the growth of plants. It should not contain excess sodium or salt and should not be too acid. In comparison with other horizons, the A horizon in most soils has the best workability and the highest content of organic matter. Thus, for a Large Animal Disposal Burial operation it may be desirable to stockpile the surface layer for use in the final blanketing of the filled pit area.

Numerical ratings indicate the severity of the individual limitations. The ratings are shown in decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses.

Not limited (rating index equals 0) - The limitation for large animal disposal during a catastrophic event is insignificant. This soil is able to support standard excavation equipment, the soil has minimal contamination of groundwater, and soil reclamation using conventional processes is possible. Not limited soils have features that are very favorable for the specified use. Very good performance and very low maintenance can be expected of a properly designed and installed system.

Slightly limited (rating index greater than 0 but less than 0.30) - The limitation for large animal disposal during a catastrophic event is slightly limited. There are one or more soil properties that pose a slight limitation for contamination of groundwater, site reclamation, or excavation equipment. Slightly limited indicates the soil has features that are favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Good performance and low maintenance can be expected.

Somewhat limited (greater than 0.30 but less than 0.60) - The limitation for large animal disposal during a catastrophic event is somewhat limited. There are more than one soil properties that pose a limitation for contamination of groundwater, site reclamation, or excavation equipment. Any corrective measures taken to overcome these limitations are considered economical however, special care must be taken to overcome limitations. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected.

Severely limited (greater than 0.60 but less than 0.99) - The limitation for large animal disposal during a catastrophic event is severely limited. There are many soil properties that pose a limitation for contamination of groundwater, site reclamation, or excavation equipment. Additionally, corrective measures will be needed to overcome these limitations. Corrective measures taken may be costly to overcome limitations that pose a severely limited rating. Severely limited indicates that the soil has features that are unfavorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation however, it is costly to do so. Poor performance and high maintenance can be expected.
Very severely limited (rating index equals 1.0) - The limitation for large animal disposal during a catastrophic event is severely limited. There are one or more soil properties that pose a very severe limitation for contamination of groundwater, site reclamation, or excavation equipment. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Very poor performance and very high maintenance can be expected.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

**Rating Options**

Aggregation Method: Dominant Condition
Component Percent Cutoff: None Specified
Tie-break Rule: Higher
**Chemical Handling**

If checked, the indicated measures will be taken to prevent chemicals and other contaminants from contaminating process waste water or storm water storage and treatment systems.

<table>
<thead>
<tr>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>X All chemicals are stored in proper containers. Expired chemicals and empty containers are properly disposed of in accordance with state and federal regulations. Pesticides and associated refuse are disposed of in accordance with the FIFRA label.</td>
</tr>
<tr>
<td>X Chemical storage areas are self-contained with no drains or other pathways that will allow spilled chemicals to exit the storage area.</td>
</tr>
<tr>
<td>X Chemical storage areas are covered to prevent chemical contact with rain or snow.</td>
</tr>
<tr>
<td>X Emergency procedures and equipment are in place to contain and clean up chemical spills.</td>
</tr>
<tr>
<td>X Chemical handling and equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.</td>
</tr>
<tr>
<td>X All chemicals are custom applied and no chemicals are stored at the operation. Equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.</td>
</tr>
</tbody>
</table>

This is not a regulatory-agency permitted facility. This section does not apply.
Section 2. Crop and Pasture (Land Treatment)

2.1. Maps of Fields, Soils, Application Setbacks, Existing and Planned Crop and Pasture Conservation Practices
2.2. Crop and Pasture Conservation Practices -- Record of Decisions

Conservation Crop Rotation (328)

<table>
<thead>
<tr>
<th>Tract/Field</th>
<th>Planned amount (Ac)</th>
<th>Month</th>
<th>Year</th>
<th>Amount Applied</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearl Lane</td>
<td>74.5</td>
<td>10</td>
<td>2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>74.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Grow crops in a planned rotation for biodiversity and to provide adequate amounts of organic material for erosion reduction, nutrient balance and sustained soil organic matter.

These fields are in a Corn Cotton Winter wheat and Soybeans rotation.

Nutrient Management (590)

Soil amendments, animal waste, and lime will be applied according to soil test recommendations. When applying animal waste, recommended buffer widths shall be observed. Refer to Practice Standard 590.

Fall 2017: Test soil and amend accordingly

Ongoing: Use of rotation, application of manure and commercial fertilizer/ lime according to soil test results from a Tn accredited lab.

<table>
<thead>
<tr>
<th>Tract/Field</th>
<th>Planned amount (Ac)</th>
<th>Month</th>
<th>Year</th>
<th>Amount Applied</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearl Lane</td>
<td>74.5</td>
<td>10</td>
<td>2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>74.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Manage the amount, form, placement and timing of plant nutrient application. See the enclosed "Nutrient Management" element of the NMP for the proper application rates, timing, and methods of application to provide needed crop nutrients and to minimize the movement of nutrients to ground and surface water.

Manure needs to be tested each time an application occurs by an accredited lab if manure test varies from this document, make adjustments to future application rates and to the nutrient budget.
Residue & Tillage Management, No-till (329)

<table>
<thead>
<tr>
<th>Tract/Field</th>
<th>Planned amount (Ac)</th>
<th>Month</th>
<th>Year</th>
<th>Amount Applied</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearl Lane</td>
<td>74.5</td>
<td>10</td>
<td>2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>74.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adequate residue amounts will be maintained on the soil surface all year, while growing crops in untilled soil and residue, to reduce sheet and rill erosion, improve soil organic matter, and provide food and cover for wildlife. A high residue crop (corn) will be no-tilled (residue left), followed by no-till wheat (residue left), and followed by no-till soybeans (residue left) without winter cover. Corn will be no-tilled planted into soybean residue (wheat and soybeans double cropped). Weeds will be controlled with herbicides as needed. Herbicides will be applied as labeled.

All NRCS conservation practices shall be installed, operated and maintained according to NRCS conservation practice standards and associated technical specifications.
2.3. Crop and Pasture Conservation Practices – Implementation Requirements

Producer: ___________________________ Project or Contract: ___________________________
Location: ___________________________ County: ___________________________
Farm Name: ___________________________ Tract Number: ___________________________

Practice Location Map

(showing detailed aerial view of where practice is to be installed on farm/site, showing all major components, stationing, relative location to any landmarks, and survey benchmarks)

Description of work:

__________________________

Designed By: ________________________ ESJAA Level: _______ Date: __________

Clear Form

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TN-NRCS
December 2017
The Practice Purpose(s):
- Reduce erosion from wind and water.
- Improve soil health.
- Manage the balance of plant nutrients.
- Supply nitrogen through biological nitrogen fixation to reduce energy use.
- Manage plant pests (weeds, insects, and diseases).
- Conserve water.
- Provide feed for domestic livestock.
- Provide annual crops for biocenergy feedstocks.
- Provide food and cover for wildlife, including pollinator forage, cover, and nesting.

Complete the following table displaying the crop rotation design - or, attach a RUSLE2 or WEPS printout that shows rotation sequence by field.

Printouts Attached

<table>
<thead>
<tr>
<th>Field(s)</th>
<th>Acres</th>
<th>Purpose(s) #1's from Above</th>
<th>Crops to be grown</th>
<th>Length each crop grown in the rotation</th>
<th>Crop Sequence</th>
<th>Total Length of Rotation (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


TN-NRCS
December 2017
If tillage is used, specify time and type of primary tillage for each crop - OR, attach a RUSLE2 or WEPS printout that shows rotation sequence by field.

Printouts Attached

### OPERATION AND MAINTENANCE

Rotations shall provide for acceptable substitute crops in case of crop failure or shift in planting intentions for weather-related or economic reasons. Acceptable substitutes are crops having similar properties that will accomplish the purpose of the original crop.

Evaluate the rotation and the crop sequence to determine if the planned system is meeting the planned purposes.

NRCS Review Only

### CERTIFICATION OF PRACTICE

Each management unit must have gone through the rotation before practice can be certified.

Certified By: ___________________  ESJAA Level: __________  Date: ________
Producer: __________________________ Project or Contract: ________________

Location: __________________________ County: _________________________

Farm No.: __________________________ Tract No.: _______________________

The Practice Purpose(s) (check all that apply):

- Reduce sheet, rill and wind erosion and excessive sediment in surface waters.
- Reduce tillage-induced particulate emissions.
- Maintain or increase soil quality and soil organic matter content.
- Reduce energy use.
- Increase plant-available moisture.
- Provide food and escape cover for wildlife

Attach Water and/or Wind Erosion Printout that Displays:

1. Planned crop(s).
2. Amount of residue produced by each crop.
3. All field operations or activities that affect:
   - Residue orientation including height (where applicable)
   - Surface disturbance
   - The amount of residue (lbs/acre or % surface cover) required to accomplish the purpose, and the
time of year it must be present.

4. Soil tillage intensity rating (STIR) value to accomplish purpose(s) (shall be no greater than 20 per crop
   interval): Crop 1: ______________ Crop 2: ______________ Crop 3: ______________

5. Soil conditioning index (SCI) value to accomplish purpose(s): __________________________

6. Erosion Rate (tons/acre/year): __________________________

7. Benchmark and planned fuel consumption (if applicable): __________________________

8. Target species of wildlife (if applicable): __________________________

Producer Signature: __________________________ Date: ________________

Designed By: __________________________ ESJAA Level: ______________ Date: ______________

Clear Form

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TN-NRCS
December 2018
Additional Required documentation for Purpose of Increasing Plant-Available Moisture:
Maintain a minimum of 60% residue cover of the soil surface throughout the year.

Operation and Maintenance:

Evaluate/measure the crop residues cover and orientation after each crop to ensure the planned amounts and orientation are being achieved. Adjust management as needed to either plan a new residue amount and orientation, or adjust the planting and/or harvesting equipment.

Limited tillage is allowed to close or level ruts from harvesting equipment. No more than 10% of the field may be tilled for this purpose.

If there are areas of heavy residue accumulation (because of movement by water or wind) in the field, spread the residue prior to planting so it does not interfere with planter operation.

CERTIFICATION OF PRACTICE

☐ Description of the residue and distribution at the time of checkout (e.g. percentage of residue evenly distributed across the field.

☐ Photo of typical residue remaining after harvest and at planting (strongly encouraged).

Practice performed, to the extent shown above, meets practice standards and specifications.

Certified by: ___________________ ESJAA Level: _________ Date: ____________
How to Measure Crop Residue Cover in the Field with the Line Transect Method

At times, a producer finds it important or necessary to measure the actual percent of the ground surface covered by plant residue. The line transect method is an easy method of doing this. The following is the recommended procedure for using the line transect method:

1. Use a commercially available 50- or 100-foot long cable, tape measure, or other line that has equally spaced beads, knots, or gradations (marks) at one-foot increments.

2. Select an area that is representative of the field as a whole and stretch the line across the crop rows. The line may be oriented perpendicularly to the rows or in a direction that is at least 45 degrees off the row direction. Avoid measurements on end rows.

   ![Diagram showing tape laid perpendicular to row direction and tape laid 45% to row direction]

3. Count the mark on the line if there is residue under it that is large enough to intercept a raindrop (residue that is 1/10 inch in diameter or larger). Walk along the line, stopping at each mark. Position the eye directly over the mark and look down at it. Look at the marks only at one side of the tape (See figure below). For the 100-foot tape, percent residue cover is equal to the number of points counted. For the 50-foot tape, double the number counted to obtain percent residue cover.

![Diagram showing segments of residue counted or not counted]

4. Complete five transects within a field or group of identically cropped fields and take the average of the counts to obtain percent residue cover.
Producer: _______________________  Project or Contract: ______________________
Location: _______________________  County: ______________________
Farm Name: _______________________  Tract Number: ______________________

Attach or provide location of:

____  Conservation Plan Map: Aerial map(s) clearly showing the field/site location.

____  Approved Precision Variable Rate Prescription Maps (if applicable)

____  P Index Rating

____  Nitrogen Leaching Index Rating

Description of work:

Producer Signature: _______________________  Date: ______________________

Designed By: _______________________  ESJAA Level: ________  Date: ______________________

Clear Form  USDA is an equal opportunity provider, employer, and lender.  TN NRCS
May 2019
TN 590 - Nutrient Management Implementation Requirements

Nutrient Management – Specifications Sheet

Landowner ___________________________ Field number ___________________________

Purpose (check all that apply)

[ ] Budget and supply nutrients for plant production
[ ] Utilize manure/organic material as a nutrient source
[ ] Minimize agricultural nonpoint source pollution (water quality)
[ ] Maintain or improve soil condition
[ ] Minimize air quality concerns (odors, particulates, NOx)

---

Table 1 Field Conditions and Recommendations

<table>
<thead>
<tr>
<th>Crop sequence calculation (circle current crop)</th>
<th>Expected yield</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Current soil test levels (ppm or lb/acre)

<table>
<thead>
<tr>
<th>N</th>
<th>P</th>
<th>K</th>
<th>pH</th>
<th>S.O.M. %</th>
<th>EC</th>
</tr>
</thead>
</table>

Recommended nutrients/amendments to meet expected yield

<table>
<thead>
<tr>
<th>N</th>
<th>P₂O₅</th>
<th>K₂O</th>
<th>Lime</th>
<th>Other</th>
<th>Other</th>
</tr>
</thead>
</table>

---

Table 2 Nutrient Sources

<table>
<thead>
<tr>
<th>Credits</th>
<th>N</th>
<th>-P₂O₅</th>
<th>K₂O</th>
<th>Pounds per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Nitrogen credits from previous legume crop</td>
<td></td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>2. Residual from long-term manure application</td>
<td></td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>3. Irrigation water</td>
<td></td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>4. Other (example, atmospheric deposition, biosolids, organic by-products)</td>
<td></td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>5. Total credits</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Plant available nutrients applied to field

<table>
<thead>
<tr>
<th>Credits</th>
<th>N</th>
<th>-P₂O₅</th>
<th>K₂O</th>
<th>Pounds per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Credits (from row 5, above)</td>
<td></td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>7. Fertilizer</td>
<td>Starter</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>8. Manure/organic material</td>
<td></td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>9. Subtotal (sum of lines 6, 7, and 8)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>[ ]</td>
</tr>
<tr>
<td>10. Nutrients recommended from table 1</td>
<td></td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>11. Nutrient status (subtract line 10 from line 9)</td>
<td></td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

If line 11 is a negative number, this the amount of additional nutrients needed to meet the crop recommendations.
If line 11 is a positive number, this is the amount by which the available nutrients exceed the crop requirements.

---

Nutrient Management Specifications

<table>
<thead>
<tr>
<th>Amount to be applied (lb/acre)</th>
<th>N</th>
<th>P₂O₅</th>
<th>K₂O</th>
</tr>
</thead>
</table>

Method: form. and timing of application

---

TN-NRCS
May 2019
Operation and Maintenance

1. Conduct periodic plans reviews. At a minimum, plans must be reviewed and revised, as needed, with each soil test cycle, changes in manure volume or analysis, crops, or crop management.

2. Fields receiving animal manures and/or biosolids must be monitored for accumulation of heavy metals and phosphorus in accordance with the University of Tennessee and State law.

3. Calibrate application equipment.

4. Records are to be maintained for 5 years and include:
   i. soil, plant tissue, water, manure, and organic by-product analyses resulting in recommendation for nutrient applications;
   ii. quantities, analyses and sources of nutrients applied;
   iii. date and method(s) of nutrient applications, source of nutrients, and rates of application;
   iv. weather conditions and soil moisture at the time of application; lapsed time to manure incorporation; rainfall or irrigation event;
   v. crops planted, planting and harvest dates, yields, nutrient analyses of harvested biomass, and crop residues removed and;
   vi. dates of plan review, name of reviewer, and recommended changes.
   vii. all enhanced efficiency fertilizer products used.

5. Additional records for precision/variable rate sites must include:
   i. maps identifying the variable application source, timing, amount, and placements of all plant nutrients applied and;
   ii. GPS-based yield maps for crops where yield can be digitally collected.
Sampling Farm Fields

Divide fields to be sampled into production areas (of 10 acres or less) based on uniform soil type, fertilization and management history. Sandy or eroded areas, and problem areas of obviously different plant growth responses should also be sampled separately -- provided the area is sufficiently large enough to be treated differently with lime or fertilizer.

From your local **County Extension office**, obtain a soil sample box for each production area, and submit a **Soil and Media Test Information Sheet**, *for each ten production areas.*

For each production area that you have identified:

1. Collect a composite soil sample by moving through the area in a zig-zag pattern; sampling at a minimum of 20 locations. This sampling procedure should be random with respect to any existing cropping row. In continuous no-till production fields, be sure to vary distance from the row for each sub-sample collected. In continuous no-till fields or where fertilizer has been banded, increasing the number of sub-samples to 30 or 40 will increase precision of the results.

2. Move surface litter aside. Each sub-sample should be obtained by using a soil tube, trowel or spade. For determination of plant nutrients, take soil samples to a depth of 6 inches. For organic matter determination, sample to the depth of 2 inches.

3. Combine each sub-sample in a clean bucket as you move through the production area. Do not use a galvanized bucket if Zn is to be determined. Thoroughly mix the sub-samples into one composite
sample. If the soil is exceptionally wet, you may have to let it air dry on a paper plate before it can be properly mixed (wet soil can also dramatically increase shipping costs and weaken shipping containers). DO NOT use heat to dry a soil sample as heat may change your results.

4. From this composite sample remove enough soil (about a cup) to fill a soil sample box. Adequately mark the box to identify the selected production area location represented by that soil sample and keep this record in a safe place for later referral.

5. For the PSNT soil test, sample to a depth of 12 inches when corn is 6 to 12 inches tall. Height should be measured from the ground to bottom of the whorl (4-6 fully mature leaves present).

6. For container media analysis, medium should be sampled before posting by removing several portions from the mix and blending thoroughly. For established plantings, select 8 to 10 pots that are representative of the medium used. Scrape away the top one-fourth inch of each pot including slow-release fertilizer pellets and discard. Mix samples being careful not to crush any remaining fertilizer pellets. Completely fill two soil sample boxes for container media analysis.

Send soil sample(s), Soil and Media Information Sheet(s), and appropriate fees to the Soil, Plant and Pest Center (see address and fee information on the Soil and Media Information Sheet). Fees can also be paid by credit card using the secure UT Institute of Agriculture eMarketplace site. Click here to pay online.
Livestock Waste Management and Conservation

Procedures for Manure and Litter Sampling
(Class I & II - Large and Medium CAFOs)
Tennessee CAFO Factsheet #14
Kristy M. Hill, Extension Dairy Specialist
Animal Science Department

Nutrient composition of manure varies with a number of factors, including animal type, bedding, ration, storage and handling, environmental conditions, field application method, age of manure, timing of sampling and sampling technique. This variability makes book values (or averages) an unreliable source for determining application rates of nitrogen, phosphorus and potassium. Each livestock production operation and manure management system is unique and an individual farm’s manure analysis can vary from average values by 50 percent or more. Testing manure may better indicate how animal management and other factors actually affect nutrient contents and will allow for more accurate calculation of application rates.

The results of a manure analysis are only as reliable as the sample taken. A representative sample is needed to accurately reflect the nutrient content. However, obtaining a representative sample can be a challenge as manure nutrient content is not uniform within storage structures. Mixing and sampling strategies can insure that samples more accurately reflect the type of manure that will be applied.

When to Sample
The ideal time to sample manure is prior to application to ensure that results of the analysis are received in time to adjust nutrient application rates.

However, do not allow long periods of time to pass before application begins, because there can be storage and handling losses over time. Sampling several days to a week prior to application is best. However, a complication of the timing of the sampling is that semi-solid (or slurry) manure should be well agitated before sampling. In many situations, such as contracting waste application to a third party, agitators or other necessary equipment are not available until application begins. In cases such as this, “pre-sampling” (dipping samples off the top of the storage structure for N and K concentrations) can be used to estimate application rates (See page 4 for more info on pre-sampling).

Building a “bank” of manure analysis over time can be quite useful in the future as long as animal management practices, feed rations or manure storage and handling methods do not drastically change from present methods. If samples do not vary greatly from year to year or are consistent during spring or fall applications, the “bank” averages will help estimate application rates if an analysis cannot be performed prior to application.

Safety Precautions
It is more dangerous and more difficult to sample from liquid storage facilities than from dry manure systems. Proper precautions should be taken to prevent...
accidents, such as falling into the storage facility or being overcome by manure gases.

1. Have two people present at all times.
2. Never enter confined manure-storage spaces without appropriate safety gear, such as a self-contained breathing apparatus.
3. When agitating a storage pit below a building, be sure to provide adequate ventilation for both humans and animals, and
4. When agitating outdoor pits, monitor activities closely to prevent erosion of berms or destruction of pit liners.

Sample Preparations

1. Check with the laboratory performing the analysis, as most of these labs have plastic bottles available for liquid sample collection or sealable plastic bags for dry samples (freezer bags work well). Additionally, they may have specific sample collection procedures, including holding times, refrigeration and shipping requirements.
2. Do not use glass containers, as expansion of the gases in the sample can cause the container to break.
3. Never use galvanized containers for collection or mixing due to the risk of contamination from metals like zinc in the container.
4. When taking liquid samples from facilities spreading both effluent and solids, the manure should be agitated for two to four hours before taking the sample.
5. Liquid samples can be taken during agitation (after two to four hours have passed) because most agitation equipment is effective 75 to 100 feet away from the equipment.

6. Take multiple samples from the storage facility and mix them together thoroughly in a larger bucket to obtain a representative sample. For liquid or semi-solid samples, use a stirring rod to get the solids spinning in suspension and collect the representative sample while the liquid is still spinning.
7. When taking liquid samples, fill the plastic bottle three-fourths full and leave at least 1 inch of air space to allow for gas expansion.
8. When taking dry samples, squeeze all of the excess air from the sealable plastic bag to allow for gas expansion and place the first bag into a second sealable plastic bag to prevent leaks.
9. Label the plastic bags or bottles prior to sampling with your name, date and sample identification number. Use a waterproof pen.
10. After sampling, place the container(s) in the refrigerator or freezer (preferred) until mailed to the lab. Cooling the samples will reduce microbial activity, chemical reactions and reduce odors.
11. Ship samples early in the week (Monday–Wednesday) using an overnight service. Avoid holidays and weekends.

Sampling Semi-Solid and Liquid Manure from Storage Facilities

Manure with 10 to 20 percent solids is classified as semi-solid manure and can usually be handled as a liquid. Semi-solid manure usually requires the use of chopper pumps to provide thorough agitation before pumping. Liquid manure is manure with less than 10 percent solids and is handled with pumps, pipes, tank wagons or irrigation equipment (if less than 5 percent solids).
If all contents of the entire semi-solid or liquid storage facility will be applied, complete agitation (2-4 hours minimum) is required to accurately sample the manure because in liquid and semi-solid systems, settled solids can contain more than 90 percent of the phosphorus. However, if solids will be purposely left on the bottom when the storage structure is pumped out, as is sometimes the case with lagoons, then complete agitation during sampling will generate artificially high nutrient values. In this case, agitation of the solids or sludge at the bottom of the lagoon is not needed for nutrient analysis. And premixing the surface liquid in the lagoon is not needed.

Methods of Sampling:
Several different methods may be used to sample liquid or semi-solid manure from storage facilities:

1. Use a plastic sampling cup with a 10- to 12-foot handle to obtain surface water samples (see Figure 1). Collect about a pint of sample from several locations (six to eight) around the perimeter of the storage unit about 6 feet from the barn and 12 inches below the surface. Avoid floating debris or scum. Pour each of the samples into a clean plastic bucket and mix well. Pour representative sample in plastic container for shipping (Christiansen, 2003).

2. Throw a small plastic bucket tied to a long rope out towards the middle of the storage unit while holding onto the rope. Begin pulling the bucket back to the bank as soon as it strikes the surface. Make sure the bucket is raised above the surface before it strikes the bank. Pour each sample into a larger plastic bucket, and repeat this procedure at four to six locations evenly spaced around the perimeter of the storage unit. Mix all samples well and pour representative sample into a plastic container for shipping. (Christiansen, 2003)

3. Samples may also be taken using a probe or a tube. They can be constructed out of a 1½ inch diameter PVC pipe. Cut the PVC pipe a foot longer than the depth of the pit. Run a ½-inch rod or string through the length of the pipe and attach a plug such as a rubber stopper or rubber ball (see Figure 2) to the rod or string. The rod or string must be longer than the pipe. If using a rod, bend the top over to prevent it from falling out of the pipe. The probe should be slowly inserted into the pit or lagoon with the stopper open. To the full depth of the pit. Pull the string or rod to close the bottom of the pipe and pull the probe out of the pit. Be careful not to tip the pipe and dump the sample. Release the sample into a large plastic bucket and repeat the process at least three times around the pit. Mix all samples well and pour a representative sample into a plastic container for shipping. (Reck-Henry, 2003)
Sampling Semi-Solid and Liquid Manure during Land Application with Tank Wagons

Settling begins as soon as agitation stops, so samples should be collected as soon as possible after the manure tank wagon is filled, unless the tanker has an agitator. Be sure the port or opening does not have a solids accumulation from prior loads. Collect samples in a plastic bucket from the loading or unloading port or the opening near the bottom of the tank. Stir the sample in the bucket to get the solids in suspension. Remove a ladle full while the liquid is still spinning and pour into the sample bottle. Repeat these steps until the sample bottle is three quarters full.

Sampling Liquid Manure during Land Application with Irrigation Systems

Place plastic buckets randomly at different distances from the sprinkler head in the field to collect the liquid manure that is being applied by an irrigation system. Immediately after manure has been applied, collect manure from the buckets and combine them into one container. Stir the collective sample, remove a ladle full while the liquid is still spinning and pour into the sample bottle.

Pre-Sampling Nitrogen and Potassium from Liquid Manure Systems

If liquid systems cannot be agitated prior to application and a sample is needed to estimate application rates, manure samples can be dipped off the top of the stored liquid manure to analyze for N and K concentrations. Research indicates that the top-dipped liquid represents approximately 90 percent of the N concentration measured in mixed, field-collected samples. Multiply the results of the N concentration from top-dipped samples by 1.1 to get a better estimate of N. Dipping a sample from the surface of a liquid storage pit does NOT provide a good estimate of P concentrations in the pit, so use of the P analysis from top-dipped samples is not recommended. Therefore, if application is limited to a P-based application rate, pre-sampling is not recommended. Producers who take these types of samples should remember to take additional samples during application to calculate the actual amount of nutrients applied and use to adjust commercial fertilizer application (Rieck-Hinz, 2003).

Sampling Dry or Solid Manure

Solid manure systems will include fecal matter, urine, bedding and feed. They can vary from one location to another within the same production operation and from season to season. Sampling of dry or solid manure is best done in the field during application, because it will take into account losses that occur during handling and application. Manure is better mixed during application than during storage. Results will not be available in time to adjust application rates, however, sampling will allow producers to adjust any future commercial fertilizer rates and manure application in subsequent years. If a sample must be taken prior to application to estimate application rates, be sure to take samples from various places in the manure pile, stack or litter to obtain a representative sample for analysis. It may even be beneficial to take samples several times during the year because of the variation in bedding content.

Methods of Sampling:

As with liquid or semi-solid systems, many different methods can be used to obtain a representative sample. The method chosen will depend on the type of solid system used on the farm. Sub-samples can be taken with a shovel, pitchfork or soil probe. Regardless of the method of sampling, a composite
sample will need to be taken from all of the
samples to ensure it represents the
entire manure used for application. To
obtain a composite sample, place all
sub-samples (the more sub-samples,
the more accurate the results) in a pile
and mix with a shovel by continuously
scooping from the outside of the pile to
the center of the pile until well mixed. Fill
a one-gallon plastic Zip-lock® freezer
tape (or the bag provided by the
laboratory) one-half full with the
composite sample by turning the bag
inside out over one hand. With the
covered hand, grab representative
handfuls of manure and turn the freezer
tape right side out over the sample with
the free hand. Squeeze out the excess
air, close, seal and store sample in
another plastic sealable bag in the
freezer until mailed. (Rieck-Hinz, 2003)

1. Sampling poultry litter in-house
   Collect 10 to 15 sub-samples
   from throughout the house to the
depth the litter will be removed
   Cake litter samples should be
taken at the depth of cake
   removal. The number of samples
taken near feeders or waterers
   should be proportionate to their
   space occupied in the whole
   house. (LPES)

2. Sampling stockpiled manure,
litter or compost. Ideally,
stockpiled material should be
stored under cover on an
impervious surface. The exterior
of uncovered waste may not
accurately represent the majority
of the material because rainfall
moves water-soluble nutrients
down into the pile. If an
uncovered stockpile is used over
an extended period of time, it
should be sampled before each
application. Take 10 sub-samples
from different locations around
the pile at least 18 inches below
the surface. (LPES)

3. Sampling from a bedded pack. It
   is recommended that samples
   from a bedded pack be taken
during loading. Take at least five
   sub-samples while loading
   several spreader loads. (Peters,
   2003)

4. Sampling daily hauls. Place a
   five gallon pail under the barn
   cleaner 4 to 5 times while loading
   a spreader. (Peters, 2003)

5. Sampling scrape-and-haul
   feedlots. Facilities where manure
   accumulates on paved feedlots
   and is scraped and hauled to the
   field daily or several times during
   the week are referred to as
   scrape-and-haul feedlots. Sub-
   samples can be collected by
   scraping a shovel across
   approximately 25 feet of the
   paved feedlot. This process
   should be repeated 10 or more
times, taking care to sample in a
direction that slices through the
variations of moisture, bedding,
depth, age, etc. Avoid
excessively wet areas and areas
with large amounts of hay or
feed. Several composite samples
may be needed for this type of
facility. (Rieck-Hinz, 2003)

6. Sampling during spreading or
   land application. Spread a sheet
   of plastic or a tarp in the field and
   drive the tractor and spreader
   over the top of the plastic to catch
   the manure from one pass of the
   spreader. Samples should be
   collected to represent the first
   middle and last part of the
   storage facility or loads applied
   and should be correlated as to
   which loads are applied on each
   field to track changes in nutrient
   content throughout the storage
   facility. (Rieck-Hinz, 2003)
References


2.4. Predicted Soil Erosion

Average water, wind, irrigation, gully and ephemeral erosion estimates

<table>
<thead>
<tr>
<th>Field</th>
<th>Predominant Soil Type</th>
<th>T Factor (t/ac/yr)</th>
<th>Slope (%)</th>
<th>Water (Sheet and Rill) (t/ac/yr)</th>
<th>Wind (t/ac/yr)</th>
<th>Irrigation Erosion Controlled (y/n)</th>
<th>Gully Erosion Controlled (y/n)</th>
<th>Ephemeral Erosion Controlled (y/n)</th>
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</thead>
<tbody>
<tr>
<td>Pearl Lane</td>
<td>PrB (Providence SIL)</td>
<td>4</td>
<td>3.5</td>
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Crop period sheet and rill erosion estimates

<table>
<thead>
<tr>
<th>Field</th>
<th>Crop Year</th>
<th>Primary Crop</th>
<th>Starting Date (mm/dd/yyyy)</th>
<th>Ending Date (mm/dd/yyyy)</th>
<th>Crop Period Soil Loss (t/ac)</th>
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</thead>
<tbody>
<tr>
<td>Pearl Lane</td>
<td>2021</td>
<td>Corn grain</td>
<td>10/16/2020</td>
<td>9/15/2021</td>
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<td>2022</td>
<td>Soybean</td>
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<td>10/15/2022</td>
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<td>2023</td>
<td>Corn grain</td>
<td>10/16/2022</td>
<td>9/15/2023</td>
<td>3.3</td>
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<td>2024</td>
<td>Soybean</td>
<td>9/16/2023</td>
<td>10/15/2024</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>2025</td>
<td>Corn grain</td>
<td>10/16/2024</td>
<td>9/15/2025</td>
<td>3.3</td>
</tr>
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### Section 3. Nutrient Management Plan (590)

#### 3.1. Nitrogen and Phosphorus Risk Analyses

**Tennessee Phosphorus Index**

<table>
<thead>
<tr>
<th>Field</th>
<th>Crop Year</th>
<th>Site Total</th>
<th>Management Total</th>
<th>P Index w/o P Apps</th>
<th>P Index w/ P Apps</th>
<th>P Loss Risk</th>
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<td>Pearl Lane</td>
<td>2021</td>
<td>15</td>
<td>18</td>
<td>15</td>
<td>270</td>
<td>Medium</td>
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<td>Pearl Lane</td>
<td>2022</td>
<td>15</td>
<td>19</td>
<td>15</td>
<td>285</td>
<td>High</td>
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<td>Pearl Lane</td>
<td>2023</td>
<td>15</td>
<td>20</td>
<td>15</td>
<td>300</td>
<td>High</td>
</tr>
<tr>
<td>Pearl Lane</td>
<td>2024</td>
<td>15</td>
<td>20</td>
<td>15</td>
<td>300</td>
<td>High</td>
</tr>
<tr>
<td>Pearl Lane</td>
<td>2025</td>
<td>15</td>
<td>20</td>
<td>15</td>
<td>300</td>
<td>High</td>
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### 3.2. Manure Application Setback Distances

**Setback Requirements: Class I CAFO**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Setback Criteria</th>
<th>Setback Distance (Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streams</td>
<td>Applied upgradient, no permanent or insufficient vegetated setback</td>
<td>100</td>
</tr>
<tr>
<td>Streams</td>
<td>New operation, near high quality stream</td>
<td>60</td>
</tr>
<tr>
<td>Surface waters</td>
<td>Applied upgradient, no permanent or insufficient vegetated setback</td>
<td>100</td>
</tr>
<tr>
<td>Open tile line inlet structures</td>
<td>Applied upgradient, no permanent or insufficient vegetated setback</td>
<td>100</td>
</tr>
<tr>
<td>Sinkholes</td>
<td>Applied upgradient, no permanent or insufficient vegetated setback</td>
<td>100</td>
</tr>
<tr>
<td>Agricultural well heads</td>
<td>Applied upgradient, no permanent or insufficient vegetated setback</td>
<td>100</td>
</tr>
<tr>
<td>Other conduits to surface waters</td>
<td>Applied upgradient, no permanent or insufficient vegetated setback</td>
<td>100</td>
</tr>
<tr>
<td>Potable well, public or private</td>
<td>Application down-gradient of feature</td>
<td>150</td>
</tr>
<tr>
<td>Potable well, public or private</td>
<td>Application upgradient of feature</td>
<td>300</td>
</tr>
</tbody>
</table>


**Setback Requirements: NRCS Standard**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Setback Criteria</th>
<th>Setback Distance (Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well</td>
<td>Application upgradient of feature</td>
<td>300</td>
</tr>
<tr>
<td>Feature</td>
<td>Setback Criteria</td>
<td>Setback Distance (Feet)</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-----------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Well</td>
<td>Application down-gradient of feature</td>
<td>150</td>
</tr>
<tr>
<td>Waterbody</td>
<td>Predominant slope &lt;5% with good vegetation</td>
<td>30</td>
</tr>
<tr>
<td>Waterbody</td>
<td>Poor vegetation</td>
<td>100</td>
</tr>
<tr>
<td>Public road</td>
<td>All applications</td>
<td>50</td>
</tr>
<tr>
<td>Dwelling (other than producer)</td>
<td>All applications</td>
<td>300</td>
</tr>
<tr>
<td>Public use area</td>
<td>All applications</td>
<td>300</td>
</tr>
<tr>
<td>Property line</td>
<td>Application up-gradient of feature</td>
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### 3.3. Soil Test Data

<table>
<thead>
<tr>
<th>Field</th>
<th>Test Year</th>
<th>OM (%)</th>
<th>P Test Used</th>
<th>P</th>
<th>K</th>
<th>Mg</th>
<th>Ca</th>
<th>Units</th>
<th>Soil pH</th>
<th>Buffer pH</th>
<th>CEC (meq/100g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearl Lane</td>
<td>2020</td>
<td>3.0</td>
<td>Mehlich-3 ICP</td>
<td>22</td>
<td>120</td>
<td>264</td>
<td>2,578</td>
<td>lbs/ac</td>
<td>5.8</td>
<td>7.8</td>
<td>9.6</td>
</tr>
</tbody>
</table>
### 3.4. Manure Nutrient Analyses

<table>
<thead>
<tr>
<th>Manure Source</th>
<th>Dry Matter (%)</th>
<th>Total N</th>
<th>NH₄-N</th>
<th>Total P₂O₅</th>
<th>Total K₂O</th>
<th>Avail. P₂O₅</th>
<th>Avail. K₂O</th>
<th>Units</th>
<th>Analysis Source and Date</th>
<th>Alum Treatment Rate (lbs/1000 sq.ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barn 1</td>
<td>37.9</td>
<td>33.8</td>
<td>22.7</td>
<td>31.7</td>
<td>22.7</td>
<td>31.7</td>
<td>31.7</td>
<td>lbs/1000 gal</td>
<td>Analyses/production amount from similar Tosh barn</td>
<td></td>
</tr>
<tr>
<td>Barn 2</td>
<td>37.9</td>
<td>33.8</td>
<td>22.7</td>
<td>31.7</td>
<td>22.7</td>
<td>31.7</td>
<td>31.7</td>
<td>lbs/1000 gal</td>
<td>Analyses/production amount from similar Tosh barn</td>
<td></td>
</tr>
</tbody>
</table>

a. Entered analysis may be the average of several individual analyses.
b. Tennessee assumes that 100% of manure phosphorus and 100% of manure potassium is crop available. First-year per-acre nitrogen availability for individual manure applications is given in the Planned Nutrient Applications table. For more information about nitrogen availability in Tennessee, see "Manure Application Management," Tables 3 and 4, Tennessee Extension, PB1510, 2/94 (http://wastemgmt.ag.utk.edu/Pubs/PB1510.pdf).

### 3.5. Planned Crops and Fertilizer Recommendations

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearl Lane</td>
<td>2021</td>
<td>Corn grain</td>
<td>175.0 bu</td>
<td>160</td>
<td>140</td>
<td>70</td>
<td>131</td>
<td>77</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Pearl Lane</td>
<td>2022</td>
<td>Small grain*</td>
<td>60.0 bu</td>
<td>90</td>
<td>80</td>
<td>20</td>
<td>78</td>
<td>30</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Pearl Lane</td>
<td>2022</td>
<td>Soybean</td>
<td>60.0 bu</td>
<td>0</td>
<td>10</td>
<td>40</td>
<td>240</td>
<td>48</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>Pearl Lane</td>
<td>2023</td>
<td>Corn grain</td>
<td>175.0 bu</td>
<td>160</td>
<td>140</td>
<td>70</td>
<td>131</td>
<td>77</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Pearl Lane</td>
<td>2024</td>
<td>Small grain*</td>
<td>60.0 bu</td>
<td>90</td>
<td>80</td>
<td>20</td>
<td>78</td>
<td>30</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Pearl Lane</td>
<td>2024</td>
<td>Soybean</td>
<td>60.0 bu</td>
<td>0</td>
<td>10</td>
<td>40</td>
<td>240</td>
<td>48</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>Pearl Lane</td>
<td>2025</td>
<td>Corn grain</td>
<td>175.0 bu</td>
<td>160</td>
<td>140</td>
<td>70</td>
<td>131</td>
<td>77</td>
<td>51</td>
<td></td>
</tr>
</tbody>
</table>

a. Unharvested cover crop or first crop in double-crop system.
b. Custom fertilizer recommendation.
### 3.6. Planned Nutrient Applications (Manure-spreadable Area)

<table>
<thead>
<tr>
<th>Field</th>
<th>App. Month</th>
<th>Target Crop</th>
<th>Nutrient Source</th>
<th>Application Method</th>
<th>Rate Basis</th>
<th>Rate/Acre</th>
<th>Loads, Speed or Time</th>
<th>Total Amount Applied</th>
<th>Acres Cov.</th>
<th>Avail N (lbs/ac)</th>
<th>Avail P2O5 (lbs/ac)</th>
<th>Avail K2O (lbs/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearl Lane</td>
<td>Mar 2021</td>
<td>Corn grain</td>
<td>Barn 2</td>
<td>Drag Injector</td>
<td>2-yr P</td>
<td>6,100 gal</td>
<td>4.2 mph</td>
<td>5,490 gal</td>
<td>0.9</td>
<td>162</td>
<td>138</td>
<td>193</td>
</tr>
<tr>
<td>Pearl Lane</td>
<td>Mar 2021</td>
<td>Corn grain</td>
<td>Barn 1</td>
<td>Drag Injector</td>
<td>2-yr P</td>
<td>6,100 gal</td>
<td>4.2 mph</td>
<td>400,200 gal</td>
<td>65.6</td>
<td>162</td>
<td>138</td>
<td>193</td>
</tr>
<tr>
<td>Pearl Lane</td>
<td>Jun 2022</td>
<td>Soybean</td>
<td>18-46-0</td>
<td>Surface broadcast</td>
<td>Custom</td>
<td>200 lbs</td>
<td></td>
<td>13,300 lbs</td>
<td>66.5</td>
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<td>92</td>
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<td>Pearl Lane</td>
<td>Feb 2023</td>
<td>Corn grain</td>
<td>Barn 1</td>
<td>Drag Injector</td>
<td>2-yr P</td>
<td>6,000 gal</td>
<td>4.3 mph</td>
<td>399,000 gal</td>
<td>66.5</td>
<td>159</td>
<td>136</td>
<td>190</td>
</tr>
<tr>
<td>Pearl Lane</td>
<td>Oct 2023</td>
<td>Small grain</td>
<td>18-46-0</td>
<td>Surface broadcast</td>
<td>Custom</td>
<td>200 lbs</td>
<td></td>
<td>13,300 lbs</td>
<td>66.5</td>
<td>36</td>
<td>92</td>
<td>0</td>
</tr>
<tr>
<td>Pearl Lane</td>
<td>Feb 2025</td>
<td>Corn grain</td>
<td>Barn 1</td>
<td>Drag Injector</td>
<td>2-yr P</td>
<td>6,000 gal</td>
<td>4.3 mph</td>
<td>399,000 gal</td>
<td>66.5</td>
<td>159</td>
<td>136</td>
<td>190</td>
</tr>
</tbody>
</table>

### Planned Nutrient Applications (Non-manure-spreadable Area)

<table>
<thead>
<tr>
<th>Field</th>
<th>App. Month</th>
<th>Target Crop</th>
<th>Nutrient Source</th>
<th>Application Method</th>
<th>Rate Basis</th>
<th>Rate/Acre</th>
<th>Total Amount Applied</th>
<th>Acres Cov.</th>
<th>Avail N (lbs/ac)</th>
<th>Avail P2O5 (lbs/ac)</th>
<th>Avail K2O (lbs/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearl Lane</td>
<td>Jun 2022</td>
<td>Soybean</td>
<td>18-46-0</td>
<td>Surface broadcast</td>
<td>Custom</td>
<td>200 lbs</td>
<td>1,600 lbs</td>
<td>8.0</td>
<td>36</td>
<td>92</td>
<td>0</td>
</tr>
<tr>
<td>Pearl Lane</td>
<td>Oct 2023</td>
<td>Small grain</td>
<td>18-46-0</td>
<td>Surface broadcast</td>
<td>Custom</td>
<td>200 lbs</td>
<td>1,600 lbs</td>
<td>8.0</td>
<td>36</td>
<td>92</td>
<td>0</td>
</tr>
</tbody>
</table>

### 3.7. Field Nutrient Balance (Manure-spreadable Area)

<table>
<thead>
<tr>
<th>Year</th>
<th>Field</th>
<th>Size</th>
<th>Crop</th>
<th>Yield Goal</th>
<th>Fertilizer Recs&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Nutrients Applied&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Balance After Recs&lt;sup&gt;c&lt;/sup&gt;</th>
<th>Balance After Removal&lt;sup&gt;d&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>N</td>
<td>P2O5</td>
<td>K2O</td>
<td>N</td>
<td>P2O5</td>
<td>K2O</td>
</tr>
<tr>
<td>2021</td>
<td>Pearl Lane</td>
<td>66.5</td>
<td>Corn grain</td>
<td>175</td>
<td>160 140 70</td>
<td>162 138 193</td>
<td>2 -2 123</td>
<td>61 142</td>
</tr>
<tr>
<td>2022</td>
<td>Pearl Lane</td>
<td>66.5</td>
<td>Small grain</td>
<td>60</td>
<td>90 80 20</td>
<td>36 92 0</td>
<td>-519 2</td>
<td>63</td>
</tr>
<tr>
<td>2023</td>
<td>Pearl Lane</td>
<td>66.5</td>
<td>Soybean</td>
<td>60</td>
<td>0 10 40</td>
<td>36 92 0</td>
<td>-519 2</td>
<td>123</td>
</tr>
<tr>
<td>2024</td>
<td>Pearl Lane</td>
<td>66.5</td>
<td>Corn grain</td>
<td>175</td>
<td>160 140 70</td>
<td>159 136 190</td>
<td>09 -2 183</td>
<td>134 176</td>
</tr>
<tr>
<td>2024</td>
<td>Pearl Lane</td>
<td>66.5</td>
<td>Small grain</td>
<td>60</td>
<td>90 80 20</td>
<td>36 92 0</td>
<td>-519 2</td>
<td>123</td>
</tr>
<tr>
<td>2025</td>
<td>Pearl Lane</td>
<td>66.5</td>
<td>Soybean</td>
<td>60</td>
<td>0 10 40</td>
<td>36 92 0</td>
<td>-519 2</td>
<td>123</td>
</tr>
<tr>
<td>2025</td>
<td>Pearl Lane</td>
<td>66.5</td>
<td>Corn grain</td>
<td>175</td>
<td>160 140 70</td>
<td>159 136 190</td>
<td>09 -2 183</td>
<td>134 176</td>
</tr>
<tr>
<td>Total</td>
<td>Pearl Lane</td>
<td>660</td>
<td>330</td>
<td>552</td>
<td>594</td>
<td>573</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Field Nutrient Balance (Non-manure-spreadable Area)

<table>
<thead>
<tr>
<th>Year</th>
<th>Field</th>
<th>Size</th>
<th>Crop</th>
<th>Yield Goal</th>
<th>Fertilizer Recs&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Nutrients Applied&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Balance After Recs&lt;sup&gt;c&lt;/sup&gt;</th>
<th>Balance After Removal&lt;sup&gt;d&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ac</td>
<td></td>
<td></td>
<td>N lbs/ac</td>
<td>P₂O₅ lbs/ac</td>
<td>K₂O lbs/ac</td>
<td>N lbs/ac</td>
</tr>
<tr>
<td>2021</td>
<td>Pearl Lane</td>
<td>8.0</td>
<td>Corn grain</td>
<td>175</td>
<td>160</td>
<td>140</td>
<td>70</td>
<td>0</td>
</tr>
<tr>
<td>2022</td>
<td>Pearl Lane</td>
<td>8.0</td>
<td>Small grain</td>
<td>60</td>
<td>90</td>
<td>80</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>2022</td>
<td>Pearl Lane</td>
<td>8.0</td>
<td>Soybean</td>
<td>60</td>
<td>0</td>
<td>10</td>
<td>40</td>
<td>36</td>
</tr>
<tr>
<td>2023</td>
<td>Pearl Lane</td>
<td>8.0</td>
<td>Corn grain</td>
<td>175</td>
<td>160</td>
<td>140</td>
<td>70</td>
<td>0</td>
</tr>
<tr>
<td>2024</td>
<td>Pearl Lane</td>
<td>8.0</td>
<td>Small grain</td>
<td>60</td>
<td>90</td>
<td>80</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>2024</td>
<td>Pearl Lane</td>
<td>8.0</td>
<td>Soybean</td>
<td>60</td>
<td>0</td>
<td>10</td>
<td>40</td>
<td>36</td>
</tr>
<tr>
<td>2025</td>
<td>Pearl Lane</td>
<td>8.0</td>
<td>Corn grain</td>
<td>175</td>
<td>160</td>
<td>140</td>
<td>70</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>Pearl Lane</td>
<td>8.0</td>
<td></td>
<td>660</td>
<td>600</td>
<td>330</td>
<td>72</td>
<td>184</td>
</tr>
</tbody>
</table>

<sup>a</sup> Fertilizer Recs are the crop fertilizer recommendations. The N rec accounts for any N credit from previous legume crop.

<sup>b</sup> Nutrients Applied are the nutrients expected to be available to the crop from that year's manure applications plus nutrients from that year's commercial fertilizer applications and nitrates from irrigation water. With a double-crop year, the total nutrients applied for both crops and the year's balances are listed on the second crop's line.

<sup>c</sup> For N, Nutrients Applied minus Fertilizer Recs for indicated crop year. Also includes amount of residual N expected to become available that year from prior years' manure applications. For P₂O₅ and K₂O, Nutrients Applied minus Fertilizer Recs through the indicated crop year, with positive balances carried forward to subsequent years. Negative values indicate a potential need to apply additional nutrients.

<sup>d</sup> Nutrients Applied minus amount removed by harvested portion of crop through the indicated year. Positive balances are carried forward to subsequent years.

<sup>e</sup> Custom fertilizer recommendation.

<sup>f</sup> Legume crop is assumed to utilize some or all of the supplied N.

<sup>g</sup> Includes residual N expected to become available that year from prior years' manure applications.
<table>
<thead>
<tr>
<th>Manure Source</th>
<th>Plan Period</th>
<th>On Hand at Start of Period</th>
<th>Total Generated</th>
<th>Total Imported</th>
<th>Total Transferred In</th>
<th>Total Transferred Out</th>
<th>Total Applied</th>
<th>On Hand at End of Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Sources</td>
<td>Oct 20 - Sep 21</td>
<td>0</td>
<td>800,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Barn 1</td>
<td>Oct 20 - Sep 21</td>
<td>0</td>
<td>800,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Barn 2</td>
<td>Oct 20 - Sep 21</td>
<td>0</td>
<td>800,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

For Oct 21 - Sep 22:

<table>
<thead>
<tr>
<th>Manure Source</th>
<th>Plan Period</th>
<th>On Hand at Start of Period</th>
<th>Total Generated</th>
<th>Total Imported</th>
<th>Total Transferred In</th>
<th>Total Transferred Out</th>
<th>Total Applied</th>
<th>On Hand at End of Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Sources</td>
<td>Oct 21 - Sep 22</td>
<td>0</td>
<td>399,800</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Barn 1</td>
<td>Oct 21 - Sep 22</td>
<td>0</td>
<td>399,800</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Barn 2</td>
<td>Oct 21 - Sep 22</td>
<td>0</td>
<td>399,800</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
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</table>

For Oct 22 - Sep 23:

<table>
<thead>
<tr>
<th>Manure Source</th>
<th>Plan Period</th>
<th>On Hand at Start of Period</th>
<th>Total Generated</th>
<th>Total Imported</th>
<th>Total Transferred In</th>
<th>Total Transferred Out</th>
<th>Total Applied</th>
<th>On Hand at End of Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Sources</td>
<td>Oct 22 - Sep 23</td>
<td>0</td>
<td>1,194,310</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Barn 1</td>
<td>Oct 22 - Sep 23</td>
<td>0</td>
<td>1,194,310</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Barn 2</td>
<td>Oct 22 - Sep 23</td>
<td>0</td>
<td>1,194,310</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

For Oct 23 - Sep 24:

<table>
<thead>
<tr>
<th>Manure Source</th>
<th>Plan Period</th>
<th>On Hand at Start of Period</th>
<th>Total Generated</th>
<th>Total Imported</th>
<th>Total Transferred In</th>
<th>Total Transferred Out</th>
<th>Total Applied</th>
<th>On Hand at End of Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Sources</td>
<td>Oct 23 - Sep 24</td>
<td>0</td>
<td>600,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Barn 1</td>
<td>Oct 23 - Sep 24</td>
<td>0</td>
<td>600,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Barn 2</td>
<td>Oct 23 - Sep 24</td>
<td>0</td>
<td>600,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

For Oct 24 - Sep 25:

<table>
<thead>
<tr>
<th>Manure Source</th>
<th>Plan Period</th>
<th>On Hand at Start of Period</th>
<th>Total Generated</th>
<th>Total Imported</th>
<th>Total Transferred In</th>
<th>Total Transferred Out</th>
<th>Total Applied</th>
<th>On Hand at End of Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Sources</td>
<td>Oct 24 - Sep 25</td>
<td>0</td>
<td>995,310</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Barn 1</td>
<td>Oct 24 - Sep 25</td>
<td>0</td>
<td>995,310</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Barn 2</td>
<td>Oct 24 - Sep 25</td>
<td>0</td>
<td>995,310</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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### 3.9. Fertilizer Material Annual Summary (Optional)

<table>
<thead>
<tr>
<th>Product Analysis</th>
<th>Plan Period</th>
<th>Product Needed Oct - Dec</th>
<th>Product Needed Jan - Sep</th>
<th>Total Product Needed</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-46-0</td>
<td>Oct '21 - Sep '22</td>
<td>0</td>
<td>14,900</td>
<td>14,900</td>
<td>lbs</td>
</tr>
<tr>
<td>18-46-0</td>
<td>Oct '23 - Sep '24</td>
<td>14,900</td>
<td>0</td>
<td>14,900</td>
<td>lbs</td>
</tr>
</tbody>
</table>
### 3.10. Plan Nutrient Balance (Manure-spreadable Area)

<table>
<thead>
<tr>
<th></th>
<th>N (lbs)</th>
<th>P&lt;sub&gt;2&lt;/sub&gt;O&lt;sub&gt;5&lt;/sub&gt; (lbs)</th>
<th>K&lt;sub&gt;2&lt;/sub&gt;O (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Manure Nutrients on Hand at Start of Plan&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Manure Nutrients Collected&lt;sup&gt;b&lt;/sup&gt;</td>
<td>303,200</td>
<td>181,600</td>
<td>253,600</td>
</tr>
<tr>
<td>Total Manure Nutrients Imported&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Manure Nutrients Exported&lt;sup&gt;d&lt;/sup&gt;</td>
<td>219,820</td>
<td>131,660</td>
<td>183,860</td>
</tr>
<tr>
<td>Total Manure Nutrients Gained/Lost in Transfer&lt;sup&gt;e&lt;/sup&gt;</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Manure Nutrients on Hand at End of Plan&lt;sup&gt;f&lt;/sup&gt;</td>
<td>37,760</td>
<td>22,616</td>
<td>31,583</td>
</tr>
<tr>
<td>Total Manure Nutrients Applied&lt;sup&gt;g&lt;/sup&gt;</td>
<td>45,552</td>
<td>27,265</td>
<td>38,104</td>
</tr>
<tr>
<td>Available Manure Nutrients Applied (Utilized by plan's crops)&lt;sup&gt;h&lt;/sup&gt;</td>
<td>32,452</td>
<td>27,265</td>
<td>30,124</td>
</tr>
<tr>
<td>Available Manure Nutrients Applied (Not utilized by plan's crops)&lt;sup&gt;i&lt;/sup&gt;</td>
<td>266</td>
<td>0</td>
<td>7,980</td>
</tr>
<tr>
<td>Commercial Fertilizer Nutrients Applied (Utilized by plan's crops)&lt;sup&gt;j&lt;/sup&gt;</td>
<td>4,788</td>
<td>12,236</td>
<td>0</td>
</tr>
<tr>
<td>Commercial Fertilizer Nutrients Applied (Not utilized by plan's crops)&lt;sup&gt;k&lt;/sup&gt;</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Available Nutrients Applied (Manure and fertilizer; utilized by plan's crops)&lt;sup&gt;l&lt;/sup&gt;</td>
<td>37,240</td>
<td>39,501</td>
<td>30,124</td>
</tr>
<tr>
<td>Nutrient Utilization Potential&lt;sup&gt;m&lt;/sup&gt;</td>
<td>75,810</td>
<td>44,954</td>
<td>27,930</td>
</tr>
<tr>
<td>Nutrient Balance of Spreadable Acres&lt;sup&gt;n&lt;/sup&gt; P</td>
<td>-38,570</td>
<td>-5,453</td>
<td>2,194</td>
</tr>
<tr>
<td>Average Nutrient Balance per Spreadable Acre per Year&lt;sup&gt;o&lt;/sup&gt; P</td>
<td>-116</td>
<td>-16</td>
<td>7</td>
</tr>
</tbody>
</table>

a. Total manure nutrients present in storage at the beginning of the plan.
b. Total manure nutrients collected on the farm.
c. Total manure nutrients imported onto the farm.
d. Total manure nutrients exported from the farm to an external operation.
e. Net change in total manure nutrients due to transfers between storage units with differing analyses.
f. Total manure nutrients present in storage at the end of the plan.
g. Total nutrients present in land-applied manure. These values do not account for losses due to rate, timing, and method of application.
h. Manure nutrients applied and available to crops in the plan. These values are based on the total manure nutrients applied after accounting for nutrient losses due to rate, timing, and method of application. Nutrients which will not be utilized by crops in the plan are excluded from these values.
i. Manure nutrients applied that will be utilized by crops outside the plan. This usually results from Fall nutrient applications at the end of the plan intended for crops in subsequent years.
j. Nutrients applied as commercial fertilizers and nitrates contained in irrigation water. Nutrients that will not be utilized by crops in the plan are excluded from these values.
k. Nutrients applied as commercial fertilizer which will be utilized by crops outside the plan.
l. Sum of available manure nutrients applied and commercial fertilizer nutrients applied.
m. Nutrient utilization potential of crops grown. For N the value is based on the N recommendation for non-legume crops and N uptake or other state-imposed limit for N application rates for legumes. P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O values are based on fertilizer recommendations or crop removal (whichever is greater).
n. Available nutrients applied minus crop nutrient utilization potential. Negative values indicate additional nutrient utilization potential and positive values indicate over-application.
o. Average per acre-year nutrient balance. Values are calculated by dividing nutrient balance of spreadable acres in the number of spreadable acres in the plan and by the length of the plan in years. Negative values indicate additional nutrient utilization potential and positive values indicate over-application.
p. Non-trivial, positive values for N indicate that the plan was not properly developed. Negative values for N indicate additional nutrient utilization potential which may or may not be intentional. For example, plans that include legume crops often will not utilize the full N utilization potential for legume crops if manure can be applied to non-legume crops that require N for optimum yield. Positive values for P<sub>2</sub>O<sub>5</sub> and/or K<sub>2</sub>O do not necessarily indicate that the plan was developed improperly. For example, producers may be allowed to apply N-based application rates of manure to fields with low soil test P values or fields with a low potential P-loss risk based on the risk assessment tool used by the state. Negative values for P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O indicate that planned applications to some fields are less than crop removal rates or fertilizer recommendations.
Plan Nutrient Balance (Non-manure-spreadable Area)

<table>
<thead>
<tr>
<th></th>
<th>N (lbs)</th>
<th>P₂O₅ (lbs)</th>
<th>K₂O (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Fertilizer Nutrients Applied&lt;sup&gt;a&lt;/sup&gt;</td>
<td>576</td>
<td>1,472</td>
<td>0</td>
</tr>
<tr>
<td>Nutrient Utilization Potential&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5,280</td>
<td>4,800</td>
<td>2,640</td>
</tr>
<tr>
<td>Nutrient Balance of Non-spreadable Acres&lt;sup&gt;c, e&lt;/sup&gt;</td>
<td>-4,704</td>
<td>-3,328</td>
<td>-2,640</td>
</tr>
<tr>
<td>Average Nutrient Balance per Non-spreadable Acre per Year&lt;sup&gt;d, e&lt;/sup&gt;</td>
<td>-118</td>
<td>-83</td>
<td>-66</td>
</tr>
</tbody>
</table>

<sup>a</sup> Nutrients applied as commercial fertilizers and nitrates contained in irrigation water.
<sup>b</sup> Nutrient utilization potential of crops grown based on crop fertilizer recommendations.
<sup>c</sup> Commercial fertilizer nutrients applied minus crop nutrient utilization potential. Negative values indicate additional nutrient utilization potential and positive values indicate over-application.
<sup>d</sup> Average per acre-year nutrient balance. Values are calculated by dividing nutrient balance of non-spreadable acres by number of non-spreadable acres in plan and by the length of the plan in years. Negative values indicate additional nutrient utilization potential and positive values indicate over-application.
<sup>e</sup> Non-trivial, positive values for N indicate that the plan was not properly developed. Negative values for N indicate additional nutrient utilization potential which may or may not be intentional. Positive values for P₂O₅ and/or K₂O do not necessarily indicate that the plan was developed improperly. For example, multiple year applications may have been planned during the final plan year(s) and these nutrients will not be utilized by crops in the current plan. Negative values for P₂O₅ and K₂O indicate that applications to some fields may have been delayed to allow the producer to apply the nutrients in accordance with their fertilization schedule.
Closure Plan

In the event that Swine production at this location ceases, the following will be done within 360 days:

- All manure in all animal use areas will be removed and spread on the farm or spread elsewhere according to my current Nutrient Management Plan.
- The most current manure analysis will be provided to anyone removing manure from the farm.
- Any dead pigs on the farm will be disposed of at the time of closure according to methods outlined in my current Nutrient Management Plan and or allowable by Tennessee Law.
- Any manure which is land applied will be done so according to the rates discussed in my most recent Nutrient Management Plan.

The following will be completed within a reasonable period as allowable by law using Tennessee Natural Resources Conservation Service (NRCS) Standard Code 360- Closure of Waste Impoundments:

- Any manure storage facility (lagoon) located on the swine farm will be properly decommissioned.
- Any manure currently in storage at the time of closure will be removed and spread on the farm or spread elsewhere according to my current Nutrient Management Plan.
- The lagoon will be breached and backfilled and or converted to freshwater storage according to NRCS standards.

Date: 2-24-20
Record Keeping

This section includes a list of key records that [__] Farms will keep, in order to document and verify implementation of the procedures in this NMP. Records shall be kept for a minimum of 5 years, or for the length of the contract, rotation, or permit, whichever is longer, for each field where manure is applied.

These general records include but are not limited to:

1. Soil Test Results
2. Weather and soil conditions 24 hours prior to, during and 24 hours application of manure, chemicals and pesticides.
3. Type, quantities, and sources of all nutrients generated and collected
4. Type, quantities, and sources of all nutrients applied to each field
5. Dates of manure applications
6. Inspection Reports
7. Operation and Maintenance records of conservation practices and equipment
8. Restricted pesticides used to meet label requirements
9. Equipment Calibration records
10. Crops planted, tillage method and dates planted
11. Crop harvest dates and yield
12. Adjustments to nutrient management plan based on records and changes in farming operations as appropriate
13. Weekly check of volume in pit
14. Annual visual inspection of retention structure (pits), animal holding areas, if applicable and land application areas
15. Records of mortalities and how managed

Signature: [__]
Date: 3-2-20
Operation and Maintenance

Farms is responsible for safe operation and maintenance of the nutrient management plan including all equipment. Operation and maintenance includes the following items:

1. Periodic plan review to determine if adjustments or modifications to the plan are needed. As minimum, plans will be reviewed/revised with each soil test cycle.
2. weekly there will be a visual inspection of pits
3. Calibration of application equipment to ensure uniform distribution of material at planned rates.
4. Documentation of the actual rate at which nutrients were applied. When the actual rates used differ from or exceed the recommended and planned rates, records will indicate the reasons for the differences.
5. Maintaining records to document plan implementation. As applicable, records include
   a. Soil test results and recommendations for nutrient application
   b. Quantities, analysis and sources of nutrients applied
   c. Dates and method of nutrient applications
   d. Crops planted, planting and harvest dates, yields, and residues removed
   e. Results of water, plant and organic byproduct analysis
   f. Dates of review and person performing the review and recommendations
   g. Conservation practices being applied and Maintenance.
      Records will be maintained for five years or for a period longer than five years if required by other Federal, state, or local ordinances or program or contract requirements.

The disposal of material generated by the cleaning nutrient application equipment accomplished properly. Excess material should be collected and stored or field applied in an appropriate manner. Excess material should not be applied on areas of high potential risk for runoff and leaching.

The disposal/recycling of nutrient containers should be according to state and local guidelines or regulations.

Pesticides, toxic chemicals, and petroleum products will not be used in areas where leakage could enter the manure storage facility.
Heavy Use Area Protection

The Operation and Maintenance (O&M) plan shall specify that the treatment areas and associated practices will be inspected annually and after significant storm events to identify repair and maintenance needs. The O&M plan shall contain the operational requirements for managing the heavy use area. Planned scraping intervals, replacement of fine material, storage, treatment, and/or utilization methods will also be described. Provisions for re-establishment of vegetated areas will be included. The O&M plan shall detail the level of repairs needed to maintain the effectiveness and useful life of the practice. If using a front-end loader, recommend back dragging the manure/hay to conserve removal of gravel from the surface. Consider using fabricated large equipment tire for scraping surface. The O&M plan shall be provided to, and discussed with, the operator. The O&M plan must complement the Nutrient Management Plan, as necessary.

Composting Facility

An operation and maintenance (O&M) plan shall be developed consistent with the purposes of this standard, its intended life, safety requirements, and the criteria for its design. The O&M plan shall include recipe ingredients and sequence that they are layered and mixed, maximum and minimum temperature for operation, land application rates, moisture level, management of odors, testing, etc. Make adjustments throughout the composting period to ensure proper composting processes. The compost facility should be inspected regularly when the facility is empty. Replace deteriorated wooden materials or hardware. Patch concrete floors and curbs as necessary to assure water tightness. Roof structures should be examined for structural integrity and repaired as needed. Exposed metal components should be inspected for corrosion. Corroded metal should be wire brushed and painted as necessary. Closely monitor temperatures above 165°F. Take action immediately to cool piles that have reached temperatures above 185°F. The operation and maintenance plan shall state that composting is a biological process. It requires a combination of art and science for success. Hence, the operation may need to undergo some trial and error in the start-up of a new composting facility.

Nutrient Management (590)

The owner/client is responsible for safe operation and maintenance of the nutrient management plan including all equipment. Operation and maintenance addresses the following:

1. Periodic plan review to determine if adjustments or modifications to the plan are needed. As a minimum, plans will be reviewed/revised with each soil test cycle.
2. Protection of fertilizer and organic byproduct storage facilities from weather and accidental leakage or spillage.
3. Calibration of application equipment to ensure uniform distribution of material at planned rates.
4. Documentation of the actual rate at which nutrients were applied. When the actual rates used differ from or exceed the recommended and planned rates, records will indicate the reasons for the differences.
5. Maintaining records to document plan implementation. As applicable, records include:
   soil test results and recommendations for nutrient application, quantities, analyses and sources of nutrients applied, dates and method of nutrient applications, crops planted, planting
and harvest dates, yields, and residues removed, results of water, plant, and organic byproduct analyses, and dates of review and person performing the review, and recommendations.

Records should be maintained for five years or for a period longer than five years if required by other Federal, state, or local ordinances, or program or contract requirements. Workers shall be protected from and avoid unnecessary contact with chemical fertilizers and organic by-products. Protection should include the use of protective clothing when working with plant nutrients. Extra caution must be taken when handling ammonia sources of nutrients, or when dealing with organic wastes stored in unventilated enclosures. The disposal of material generated by the cleaning nutrient application equipment should be accomplished properly. Excess material should be collected and stored or field applied in an appropriate manner. Excess material should not be applied on areas of high potential risk for runoff and leaching. The disposal/recycling of nutrient containers should be according to state and local guidelines or regulations.

**Conservation Crop Rotation (328)**

Rotations shall provide for acceptable substitute crops in case of crop failure or shift in planting intentions for weather related or economic reasons. Acceptable substitutes are crops having similar properties that meet the criteria for all the resource concerns identified for the field or treatment unit. In areas where summer fallow is practiced, the decision to plant a crop or fallow shall be made annually based on soil moisture at planting time. Fields shall be fallowed only when soil moisture is not adequate to produce a crop. If moisture supply is adequate but limited, short-season shallow rooted crops shall be selected and grown. Deep-rooted crops shall follow shallow-rooted crops in subsequent years, if needed, to utilize all plant available water in the root zone.

**Residue and Tillage Management No-Till (329)**

Crops grown in the planned cropping sequence will yield adequate residue cover amounts as stated in the conservation plan for the farming operation.
Land-filling Large Animal Mortalities in Tennessee

Shawn Hawkins, Assistant Professor, and Forbes Walker, Associate Professor
Biosystems Engineering and Soil Science

Land-filling can be an inexpensive (≤ $35/ton) and sometimes convenient disposal option for large animal mortalities, particularly if on-farm burial is not feasible. However, an accommodating landfill must be nearby. Most beef and dairy producers and horse owners don’t know which landfills accept dead livestock. This publication provides a map (Figure 1) and phone numbers (Table 1) for Tennessee’s Class I landfills that are allowed to accept dead animals. University of Tennessee Extension faculty contacted these landfills in fall 2010; the symbols in Figure 1 indicate which landfills will likely accept deadstock (many refuse to accept large animal carcasses, probably because of placement and covering regulations or odor concerns). The shaded counties in Figure 1 currently participate in a pickup and landfill disposal service with Appertain Corporation (931-363-8284). Otherwise, the landfills generally don’t provide on-farm pickup, so you’ll probably have to make arrangements to transport the carcass to the landfill. Call ahead to verify acceptance and follow these simple guidelines:

1. Transport the dead animal to the landfill as soon as possible, preferably within 48 hours.

2. Make sure the animal is completely and securely covered with a tarp during transport.

3. Schedule the carcass delivery early in the morning for discreet offloading.

4. Have a disposable but sturdy rope tied to the carcass for quick offloading.

Figure 1. Tennessee’s Class I landfills.

Squares, diamonds and circles denote landfills that will readily accept deadstock, those with restrictions (for example, only accepting from in-county farms) and those unlikely to accept deadstock, respectively. The shaded counties participate in a pickup and landfill disposal service with Appertain Corporation. For more detailed information on mortality disposal options, go to: http://wastemgmt.ag.utk.edu/.
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<th>No.</th>
<th>County</th>
<th>Name</th>
<th>Phone Number</th>
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<td>1</td>
<td>Anderson</td>
<td>Chestnut Ridge Landfill And Recycling Center</td>
<td>865-457-7810</td>
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<td>2</td>
<td>Benton</td>
<td>West Camden Sanitary Landfill</td>
<td>731-584-7734</td>
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<td>3</td>
<td>Blount</td>
<td>Alcoa /Maryville/ Blount Co. Class I Landfill</td>
<td>865-995-2892</td>
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<td>423-476-8118</td>
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<td>Clay</td>
<td>Upper Cumberland Landfill</td>
<td>931-258-3954</td>
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<td>Madison</td>
<td>Madison County Development, LLC</td>
<td>901-872-7258</td>
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<td>Rutherford</td>
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<td>35</td>
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<td>615-790-0742</td>
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# Soil Analysis

**SOIL ANALYSIS**

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
<th>Results</th>
<th>Very Low</th>
<th>Low</th>
<th>Medium</th>
<th>Optimum</th>
<th>Very High</th>
<th>Calculated Cation Exchange Capacity</th>
<th>%Sat</th>
<th>meq/100g</th>
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<td>1:1</td>
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<td></td>
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<td>9.6 meq/100g</td>
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<td>Buffer pH</td>
<td>BPH</td>
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<td>6.1 meq/100g</td>
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<td>Phosphorus (P)</td>
<td>M3</td>
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<td>Copper (Cu)</td>
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<td>Manganese (Mn)</td>
<td>M3</td>
<td>138 LBA/acre</td>
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<td>Zinc (Zn)</td>
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## Soil Fertility Guidelines

**Crop:** Corn - No till  
**Yield Goal:** 150 bu/acre  
**Rec Units:**  

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<thead>
<tr>
<th>Crop</th>
<th>N</th>
<th>P₂O₅</th>
<th>K₂O</th>
<th>Mg</th>
<th>S</th>
<th>B</th>
<th>Cu</th>
<th>Mn</th>
<th>Zn</th>
<th>Fe</th>
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<td>1.0</td>
<td>1.0</td>
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<td>3.5</td>
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**Comments:**

**Corn - No till**  
- Limestone application is targeted to bring soil pH to 6.5.  
- Greater N efficiency for corn may be achieved by splitting the N application. Apply 1/4 to 1/3 of the N prior to or at planting and the remainder as sidedress when corn is 8-24 inches high.  
- For early planted corn or no till corn, apply a starter fertilizer at least 2 inches from the seed at a rate of 10-20 lbs N/Acre and 30-60 lbs P₂O₅/Acre.  
- If N is supplied to corn through the irrigation system, make 3-4 equal applications at 7-10 day intervals, beginning at the 6th leaf stage.
<table>
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<th>Date</th>
<th>Activity Description</th>
<th>Operator/Inspector</th>
<th>Activity Data</th>
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### Manure Application

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<thead>
<tr>
<th>App. #</th>
<th>Field</th>
<th>Date</th>
<th>Manure Source</th>
<th>Equipment</th>
<th>Days to Incorp.</th>
<th>Rate/A</th>
<th>Loads</th>
<th>Total Applied gal or tons</th>
<th>Acres Cov.</th>
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### App. Hauler's Name

<table>
<thead>
<tr>
<th>App. #</th>
<th>Hauler's Name (1)</th>
<th>Ground Cover % (2)</th>
<th>Soil Condition (3)</th>
<th>Air Temp. (4)</th>
<th>Wind Speed (5)</th>
<th>Wind Dir. (6)</th>
<th>Weather (7)</th>
<th>Rain Before (8)</th>
<th>Rain After (9)</th>
<th>Notes/Comments</th>
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1. Name or initials of the person who applied the manure.
2. Percent residue or ground cover at time of application.
3. Soil condition at time of application: Dry, Firm, Wet, Muddy, Snow-Covered, Frozen.
4. Air temperature at time of application.
5. Wind speed at time of application: Calm (0-2 mph), Light (2-5 mph), Breezy (5-15 mph), Windy (>15 mph).
6. Wind direction at time of application: N, NE, E, SE, S, SW, W, NW.
7. Weather condition at time of application: Sunny, Partly Cloudy, Cloudy, Rain, Snow.
8. Amount of rainfall during the 24 hours prior to application.
9. Amount of rainfall during the 24 hours after application.
### Commercial Fertilizer and Irrigation Water Application Records

<table>
<thead>
<tr>
<th>Field</th>
<th>Date</th>
<th>Analysis (1)</th>
<th>Form Dry or Liquid</th>
<th>Application Method</th>
<th>Material Rate/A lbs or gal</th>
<th>Total Applied lbs or gal</th>
<th>Acres Cov.</th>
<th>Notes/Comments</th>
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(1) With commercial fertilizers, enter the analysis in the form of N-P₂O₅-K₂O (examples: anhydrous ammonia is 82-0-0, diammonium phosphate is 18-46-0). With irrigation water, enter the nitrate concentration in ppm.
## Manure Imports onto the Farm

<table>
<thead>
<tr>
<th>Manure's Animal Type and Form</th>
<th>Date</th>
<th>Amount gal or tons</th>
<th>Originating Operation</th>
<th>Address</th>
<th>Contact</th>
<th>Phone</th>
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</table>
# Internal Transfers of Manure

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<tr>
<th>Manure Source</th>
<th>Date</th>
<th>Amount (gal or tons)</th>
<th>Manure Destination</th>
<th>Purpose of Transfer</th>
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Declarations to Nutrient Management Plan:

By my signature below, I affirm that I have read, understand, and will comply with the following stipulations from Tennessee's CAFO regulations that apply to my CAFO operation:

1) All animals in confinement are prevented from coming in direct contact with waters of the state.
2) All chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants.
3) Pesticide-contaminated waters will be prevented from discharging into waste retention structures. Waste from pest control and from facilities used to manage potentially hazardous or toxic chemicals shall be handled and disposed of in a manner that will prevent pollutants from entering waste retention structures or waters of the state.
4) Chemicals, manure/litter, and process wastewater will be managed to prevent spills. Spill clean-up plans will be developed and any equipment needed for spill clean-up will be available to facility personnel.
5) All sampling of soil and manure/litter is conducted according to protocols developed by UT Extension.
6) All records outlined in the permit that I am applying for will be maintained and available on-site.
7) Any confinement buildings, waste/wastewater handling or treatment systems, lagoons, holding ponds, and any other agricultural waste containment/treatment structures constructed or modified after April 13, 2005, are or will be located in accordance with NRCS Conservation Practice Standard 313.
8) A copy of the most recent Nutrient Management Plan will be kept as part of the farm records and will be maintained and implemented as written.
9) If applicable, all waste directed to under floor pits shall be composed entirely of wastewater (i.e. washwater and animal waste).
10) The Tennessee Department of Environment and Conservation Division of Water Resources will be notified of any significant wildlife mortalities near retention ponds or following any land application of animal wastes to fields.
11) All employees involved in work activities that relate to permit compliance will receive regular training on proper operation and maintenance (O&M) of the facility and waste disposal. Training shall include appropriate topics, such as land application of wastes, good housekeeping and material management practices, proper O&M of the facility, record keeping, and spill response and clean up. The periodic scheduled dates for such training shall be identified in the current Nutrient Management Plan.
12) There shall be no land application of nutrients within 24 hours of a precipitation event that may cause runoff. The operator shall not land apply nutrients to frozen, flooded, or saturated soils.

[Signature of CAFO Owner/Operator]

[Date]
**Tennessee Department of Environment and Conservation,**  
**Division of Water Resources**  
**William R. Snodgrass-Tennessee Tower**  
**312 Rosa L. Parks Avenue, 11th Floor, Nashville, TN 37243**  
**(615) 532-0625**  
**CONCENTRATED ANIMAL FEEDING OPERATION (CAFO)**  
**STATE OPERATING PERMIT (SOP)**  
**NOTICE OF INTENT (NOI)**

**Operation Name:** [Redacted]  
**Operation Location:** 401 Bright Rd. Huntingdon, Tn 38344  
**Physical Address:**

If any other State or Federal Water/Wastewater Permits have been obtained for this site, list those permit numbers:

<table>
<thead>
<tr>
<th>Animal Type:</th>
<th>Poultry</th>
<th>Swine</th>
<th>Dairy</th>
<th>Beef</th>
<th>Other</th>
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</thead>
<tbody>
<tr>
<td>Number of Animals:</td>
<td>2000</td>
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<tr>
<td>Number of Barns:</td>
<td>2</td>
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<tr>
<td>Name of Integrator:</td>
<td>Tosh Pork</td>
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</tbody>
</table>

**Type of Animal Waste Management:**
- [ ] Dry
- [ ] Liquid
- [ ] Liquid, Closed System (i.e. covered tank, under-barn pit, etc.)

**Attachments:**
- [ ] NMP Attached
- [ ] Closure Plan Attached
- [ ] Topographic map Attached

**PERMITTEE IDENTIFICATION**

<table>
<thead>
<tr>
<th>Official Contact (applicant)</th>
<th>Title or Position:</th>
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<tbody>
<tr>
<td>[Redacted]</td>
<td>Owner</td>
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</tbody>
</table>

**Mailing Address:** [Redacted]  
**Phone number(s):** [Redacted]  
**E-mail:** [Redacted]  
**Address:** [Redacted]  
**E-mail:** [Redacted]  
**Optimal Contact:** [Redacted]  
**Title or Position:** [Redacted]  
**Phone number(s):** [Redacted]  
**E-mail:** [Redacted]

**APPLICATION CERTIFICATION AND SIGNATURE**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowingly violating.

**Name and title, print or type:** [Redacted]  
**Date:** 2-24-20

**STATE LIST ONLY**

<table>
<thead>
<tr>
<th>Received Date</th>
<th>Name of Receiving Stream</th>
<th>High Quality Water</th>
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<td>Impaired Receiving Stream</td>
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<td>T &amp; E Aquatic Fauna</td>
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**CN-1147 (Rev. 06-14)** continued

**RDA 2366**
NOTICE OF COVERAGE UNDER THE GENERAL NPDES PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (CGP)

Name of the Construction Project: (4.5 acres)

Master Tracking Number at the Site: TNR122287

Permittee Name: Tosh Pork

Project Name:

Contractor(s):

is authorized to discharge: storm water associated with construction activity
from site located at: 401 Bright Rd, Huntington TN 38344, Carroll County
to receiving waters named: UNT of Beaver Creek
in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

Likely presence of threatened or endangered species in one mile radius: NO
Likely presence of threatened or endangered species downstream: NO

Additional pollution prevention requirements apply for discharges into waters which TDEC identifies as:

- Exceptional Tennessee Waters: NO

Your coverage under the CGP shall become effective on December 2, 2019, and shall be terminated upon receipt of Notice of Termination.

A copy of the CGP can be obtained from http://www.tn.gov/environment/article/permit-water-npdes-stormwater-construction-permit
May 14, 2020

Owner

e-copy: [Redacted]

Subject: NPDES Tracking Number TNR122287

Huntingdon, Carroll County, Tennessee

Dear [Redacted]:

Included is an updated Notice of Coverage (NOC) showing the revised address for access to your construction project.

If you have questions, please contact the division at your local Environmental Field Office at 1-888-891-TDEC; or, at this office, please contact Mr. Brian Wallace at (731) 512-1365 or by E-mail at Brian.Wallace@tn.gov.

Sincerely,

[Signature]

Conner Franklin
Environmental Program Manager

cc: Division of Water Resources, Jackson Field Office
Storm Water Pollution Prevention Plan
For

[Redacted]

10/26/2019
This plan is for 4.5 acres of a 15 acre row crop field for the evacuation of two (2) pits 105 feet by 205 feet for the construction of two (2) 2480 head hog barns and the surrounding area to store removed soil. The drainage will flow 3450 feet through field and woods before entering UT Trib. to Beaver Creek. After excavation two (2) 100 ft. by 200 ft hog barns will be built. When the barns are finished the area will be graded to no more than 2% and sown in grasses. The soil is expected to be silt loam, which presents dissolved solid problems in the runoff. Fabric fencing and the groundcover will provide control of this problem.

First all silt fencing will be put into place, once control measures are in place the pits will be excavated and the concrete will be poured.

After the concrete is finished dirt will be moved back around the walls for final grading before being stabilized and sown in grass.

The SWPPP and NOC will be located at the entrance to the worksite.

There are no other industrial discharges on site.

No chemicals or other waste materials will be stored on site.

There will be no onsite waste disposal or septic system

There is no off site material storage

All areas will be stabilized after dirt work has stopped temporarily or permanently for more than 14 days

Preexisting vegetative ground cover will not be disturbed more than 14 days prior to earth disturbance.

Endangered species or waterways should not be affected due to the fact that control measures have been engineered for a 2 year and 5 year 24 hour storm event. No run off from site will impact any endangered species or exceptional waterways.

Runoff Problems:

Fabric fencing will be placed within 50 feet of the work area before the evacuation work begins. These controls are sufficient for a 2 year 24 hour storm event which is 0.156 inches/hr. and a 5 year 24 hour storm event is 0.194 inches/hr. This fencing will be placed along the North and East slopes of the work site. An on demand inventory system will be used and will prevent the
development of an onsite runoff problem from storage areas. An existing field road off Renfroe Rd. will be the access to the site. A parking area will be built with rock and gravel. Most traffic limited to dry times because of weight problems. Construction equipment will be on site until work is completed then moved to other work sites which will limit off site tracking of soils, all other traffic will be personal cars of workers and expected to park on graveled areas.

The area will be sloped 1% to provide drainage and eliminate the need to dewater. Drainage from the work area will become sheet runoff and follow the path of site runoff through the fabric fence and groundcover.

Water accumulated in excavated pits will be removed through field tile to be released inside the site’s sediment control structures.

All litter debris and chemicals will be removed and placed in secure locations before any anticipated storm event.

Sediments that have migrated off site will be removed to minimize impact to surface waters.

Structures:

Fabric fencing will be placed in a 4 inch trench 6 inches wide, 3 inches of the fabric will be placed on the trench floor and the trench backfilled and tamped to insure stability, post will then be placed at 6 foot intervals and the fabric attached. Existing groundcover below the fabric fence will be left in place.

All accumulated sediments will be removed by hand if and when they reach 50% capacity of the silt fencing before the next rainfall event and before no longer than 7 days.

All repairs to sediment control structures will be carried out before the next rainfall event and before no longer than 7 days.

Permittee is responsible for implementation and upkeep of control measures

Any fill dirt used in the project will be coming from on site
Post Construction Storm Water Control:

When completed there will be two 100 feet by 200 feet hog barns. After final grading all remaining disturbed areas adjacent to the barns will be sown in grasses and the drip line of the building will be rocked with 1.5 inch or larger stone to control erosion. All areas within the site where soil is taken from to build up the pad will be sown in grasses when the work is finished. There should be no net change in the quality of runoff from the site.

Using the Rational Method the Runoff Coefficient is:

\[ Q = Cia \]

C: 0.27

i: 0.156 inch/hour

a: 4.5

\[ Q = 0.18954 \text{ ft}^3/\text{s} (\text{cfs}) \]

Soil removed during construction that was stockpiled on site will be redistributed around the barns.

Inspections:

Inspections will be conducted twice weekly by David Warchol on Mondays and Thursdays then after any rainfall that produces runoff. Onsite workers will be instructed by the owner-developer to remove any accumulated soils whenever they present a danger of collapsing the fence and make repairs if there is any damage.

Revisions:

Any revisions to this plan will be incorporated as needed. If material changes are made to structures or barn design copies will be forwarded to the Jackson FO of the TN DWPC.
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sign

10-29-19

Date
"I certify under penalty of law that I have reviewed this document, any
attachments and the SWPPP referenced above. Based on my inquiry of
the construction site owner/developer identified above and/or my inquiry
of the person directly responsible for assembling this NOI and SWPPP, I
believe the information submitted is accurate. I am aware that this NOI,
if approved, makes the above-described construction activity subject to
NPDES permit number TNR100000, and that certain of my activities
onsite are there by regulated. I am aware that there are significant
penalties, including the possibility of fine and imprisonment for
knowing violations and for failure to comply with these permit
requirements."

[Signature]

Date: 10-29-19
Head east on U.S. 70A W toward Peggy Ln for 7.9 miles. Turn left onto TN-436 N for 2.1 miles. Turn right onto Bright Rd for 1.1 miles. The location is on the left, 2375 Reference Rd, Huntington, TN 38344.
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as trust resources) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME
[Redacted]
2 wean to finish hog barns

LOCATION
Carroll County, Tennessee

DESCRIPTION
Build
2 wean to finish hog barns 100' X 200' impacted area 4.5 +/- acres. Owns 100 +/- acres at this locations which are all mapped.

Local office
Tennessee Ecological Services Field Office
(931) 528-6481
(931) 528-7075
446 Neal Street
Cookeville, TN 38501-4027
Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act requires Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species

1 and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries).

Species and critical habitats under the sole responsibility of NOAA Fisheries are not shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:
Mammals

NAME

Indiana Bat  Myotis sodalis
There is final critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/5949

Northern Long-eared Bat  Myotis septentrionalis
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/9045

STATUS
Endangered
Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act
1 and the Bald and Golden Eagle Protection Act2.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

There are no migratory birds of conservation concern expected to occur at this location.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

*Nationwide Conservation Measures* describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS *Birds of Conservation Concern (BCC)* and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the *Avian Knowledge Network (AKN)*. The AKN data is based on a growing collection of survey, banding, and citizen science datasets, and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the *AKN Phenology Tool*.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the *Avian Knowledge Network (AKN)*. This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary, and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: *The Cornell Lab of Ornithology All About Birds Bird Guide*, or (if you are unsuccessful in locating the bird of interest there), the *Cornell Lab of Ornithology Neotropical Birds guide*. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are *Birds of Conservation Concern (BCC)* that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands).
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and

3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

**Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternatively, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

**What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

**Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location?" Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the maps provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect, it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

**Facilities**
National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a ‘Compatibility Determination’ conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service’s objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery, thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions
Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubellid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

**Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.
Collins, Teresa - FSA, Huntingdon, TN

From: Boles, Dustin W <dustin Boles@fws.gov>
Sent: Wednesday, April 1, 2020 3:30 PM
To: Collins, Teresa - FSA, Huntingdon, TN; Sykes, Robbie; rob.todd@tn.gov; roger.mccoy@tn.gov
Cc: Tennessee ES, FWS
Subject: 2020-I-0918 RE: [EXTERNAL] RE: Consultation Request -

Teresa,

U.S. Fish and Wildlife Service (Service) personnel have reviewed your correspondence dated March 30, 2020, regarding the proposed construction of two (2) hog barns in Carroll County, Tennessee. Your correspondence indicates that these structures would be located near Bright Road and situated within an area currently in agricultural production. The provided information does not suggest that any suitable habitat for federally threatened or endangered species would be impacted by the action. Therefore, we agree with the Farm Service Agency determination that the project is not likely to adversely affect federally listed species. We note, however, that collection records available to the Service may not be all-inclusive. Our database is a compilation of collection records made available by various individuals and resource agencies. This information is seldom based on comprehensive surveys of all potential habitat and thus does not necessarily provide conclusive evidence that protected species are present or absent at a specific locality. Based on the best information available at this time, we believe that the requirements of section 7 of the Endangered Species Act (Act) of 1973, as amended, are fulfilled for all species that currently receive protection under the Act. Obligations under the Act should be reconsidered if (1) new information reveals impacts of the proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

Please feel free to contact me if you have any questions.

Sincerely,

Dustin Boles
Fish and Wildlife Biologist
Ecological Services
U.S. Fish and Wildlife Service
446 Neal Street
Cookeville, Tennessee 38501
931-525-4984

Email: dustin Boles@fws.gov

NOTE: This email correspondence and any attachments to and from this sender are subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.

From: Collins, Teresa - FSA, Huntingdon, TN <teresa.collins@usda.gov>
Sent: Monday, March 30, 2020 9:57 AM
To: Sykes, Robbie <robbie sykes@fws.gov>; Boles, Dustin W <dustin Boles@fws.gov>; Bilbrey, Tammy <tammy Bilbrey@fws.gov>; Watkins, Timothy <timothy Watkins@fws.gov>; rob.todd@tn.gov; roger.mccoy@tn.gov
Subject: [EXTERNAL] RE: Consultation Request -
Please see attached consultation Request for [redacted] proposed construction of 2 hog barns in Carroll County, TN.

Thank you,

Teresa D. Collins
Farm Loan Program Technician
USDA-Farm Service Agency
630 High Street
Huntingdon, TN 38344
Ph: 731-418-6101
Fax: 855-494-1760

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March 30, 2020

To: U.S. Fish and Wildlife Service
446 Neal Avenue
Cookeville, TN. 38501

From: Anita W. Mullins, FLO

Subject: Request for Concurrence

Dear Sir/Ma’am:

The Farm Service Agency (FSA) is completing an environmental review of the construct 2-200’x100’ wean to finish hog barns and related equipment at Bright Rd., Huntington, TN 38344 in Carroll County, TN. This project will be located on a 46 acre tract which adjoins a 64 acre tract also owned by the applicant, and ground disturbance is expected to impact 4.5+/- acres.

GPS Readings for the proposed site are: Latitude: 36.029206°N
Longitude: -88.506553°W

Pursuant to 7(a)(1) of the Endangered Species Act (ESA) implementing regulations to carry out programs for the conservation of threatened and endangered species, this letter and attachments are being transmitted to initiate consultation, to assist FSA in fulfilling its duty to ensure federal actions do not jeopardize the continued existence of a species or destroy or adversely modify critical habitat.

A site visit has been made and the following attachments reviewed:
- species list from Ipad website and habitat requirements of listed species
- location map
- aerial view of property for its current use
- FEMA flood map
- GIS topo map
- soils map
- drawings of project location or footprint and related design plans, as appropriate
- photos from our field visit

Based on the above there is no indication of the presence, or the probability of adverse impacts. Accordingly, pursuant to 7(a)(1) of the Endangered Species Act (ESA), USDA-FSA has determined the described project “may affect but is not likely to adversely affect.” Your concurrence with this determination is requested within thirty (30) days of the email delivery receipt or delivery of this letter based on standard United States Post Office delivery schedules not to exceed 5 days from the related post mark. If we do not hear from you within the specified time frame, it will be assumed you are in agreement and have no further interest in this matter.

If you are unable to respond in 30 days or have any questions or need further information, please contact me at 731-209-4153 or anita.mullins@usda.gov.

Correspondence may be sent to the above address or email.

Teresa D. Collins
Farm Loan Officer

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Collins, Teresa - FSA, Huntingdon, TN

From: Collins, Teresa - FSA, Huntingdon, TN
Sent: Monday, March 30, 2020 9:57 AM
To: robbie_sykes@fws.gov; Dustin Boles; Tammy_Bilbrey@fws.gov;
timothy_watkins@fws.gov; rob.todd@tn.gov; roger.mccoy@tn.gov
Subject: RE: Consultation Request - XXXXXX
Attachments: USFWS Letter.pdf; FEMA_Map.pdf; FSAMap1barns.pdf; FSAMap2.pdf; iPaC.pdf;
SitePhotos.docx; Soils Maps.pdf; Topo Map.jpg; Aerial Map.jpg; Location Map.pdf

Please see attached consultation Request for XXXXXX proposed construction of 2 hog
barns in Carroll County, TN.

Thank you,

Teresa D. Collins
Farm Loan Program Technician
USDA-Farm Service Agency
630 High Street
Huntingdon, TN 38344
Ph: 731-418-6101
Fax: 855-494-1760

USDA Farm Loan Programs

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From: Boles, Dustin W <dustin_boles@fws.gov>
To: Collins, Teresa - FSA, Huntingdon, TN
Sent: Monday, March 30, 2020 10:01 AM
Subject: Read: [EXTERNAL] RE: Consultation Request -

Your message

To: Boles, Dustin W
Subject: [EXTERNAL] RE: Consultation Request -
Sent: Monday, March 30, 2020 9:57:27 AM (UTC-06:00) Central Time (US & Canada)

was read on Monday, March 30, 2020 10:01:01 AM (UTC-06:00) Central Time (US & Canada).
Your message

To: Rob Todd
Subject: [EXTERNAL] RE: Consultation Request -
Sent: Monday, March 30, 2020 9:57:27 AM (UTC-06:00) Central Time (US & Canada)

was read on Tuesday, March 31, 2020 11:05:15 AM (UTC-06:00) Central Time (US & Canada).
Collins, Teresa - FSA, Huntingdon, TN

From: Rob Todd <Rob.Todd@tn.gov>
Sent: Tuesday, March 31, 2020 11:58 AM
To: Collins, Teresa - FSA, Huntingdon, TN; robbie_sykes@fws.gov; Dustin Boles; Tammy_Bilbrey@fws.gov; timothy_watkins@fws.gov; Roger McCoy
Subject: RE: Consultation Request - [redacted]

Ms. Collins:

The Tennessee Wildlife Resources Agency has reviewed the information that you provided regarding the proposed construction of two 200-foot by 100-foot wean to finish hog barns at Bright Road in Huntingdon, Tennessee and we do not anticipate adverse impacts to state listed species under our authority due to the proposed project; provided that best management practices to address erosion and sediment are implemented and maintained during construction activities. Thank you for the opportunity to review and comment on this proposed project. If I may be of further assistance, please contact me.

Robert Todd
Fish & Wildlife Environmentalist
Tennessee Wildlife Resources Agency
Ellington Agricultural Center
5107 Edmondson Pike
Nashville, TN 37211
Office: 615-781-6572
Cell: 931-881-8240
Fax: 615-781-6667
Email: rob.todd@tn.gov

From: Collins, Teresa - FSA, Huntingdon, TN <teresa.collins@usda.gov>
Sent: Monday, March 30, 2020 9:57 AM
To: robbie_sykes@fws.gov; Dustin Boles <dustin_boles@fws.gov>; Tammy_Bilbrey@fws.gov; timothy_watkins@fws.gov; Rob Todd <Rob.Todd@tn.gov>; Roger McCoy <Roger.McCoy@tn.gov>
Subject: [EXTERNAL] RE: Consultation Request - [redacted]

*** This is an EXTERNAL email. Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email - STS-Security. ***

Please see attached consultation Request for [redacted] proposed construction of 2 hog barns in Carroll County, TN.

Thank you,
Teresa D. Collins
Farm Loan Program Technician
USDA-Farm Service Agency
630 High Street
Huntingdon, TN 38344
Ph: 731-418-6101
Fax: 855-494-1760

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TENNESSEE HISTORICAL COMMISSION CONSULTATION LETTER

Tennessee Historical Commission
Attn: Mr. E. Patrick McIntyre, Jr. Executive Director and State Historic Preservation Officer
2941 Lebanon Road
Nashville, TN. 37214

RE: Environmental Review

Dear Mr. McIntyre:

Federal Agency: The United States Department of Agriculture, acting through the Farm Service Agency (FSA)
Title of Project: proposed construction of 2 – 100’ X 200’ wean to finish hog barns.
Project Location Bright Rd., Huntingdon, TN – Carroll County, TN

FSA requests DIRECT SHPO initial consultation review as a Federal Agency in accordance with the National Historic Preservation Act to identify historic properties within the area of potential effect of the proposed project described below.

The Farm Service Agency (FSA) has received an application from [name redacted] to construct 2 – 100’ X 200’ Tosh swine barns. This application is to request for farm loan assistance in support of a proposed loan for new construction. This construction will require ground disturbance and modification.

The property is located in Henry County. The address is Bright Rd., Huntingdon TN. The project area (area to actually be disturbed) includes 4.5 +/- acres with no improvements. New construction will add 2 – 100’ X 200’ Tosh swine barns. The owner proposes to start construction on approval of loan. The proposed project is located off Federal property on private property. The project site’s prior use has been agricultural with no disturbance below the plow layer.

FSA has conducted a pre-consultation cultural resources review by the responsible agency official (RAO) visiting the project site and photographing it, and by examining properties listed at the National Register of Historic Places website. No historic sites were noted by the National Register of Historic Places.

FSA is consulting no other consulting parties regarding NHRP eligibility for the proposed project.

Should historic or potentially historic properties be noted by the SHPO as impacted by the proposed project, FSA will work with the SHPO to develop mitigation of impacts. FSA will only provide public notification if the project merits a Class II environmental assessment (more than one protected resource affected) or an environmental impact statement (EIS). Notification will occur before a conclusion is reached and after a Finding of No Significant Impact (FONSI). Notification will be published in the local newspaper serving the area. If a daily publication, notification will be published in three consecutive daily editions. If a weekly publication, notification will be published for two consecutive weeks. Notification will located in the non-legal section of the paper with other public notices in easily readable print. A thirty day comment period will occur following the first publication, during which, no action will be taken.

As per your instructions I have enclosed the following information for this request:

1. An 81/2 X 11 photocopy of a section of a USGS 7 1/2 minute series (1:24,000 scale) topographic map (available from NRCS) indicating the name of the quad map, boundary of the undertaking, the location of all project elements, and the project’s area of potential effect. (SEE EXHIBIT A)
2. I have also included a survey of the property (if available)
3. I have included 4 clear, color, original, digital, .jpg captioned photographs of the area immediately around the proposed construction including buildings located inside the project area/boundary and any undisturbed area that will be impacted by the proposed action.
4. I have provided a map from the Tennessee Historical Viewer Webpage (http://thmap.tn.gov.historicalcommission) with either a 7/8 mile or 1 1/8 mile Area of Potential Effects (APE) around the project site. (7/8 mile if project involves dairy, poultry, swine operation, or has the potential to smell and 1 1/8 mile if project does not).
5. If the Tennessee Historical Viewer Webpage indicated any listed or eligible properties within the Area of Potential
Effects (APE), I have provided at least 2 clear, color photos of each property. If the structure is no longer standing, I have provided photographs of the site.

6. I have included a description of each building photographed over 50 years old, including address, approximate date of construction, style, building materials, alterations/additions, and available history of the site.

7. Project narrative describing the undertaking, its location and its purpose and need.

As part of FSA's responsibility to comply with Section 106 of the National Historic Preservation Act, it is necessary to consult with your office with regard to any potential impact to historical properties or cultural resources. Please perform a section 106 review of the proposed project and provide comment within 30 days. Absent any response to this letter within 30 days, FSA will assume the Tennessee Historical Commission is not aware of historical properties or cultural resources on the site. Assuming this is the case, the FSA has determined that this undertaking will not affect historical properties or cultural resources.

I appreciate your assistance in this matter. If you have questions, please contact my office.

Sincerely,

[Signature]

For:
Anita W. Mullins
Farm Loan Officer
630 High St.
Huntingdon, TN 38344
731-209-4153
Anita.mullins@usda.gov
April 7, 2020

Ms. Teresa D. Collins
USDA-Farm Service Agency
630 High Street
Huntingdon, TN 38344

RE: FSA / Farm Services Agency, Construction of 2 Hog Barns off Bright Road, Huntingdon, Carroll County, TN

Dear Ms. Collins:

In response to your request, we have reviewed the documents you submitted regarding your proposed undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicants for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739).

After considering the documentation submitted, it is our opinion that there are no National Register of Historic Places listed or eligible properties affected by this undertaking. We have made this determination because either: no National Register listed or eligible Historic Properties exist within the undertaking’s area of potential effects, the specific location, size, scope and/or nature of the undertaking and its area of potential effects precluded affects to Historic Properties, the undertaking will not alter any characteristics of an identified eligible or listed Historic Property that qualify the property for listing in the National Register, or it will not alter an eligible Historic Property’s location, setting or use. We have no objections to your proceeding with your undertaking.

If your agency proposes any modifications in current project plans or discovers any archaeological remains during the ground disturbance or construction phase, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act. If you are applying for federal funds, license or permit, you should submit this letter as evidence of consultation under Section 106 to the appropriate federal agency, which, in turn, should contact us as required by 36 CFR 800. If you represent a federal agency, you should submit a formal determination of eligibility and effect to us for comment. You may direct questions or comments to Casey Lee (615) 253-3163.

Sincerely,

E. Patrick McIntyre, Jr.
Executive Director and
State Historic Preservation Officer

EPM/cjl
June 8, 2020

Mr. Tim Storey  
USDA-Farm Service Agency  
630 High Street  
Huntingdon, TN 38344

RE: FSA / Farm Services Agency, Construction of 2 Hog Barns off Bright Road, Discovery of Cabin,  
Huntingdon, Carroll County, TN

Dear Mr. Storey:

In response to your request, we have reviewed the documents you submitted regarding your proposed undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicants for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739).

Thank you for submitting the information on the cabin that was found near your project area. We find that the cabin’s view towards the proposed hog barns is blocked by intervening vegetation and is far enough away that the undertaking is would still have no effect to historic properties. The cabin remains unevaluated for eligibility for the National Register of Historic Places.

If your agency proposes any modifications in current project plans or discovers any archaeological remains during the ground disturbance or construction phase, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act. If you are applying for federal funds, license or permit, you should submit this letter as evidence of consultation under Section 106 to the appropriate federal agency, which, in turn, should contact us as required by 36 CFR 800. If you represent a federal agency, you should submit a formal determination of eligibility and effect to us for comment. You may direct questions or comments to Casey Lee (615) 253-3163.

Sincerely,

E. Patrick McIntyre, Jr.  
Executive Director and  
State Historic Preservation Officer

EPM/cjl
Good Afternoon Tim,

Thank-you for the information, however, no additional formal Section 106 review is necessary, as the cemetery is not eligible for the National Register will not be directly affected by the barn construction. If the cemetery was adjacent to the location of the proposed construction, an archaeological investigation might be warranted due to the potential for unmarked graves, but since the cemetery is approximately 1/3 of a mile from the construction location, no additional investigation is warranted.

Please let me know if you have any additional questions,

- Jennifer

Jennifer Barnett | Archaeologist Supervisor
Tennessee Division of Archaeology
1216 Foster Avenue
Cole Building #3
Nashville, TN 37243
p. 615-687-4780, f. 615-741-7329
Jennifer.Barnett@tn.gov
https://www.tn.gov/environment/program-areas/arch-archaeology.html
We value your feedback! Please complete our customer satisfaction survey.

*** This is an EXTERNAL email. Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email - STS-Security. ***
Good Afternoon,

Concerning the project described in the email string below – Another potential historic site has been discovered within the Area of Potential Impact. Members of the public have informed us that there is a civil war graveyard near the proposed site of 2 wean to finish hog barns (Please see “Cemetery Aerial Map”) for specific location. I have also attached an email from [redacted] (member of public who has brought cemetery to our attention.) In the email you will see that a member of the public has provided some historical information related to the cemetery.

I am asking for a subsequent review based on this new finding. If I can provide any further information please don’t hesitate to contact me any time.

Thanks,

Tim Storey
Farm Loan Specialist/State Environmental Coordinator
USDA Farm Service Agency
Tennessee State Office
931-967-2521 Ext. 106
tim.storey2@usda.gov
www.fsa.usda.gov

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From: Section 106 <Section.106@tn.gov>
Sent: Monday, June 8, 2020 1:59 PM
To: Storey2, Tim - FSA, Winchester, TN <tim.storey2@usda.gov>; Section 106 <Section.106@tn.gov>; section106@mcn-nsn.gov
Cc: Mullins, Anita - FSA, Huntingdon, TN <anita.mullins@usda.gov>
Subject: RE: Question about discovery after receiving SHPO Clearance Letter

Hi Tim,

Thank you so much for sending us information on this cabin. An updated letter is attached. We find that the proposed barns are far enough away and blocked by enough vegetation to still be a no effect.

Best,
March 30, 2020

TO:    Sent via email
Linda Langley
Coushatta Tribe of Louisiana
llanglev@coushattatrihela.org
P.O. Box 10
Elton, LA 70532

FROM:    Anita W. Mullins, FLO

SUBJECT:    Request for Concurrence for USDA-FSA, 2 Barn Project, Carroll County, Tennessee

The USDA, Farm Service Agency (FSA) is completing an environmental review of a proposed project to construct 2-200’ X 100’ wean to finish hog barns at Bright Rd., Huntingdon TN 38344. The proposed barns will be on 46-acre tract with adjoining 64-acre tract also owned by applicant.

GPS Reading for the proposed site are: Latitude: 36.029206°N
Longitude: -88.508655°W

In considering FSA’s responsibilities pursuant to Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations in 36 CFR Part 800, “Protection of Historic Properties (Section 106)”, we are requesting your assistance in identifying historic properties and/or other cultural resources that might be affected by this undertaking.

FSA has reviewed the National Register of Historic Places list and our State Environmental Guide. A site visit was completed by FSA personnel on 03/25/2020.

To the best of our knowledge there is no indication of the presence, or the probability of an historic property or cultural resource at the site. Attached for reference are:

- Location map
- Topo map (1:24,000 Scale)
- Aerial view of property for its current use
- FEMA Flood map
- Soils map
- Drawings of project location or footprint and related design plans as appropriate
- Photos from FSA field visit

USDA is an equal opportunity provider, employer, and lender.
FSA has made a finding of "no historic properties affected" by this proposed project. Your concurrence with this determination is requested within thirty (30) days of the email delivery receipt or delivery of this letter based on standard United States Post Office delivery schedules not to exceed 5 days from the related post mark. If we do not hear from you within the specified time frame it will be assumed, you are in agreement and have no further interest in this matter.

Please feel free to contact me at 731-209-4153 or email: anita.mullins@usda.gov should you have any questions or need further information. Correspondence may be sent to: Anita W. Mullins, FLO, Carroll County FSA, 630 High St., Huntingdon, TN 38344.

Sincerely,
Anita D. Collins
FLO, Carroll County FSA

FOR:
Anita W. Mullins
Farm Loan Officer

Attachments
Please see the attached consultation request for proposed construction of 2 wean to finish hog barns in Carroll County, TN.

Please contact this office with any questions or concerns.

Teresa D. Collins  
Farm Loan Program Technician  
USDA-Farm Service Agency  
630 High Street  
Huntingdon, TN 38344  
Ph: 731-418-6101  
Fax: 855-494-1760  

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April 27, 2020

Ms. Anita Mullins
Farm Loan Officer
United States Department of Agriculture
Carroll County Farm Service Agency
630 High Street
Huntingdon, TN 38344

Dear Ms. Mullins:

We received a letter of notification regarding the proposed project to construct two 200’x100’ wean to finish hog barns for Austin Pork LLC at Bright Road in Huntingdon, Carroll County Tennessee. We accept the invitation to consult under the National Historic Preservation Act Section 106.

We are presently unaware of any historic properties, including those of traditional religious and cultural significance, that will be impacted by this project. In the event the agency becomes aware of the need to enforce other statutes we request to be notified under ARPA, AIRFA, NEPA, NAGPRA, NHPA and Professional Standards.

Your efforts to preserve and protect significant historic properties are appreciated. If you have any questions, please contact Ms. Karen Brunso, tribal historic preservation officer, at karen.brunso@chickasaw.net.

Sincerely,

Lisa John, Secretary
Department of Culture and Humanities

Cc: anita.mullins@usda.gov
Please see attached.

Karen Brunso
Tribal Historic Preservation Officer
The Chickasaw Nation
Department of Culture & Humanities
Division of Historic Preservation
P.O. Box 1548
Ada, OK 74821-1548
Phone: 580-272-1106
Cell: 580-399-6017
Email: karen.brunso@chickasaw.net
March 30, 2020

TO: Sent via email
Kirk Perry
Chickasaw Nation
hpo@chickasaw.net
PO Box 1548
Ada, OK 74821

FROM: Anita W. Mullins, FLO

SUBJECT: Request for Concurrence for USDA-FSA, 2 Barn Project, Carroll County, Tennessee

The USDA, Farm Service Agency (FSA) is completing an environmental review of a proposed project to construct 2-200’ X 100’ wean to finish hog barns at Bright Rd., Huntingdon TN 38344. The proposed barns will be on 46-acre tract with adjoining 64-acre tract also owned by applicant.

GPS Reading for the proposed site are: Latitude: 36.029206”N  Longitude: -88.508655”W

In considering FSA’s responsibilities pursuant to Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations in 36 CFR Part 800, “Protection of Historic Properties (Section 106)”, we are requesting your assistance in identifying historic properties and/or other cultural resources that might be affected by this undertaking.

FSA has reviewed the National Register of Historic Places list and our State Environmental Guide. A site visit was completed by FSA personnel on 03/25/2020.

To the best of our knowledge there is no indication of the presence, or the probability of an historic property or cultural resource at the site. Attached for reference are:

- Location map
- Topo map (1:24,000 Scale)
- Aerial view of property for its current use
- FEMA Flood map
- Soils map
- Drawings of project location or footprint and related design plans as appropriate
- Photos from FSA field visit
FSA has made a finding of “no historic properties affected” by this proposed project. Your concurrence with this determination is requested within thirty (30) days of the email delivery receipt or delivery of this letter based on standard United States Post Office delivery schedules not to exceed 5 days from the related post mark. If we do not hear from you within the specified time frame it will be assumed, you are in agreement and have no further interest in this matter.

Please feel free to contact me at 731-209-4153 or email: anita.mullins@usda.gov should you have any questions or need further information. Correspondence may be sent to: Anita W. Mullins, FLO, Carroll County FSA, 630 High St., Huntingdon, TN 38344.

Sincerely,

[Signature]

FOR:
Anita W. Mullins
Farm Loan Officer

Attachments
Please see the attached consultation request for the proposed construction of 2 wean to finish hog barns in Carroll County, TN.

Please contact this office with any questions or concerns.

Teresa D. Collins
Farm Loan Program Technician
USDA-Farm Service Agency
630 High Street
Huntingdon, TN 38344
Ph: 731-418-6101
Fax: 855-494-1760

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Tribal Directory Assessment Information

Contact Information for Tribes with Interests in Carroll County, Tennessee

<table>
<thead>
<tr>
<th>Tribal Name</th>
<th>County Name</th>
<th>Contact Name</th>
<th>Title</th>
<th>Mailing Address</th>
<th>Work Phone</th>
<th>Fax Number</th>
<th>Cell Phone</th>
<th>Email Address</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chickasaw Nation</td>
<td>Carroll</td>
<td>Kirk Perry</td>
<td>Historic Preservation</td>
<td>PO Box 1548 Ada, OK</td>
<td>(580) 272-5323</td>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:hpo@chickasaw.net">hpo@chickasaw.net</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Executive Officer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>saw.net</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bill Anoatubby</td>
<td>Governor</td>
<td>PO Box 1548 Ada, OK</td>
<td>(580) 436-2603</td>
<td>(580) 436-4287</td>
<td></td>
<td><a href="mailto:tammy.gray@chickasaw.net">tammy.gray@chickasaw.net</a></td>
<td><a href="http://www.chickasaw.net">www.chickasaw.net</a></td>
</tr>
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<td>saw.net</td>
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- Coushatta Tribe of Louisiana

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<tr>
<th>Contact Name</th>
<th>Title</th>
<th>Mailing Address</th>
<th>Work Phone</th>
<th>Fax Number</th>
<th>Cell Phone</th>
<th>Email Address</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Sickey</td>
<td>Chairman</td>
<td>PO Box 818 Elton, LA</td>
<td>(337) 584-1401</td>
<td>(337) 584-1507</td>
<td></td>
<td><a href="mailto:dsickey@co.us">dsickey@co.us</a></td>
<td>ushatta.org</td>
</tr>
<tr>
<td>Linda Langley</td>
<td>THPO</td>
<td>PO Box 10 Elton, LA</td>
<td>(337) 584-1560</td>
<td>(337) 584-1616</td>
<td></td>
<td><a href="mailto:llangleyl@a.co">llangleyl@a.co</a></td>
<td>ushattatribel.org</td>
</tr>
</tbody>
</table>

1 - 2 of 2 results
TENNESSEE

Tennessee has approximately 81,075 miles of river, of which 45.3 miles of one river are designated as wild & scenic—approximately 7/100ths of 1% of the state's river miles.

While progress should never come to a halt, there are many places it should never come to at all. — Paul Newman
<table>
<thead>
<tr>
<th>Designated Rivers</th>
<th>National System</th>
<th>River Management</th>
<th>Resources</th>
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<tr>
<td>About WSR Act</td>
<td>WSR Table</td>
<td>Council</td>
<td>Q &amp; A Search</td>
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<td>State Listings</td>
<td>Study Rivers</td>
<td>Agencies</td>
<td>Bibliography</td>
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<td>Profile Pages</td>
<td>Stewardship</td>
<td>Management Plans</td>
<td>Publications</td>
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<td>WSR Legislation</td>
<td>River Mgt. Society</td>
<td>GIS Mapping</td>
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<td></td>
<td></td>
<td>GIS Mapping</td>
<td>Logo &amp; Sign Standards</td>
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</table>

https://www.rivers.gov/tennessee.php
COVID-19 Response

Following guidance from the White House, Centers for Disease Control and Prevention, and state and local public health authorities, we are increasing access and services in a phased approach across all units of the National Park System. Before visiting a park, please check the park website to determine its operating status. Updates about the overall NPS response to COVID-19, including safety information, are posted on www.nps.gov/coronavirus.

National Park Service

Rivers

Tennessee

<table>
<thead>
<tr>
<th>River</th>
<th>County</th>
<th>Reach</th>
<th>Length (miles)</th>
<th>Description</th>
<th>Potential Classification</th>
<th>ORVs</th>
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<tbody>
<tr>
<td>Abrams Creek</td>
<td>Blount</td>
<td>Confluence with Anthony Creek to confluence with Little Tennessee River</td>
<td>27</td>
<td>Small scenic stream entirely within Great Smoky Mountain National Park; deer and fur-bearers common; near National Park Service campground.</td>
<td>Geologic, Recreational Scenic, Wildlife</td>
<td>Geologic, Recreational Scenic, Wildlife</td>
</tr>
</tbody>
</table>

https://www.nps.gov/subjects/rivers/tennessee.htm
|安东尼·克里克 | 布卢恩特 | 哈德威特斯一英里以上北卡罗来纳州 | 小风景溪流 | 地质，休闲，野生
| | | 状态线到 | 完全在 |
| | | 约翰逊溪 | 大烟山 |
| | | 峰会与 | 国家公园；
| | | 埃布鲁姆溪 | 鹿和皮草动物
| | | 常见；近 | 国家公园
| | | 国家公园；服务 | 公园
| | | | 沿”).

| 蜜蜂溪 | 怀特，范 | 哈德威特斯西北新伊州到与卡尼溪交汇 | 小蜿蜒，急流 | 鱼，地质，休闲，野生
| | | 埃拉 | 小到中等下降；
| | | 埃拉 | 打入
| | | 联合国 | 布勒州
| | | 森林；巨石，
| | | 悬崖，和
| | | 断崖；密集
| | | 森林
| | | 走廊为
| | | 野生动物

| 大溪 | 格伦迪 | RM 8，近| 景观
| | | Altamont到 | 河
| | | 埃尔蒙特 | 与
| | | 绘图河 | 景观
<table>
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<tr>
<th>River</th>
<th>County 1</th>
<th>County 2</th>
<th>Distance</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Big Fiery Gizzard Creek</td>
<td>Marion, Grundy</td>
<td>Headwaters one mile north of Tracy City to confluence with Battle Creek</td>
<td>17</td>
<td>Densely forested stream within TVA Foster Falls Recreation Area.</td>
</tr>
<tr>
<td>Big Turnbull Creek</td>
<td>Cheatham, Dickson</td>
<td>TN 96/I-40 bridges to confluence with Harpeth River</td>
<td>13</td>
<td>Clear, small and very scenic forested stream with 40 foot waterfall and numerous bluffs.</td>
</tr>
<tr>
<td>Bledsoe Creek</td>
<td>Sumner</td>
<td>Bethpage to Old Hickory Lake</td>
<td>13</td>
<td>Historic, very scenic float stream; General Winchester's home located on creek.</td>
</tr>
<tr>
<td>Calfkiller River</td>
<td>White, Putnam</td>
<td>Headwaters one mile south of I-40 to one mile south of Yankeetown</td>
<td>21</td>
<td>Scenic stream in area of very active Karsification with its caves, ground water springs, and numerous bluffs.</td>
</tr>
<tr>
<td>Name</td>
<td>Length</td>
<td>Notes</td>
<td></td>
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<tr>
<td>-----------------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Calfkiller River</td>
<td>Below Sparta to three miles southeast of Dibrell</td>
<td>Scenic stream in area of very active Karsification with its caves, ground water springs, and numerous bluffs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cane Creek of Caney Fork</td>
<td>Headwaters two miles south of Dill to confluence with Caney Fork of Cumberland River</td>
<td>Flows through Fall Creek Falls State Forest and Park; narrowly incised with rugged, rocky landscape; dense laurel thickets; good whitewater.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charles Creek</td>
<td>Headwaters near Cannon County line to RM 0, confluence with Collins River, to RM 15</td>
<td>Popular scenic fishing stream.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Clear Creek    Morgan,    Headwaters below    Downstream    Fish,    
Fentress,       Fentress,   I-40 bridge   waters    Geologic, 
Cumberland     Cumberland Morgan County   designated       Recreation
line          component of      Scenic,
              the National    Wildlife
              Wild and        Area;
              Scenic Rivers   mild
              System.        whitewater;
Remote,        abundance       numerous
rugged stream   and variety of    boulders,
partially within flora and     precipitous
Catoosa State   fauna.        bluffs; heavily
Wildlife        |        wooded valley
Management      with laurel    with close,
Area; mild      thickets; long  steep valley
whitewater;     pools,        walls;
abundance       moderate      numerous
and variety of  rapids, and   boulders,
flora and       short, quick   precipitous
fauna.          drops.

Clear Fork,    Scott,    Headwaters    Scenic stream    Geologic,
North Prong    Morgan,  northeast of    with close,      Recreation
                      Fentress  Clarkrange to    steep valley    Scenic,
                      Morgan    confluence with walls;    Wildlife
                      Fentress  the Clear Fork of    numerous       
                      the Clear Fork of    boulders,      
                      the South Fork of    precipitous     
                      the Cumberland    bluffs; heavily

https://www.nps.gov/subjects/rivers/tennessee.htm
Clinch River
    Grainger, Claiborne, Hancock

Approximately one mile southeast of Evanston to above Norris Lake Reservoir

Numerous recorded archaeological sites; steep ridges, long shallow shoal areas, and deep pools; upper reach provides excellent pastoral float and is habitat for most diverse mussel fauna in the world.

Clinch River
    Anderson

Below Norris Lake to above Melton Hill Lake

Numerous recorded archaeological sites; steep ridges, long shallow shoal areas, and deep pools; upper reach provides excellent pastoral float and is habitat for most diverse mussel fauna in the world.
<table>
<thead>
<tr>
<th>River Name</th>
<th>County</th>
<th>Headwaters</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collins River</td>
<td>Warren, Grundy</td>
<td>Headwaters two miles southeast of Tatesville to confluence with Caney Fork</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Slow moving, clear and cold pastoral stream with long pools and mild riffles; surrounded by high, forested hills and numerous bluffs.</td>
<td></td>
</tr>
<tr>
<td>Conasauga River</td>
<td>Bradley, Polk</td>
<td>Georgia state (RM 75) line to Georgia state line (RM 64)</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scenic gorge within Class III-IV rapids. Civil War sites of state historical significance.</td>
<td></td>
</tr>
<tr>
<td>Crab Orchard Creek</td>
<td>Morgan, Cumberland</td>
<td>Headwaters in Crab Orchard Mountain to confluence with Emory River</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Remote, scenic stream that flows through Catoosa Wildlife Management Area.</td>
<td></td>
</tr>
<tr>
<td>Cripple Creek</td>
<td>Rutherford</td>
<td>Headwaters at the north base of Prater Hill to confluence with East Fork of Stones River</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Popular rocky, scenic float stream.</td>
<td></td>
</tr>
</tbody>
</table>

**Fish, Geologic, Recreational, Scenic, Wildlife**
<table>
<thead>
<tr>
<th>River Name</th>
<th>County</th>
<th>Distance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crooked Creek</td>
<td>Fentress</td>
<td>18</td>
<td>Flows through scenic area.</td>
</tr>
<tr>
<td>Crooked Fork Creek</td>
<td>Morgan</td>
<td>6</td>
<td>Very scenic stream with several beautiful waterfalls and deep gorge area.</td>
</tr>
<tr>
<td>Cumberland River, Big South Fork</td>
<td>Scott</td>
<td>22</td>
<td>Outstanding, popular whitewater; rugged, forested area; high scenic values; numerous archaeological sites.</td>
</tr>
<tr>
<td>Cumberland River, Caney Fork</td>
<td>White, Cumberland Headwaters near community of Maryland to Big Bottom Rd bridge west of Dodson</td>
<td>Blue Hole Falls; ledges, numerous drops, huge boulders, sheer cliffs and limestone bluffs; rugged gorge area; excellent water quality; numerous springs; abundance of wildlife.</td>
<td></td>
</tr>
</tbody>
</table>

| Cumberland River, Caney Fork | Smith, Putnam, Dekalb Below Center Hill Dam to confluence with Cumberland River | Blue Hole Falls; ledges, numerous drops, huge boulders, sheer cliffs and limestone bluffs; rugged gorge area; excellent water quality; numerous springs; abundance of wildlife. |

<p>| Fish, Geologic, Recreational, Scenic, Wildlife | Fish, Geologic, Recreational, Scenic, Wildlife |</p>
<table>
<thead>
<tr>
<th>River</th>
<th>State</th>
<th>Headwaters west of</th>
<th>Distance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumberland River, Clear Fork</td>
<td>Scott, Fentress</td>
<td>North Prong Clear Fork to confluence with South Fork of the Cumberland River</td>
<td>27</td>
<td>Scenic stream with close, steep valley walls; numerous boulders, precipitous bluffs; heavily wooded valley with laurel thickets; long pools, moderate rapids, and short, quick drops.</td>
</tr>
<tr>
<td>Cumberland River, Little South Fork</td>
<td>Pickett</td>
<td>Pickett State Park and Forest to KY State line</td>
<td>2</td>
<td>Forested, highly scenic, and sparsely developed stream; characterized by deep channels bordered by large boulders and rock ledges.</td>
</tr>
<tr>
<td>Doe River</td>
<td>Carter</td>
<td>One mile south of US 19 E bridge to south of Blevins</td>
<td>5</td>
<td>One of most majestic, deep-gorge areas in eastern US in remote area, with 1000-foot walls.</td>
</tr>
</tbody>
</table>

Geologic, Recreational, Scenic, Wildlife
<table>
<thead>
<tr>
<th>River Name</th>
<th>County 1</th>
<th>County 2</th>
<th>County 3</th>
<th>County 4</th>
<th>Length 1</th>
<th>Length 2</th>
<th>Length 3</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Creek of Smith Fork</td>
<td>Dekalb</td>
<td>Cannon County</td>
<td>Line to confluence with Smith Fork</td>
<td></td>
<td>15</td>
<td></td>
<td></td>
<td>Small scenic stream with recreational values.</td>
</tr>
<tr>
<td>Elk River</td>
<td>Giles, Lincoln, Moore, Franklin</td>
<td>Above TN 50 Bridge to AL State Line</td>
<td></td>
<td></td>
<td>99</td>
<td></td>
<td></td>
<td>Significant recorded archaeological sites; fine float and game fish stream.</td>
</tr>
<tr>
<td>Emory River</td>
<td>Morgan</td>
<td>Headwaters in Frozen Head State Park near Anderson County Line to confluence with Obed River</td>
<td></td>
<td></td>
<td>23</td>
<td></td>
<td></td>
<td>Scenic pastoral stream that flows through impressive gorge area; supports game fishery; RM 25 through 27, designated component of National Wild and Scenic Rivers System.</td>
</tr>
<tr>
<td>River</td>
<td>County</td>
<td>Segment Description</td>
<td>Details</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Emory River</td>
<td>Morgan</td>
<td>One mile below Nemo bridge to Roane County line</td>
<td>Scenic pastoral stream that flows through impressive gorge area; supports game fishery; RM 25 through 27, designated component of National Wild and Scenic Rivers System.</td>
<td></td>
<td></td>
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<tr>
<td>Falling Water River</td>
<td>Putnam</td>
<td>Headwaters near town of Monterey to above Center Hill Lake</td>
<td>Clear, scenic stream; Burgess Falls.</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Flynn Creek</td>
<td>Jackson</td>
<td>Headwaters approximately five miles southwest of McCoinsville to confluence with Cumberland River</td>
<td>Small scenic mountain stream that supports game fishery.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>River</td>
<td>County</td>
<td>Segment</td>
<td>Distance</td>
<td>Description</td>
<td></td>
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</tr>
<tr>
<td>French Broad River</td>
<td>Knox, Sevier</td>
<td>Below Douglas Dam to confluence with Tennessee River</td>
<td>33</td>
<td>Significant archaeological sites; supports game fishery; upper segment is mountainous stream with good whitewater and scenic gorge area; numerous rock gardens, boulder beds, rapids, islands, and ledges; diversity of flora and fauna.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>French Broad River</td>
<td>Cocke</td>
<td>River mile 101, North Carolina state line to river mile 94.7</td>
<td>8</td>
<td>Upper section mountainous with scenic gorge area, rock gardens, rapids, ledges, diversity of flora and fauna. Significant archaeological sites. Game fishing.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>River</td>
<td>County(s)</td>
<td>Segment Description</td>
<td>Length</td>
<td>Features</td>
<td></td>
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</tr>
<tr>
<td>Goose Creek Trousdale, Macon</td>
<td>Headwaters south of Lafayette to confluence with Cumberland River</td>
<td>Small, scenic mountain stream that supports game fishery.</td>
<td>19 mi</td>
<td>Fish, Scenic, Wildlife</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Green River Wayne</td>
<td>Waynesboro and US 64 bridge to confluence with Buffalo River</td>
<td>Scenic, rocky float stream.</td>
<td>12 mi</td>
<td>Fish, Geologic, Recreational, Scenic, Wildlife</td>
<td></td>
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</tr>
<tr>
<td>Harpeth River Cheatham, Dickson, Davidson, Williamson, Rutherford</td>
<td>Confluence with Puckett Branch and Concord Creek to near Jackie Branch on Cheatham/Dickson County line</td>
<td>Rich in history and of archaeological significance; evidence of aboriginal towns; extraordinary tunnel at &quot;The Narrows&quot;; impressive carved bluffs including Paint Rock which is adorned with petroglyphs.</td>
<td>112 mi</td>
<td>Cultural, Fish, Geologic, Historic, Recreational, Scenic, Wildlife</td>
<td></td>
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</tr>
<tr>
<td>Hatchie River Lauderdale, Tipton, Haywood, Madison, Hardeman, McNairy</td>
<td>MS State line to MS State line</td>
<td>Slow, meandering swamp river with many oxbows surrounded by wilderness and inhabited by large diversified wildlife population, including rare species.</td>
<td>197 mi</td>
<td>Cultural, Fish, Geologic, Historic, Recreational, Scenic, Wildlife</td>
<td></td>
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</tr>
<tr>
<td>River</td>
<td>County</td>
<td>Mileage</td>
<td>Characteristics</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Hickory Creek</td>
<td>Campbell</td>
<td>10</td>
<td>Rural, scenic stream that flows through unique Cumberland Black geologic formation.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Hiwassee River</td>
<td>Polk</td>
<td>32</td>
<td>Popular for canoeing, kayaking, rafting, and fishing in scenic mountain setting. Excellent game fishing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holston River</td>
<td>Knox, Grainger, Jefferson</td>
<td>53</td>
<td>Scenic stream segment affording excellent duck hunting and fishing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Jones Creek</td>
<td>Dickson</td>
<td>17</td>
<td>Narrow stream with frequent gravel bars; winds through picturesque valley; high carved limestone bluffs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>River</td>
<td>County(s)</td>
<td>Section Description</td>
<td>Characteristics</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Little Pigeon River</td>
<td>Sevier</td>
<td>Confluence with Middle Prong Little Pigeon River to southeast of Cherokee Hill</td>
<td>Scenic, sparkling, excellent whitewater stream with waterfalls; trout habitat.</td>
<td></td>
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</tr>
<tr>
<td>Little Pigeon River,</td>
<td>Sevier</td>
<td>From headwaters at Mount Sequoya in the Great Smoky Mountains National Park to</td>
<td>Scenic, sparkling, excellent whitewater stream with waterfalls; trout habitat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle Prong</td>
<td></td>
<td>Little Pigeon River confluence with</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Little Pigeon River,</td>
<td>Sevier</td>
<td>Headwaters in Great Smoky Mountains National Park to south of Gatlinburg</td>
<td>Most scenic, clear mountain stream with considerable recreational potential.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Prong</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Little Sequatchie</td>
<td>Marion, Grundy</td>
<td>Headwaters west of Palmer to confluence with Sequatchie River</td>
<td>Scenic stream that supports game fishery.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>River</td>
<td></td>
<td></td>
<td>Fish, Creational Wild Life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Little Tennessee</td>
<td>Loudon, Monroe,</td>
<td>Chilhowee Dam to river mile 1, above Tellico Dam</td>
<td>Critical habitat for snail darter.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>River</td>
<td>Blount</td>
<td></td>
<td>Wildlife, Recreational</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Creek</td>
<td>Stewart</td>
<td>Headwaters two miles west of Stewart State Forest to mouth at Lake Barkley</td>
<td>Scenic stream that supports game fishery.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Fish, Recreational Wild Life</td>
<td></td>
<td></td>
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https://www.nps.gov/subjects/rivers/tennessee.htm 7/27/2020
<table>
<thead>
<tr>
<th>River</th>
<th>County</th>
<th>Approximate Length</th>
<th>Main Points</th>
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<tbody>
<tr>
<td>Mountain Creek</td>
<td>Warren, Cannon</td>
<td>Approximately two miles northwest of Osment Chapel to confluence with Collins River</td>
<td>Scenic stream that supports game fishery.</td>
</tr>
<tr>
<td>New River</td>
<td>Scott</td>
<td>US 27/TN 29 bridge to confluence with South Fork of Cumberland and Clear Fork Rivers</td>
<td>Placid, winding stream that flows through steep-sided valley with some Class I-III ledges and gorge area.</td>
</tr>
<tr>
<td>Nolichucky River</td>
<td>Union</td>
<td>The mainstem from Poplar, NC downstream to the railroad bridge at Unaka Springs, TN</td>
<td>Spectacular scenery with steep slopes rising more than 2,000 feet adjacent to the river. The Gorge is a popular attraction for whitewater boaters, including commercial outfitters.</td>
</tr>
<tr>
<td>River</td>
<td>County</td>
<td>Mileage</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------</td>
<td>---------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>North Chickamauga</td>
<td>Hamilton</td>
<td>18</td>
<td>Spring-fed, crystal clear mountain stream; variety of flora and abundance of wildlife.</td>
</tr>
<tr>
<td>Chickamauga Creek</td>
<td>Sequatchie</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North White Oak Creek</td>
<td>Scott</td>
<td>27</td>
<td>Rocky, scenic stream with 400 foot deep gorge area, moderate whitewater.</td>
</tr>
<tr>
<td></td>
<td>Fentress</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obey River</td>
<td>Clay</td>
<td>7</td>
<td>Winds through scenic valley with alternating pastoral setting and massive, wooded limestone bluffs; supports excellent fishery.</td>
</tr>
<tr>
<td>Obey River, East Fork</td>
<td>Fentress</td>
<td>27</td>
<td>Dangerous, rugged stream with wildly fluctuating gradient; heavily forested gorge area; 8 foot waterfall.</td>
</tr>
<tr>
<td></td>
<td>Overton</td>
<td></td>
<td></td>
</tr>
<tr>
<td>River Name</td>
<td>County</td>
<td>Section Location</td>
<td>Length (mi)</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------</td>
<td>------------------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>Obey River, West Fork</strong></td>
<td>Pickett, Overton</td>
<td>Headwaters two miles west of Obey City to confluence with East Fork</td>
<td>29</td>
</tr>
<tr>
<td><strong>Obion River</strong></td>
<td>Lauderdale, Dyer</td>
<td>Obion County line to confluence with Mississippi River</td>
<td>55</td>
</tr>
<tr>
<td><strong>Ocoee River</strong></td>
<td>Polk</td>
<td>Ocoee No. 3 dam to Lake Ocoee</td>
<td>12</td>
</tr>
<tr>
<td><strong>Overall Creek</strong></td>
<td>Rutherford</td>
<td>Headwaters one mile southeast of Windrow to confluence with West Fork of Stones River</td>
<td>15</td>
</tr>
<tr>
<td><strong>Pine Creek of Caney Fork</strong></td>
<td>Dekalb</td>
<td>Headwaters southwest of Smithville to confluence with Caney Fork</td>
<td>14</td>
</tr>
<tr>
<td>River</td>
<td>County(s)</td>
<td>Location</td>
<td>Mileage</td>
</tr>
<tr>
<td>-----------------------</td>
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<td>-----------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Piney Creek</td>
<td>Rhea</td>
<td>Headwaters near Bledsoe County line to confluence with Little Piney Creek north of Spring City</td>
<td>16</td>
</tr>
<tr>
<td>Piney River</td>
<td>Hickman</td>
<td>Pinewood and TN 48 bridge to confluence with Duck River</td>
<td>14</td>
</tr>
<tr>
<td>Powell River</td>
<td>Claiborne, Hancock, Union</td>
<td>Backwaters of Norris Lake VA State line</td>
<td>67</td>
</tr>
<tr>
<td>River</td>
<td>Location</td>
<td>Mileage</td>
<td>Description</td>
</tr>
<tr>
<td>-----------</td>
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<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Red River</td>
<td>Robertson, Sumner</td>
<td>19</td>
<td>Pastoral float stream with numerous sinkholes and caves; only covered bridge in State at Port Royal; heavily wooded bluffs with limestone outcroppings.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red River</td>
<td>Montgomery, Robertson</td>
<td>43</td>
<td>Pastoral float stream with numerous sinkholes and caves; only covered bridge in State at Port Royal; heavily wooded bluffs with limestone outcroppings.</td>
</tr>
<tr>
<td>River, Fork</td>
<td>County, County</td>
<td>Mileage</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
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<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Red River, Robertson, Elk Fork</td>
<td>KY State line to confluence with Red River</td>
<td>8</td>
<td>Karst topography with exceptional geological features, including numerous sinkholes and caves; supports important black bass fishery; unique wildlife.</td>
</tr>
<tr>
<td>Red River, Robertson, South Fork</td>
<td>Sumner</td>
<td>Confluence with Maxwell and Roney Creeks to KY State line</td>
<td>22</td>
</tr>
<tr>
<td>Red River, Montgomery, Sulphur Fork</td>
<td>Robertson</td>
<td>Northwest of Springfield to confluence with Red River</td>
<td>27</td>
</tr>
<tr>
<td>Red River, Montgomery, West Fork</td>
<td></td>
<td>KY State line to confluence with Red River</td>
<td>15</td>
</tr>
<tr>
<td>Richland Creek, Giles, Marshall</td>
<td>Headwaters south of Lewisburg to confluence with Elk River</td>
<td>74</td>
<td>Scenic float stream.</td>
</tr>
<tr>
<td>River</td>
<td>County, State</td>
<td>Source</td>
<td>Distance</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------</td>
<td>--------</td>
<td>----------</td>
</tr>
<tr>
<td>Roaring River</td>
<td>Jackson, Overton</td>
<td>Headwaters four miles northeast of Rickman to RM 1, above confluence with Cumberland River</td>
<td>37</td>
</tr>
<tr>
<td>Roaring River</td>
<td>Jackson</td>
<td>Headwaters one mile below community of Double Springs to confluence with Blackburn River</td>
<td>16</td>
</tr>
<tr>
<td>Rock Creek</td>
<td>Morgan</td>
<td>US 27 bridge near Pilot Mountain to confluence with Blackburn River</td>
<td>11</td>
</tr>
<tr>
<td>Rock Creek</td>
<td>Scott, Pickett, Fentress</td>
<td>Headwaters in Pickett State Park to KY State line</td>
<td>11</td>
</tr>
<tr>
<td>Rocky River</td>
<td>Van Buren, Sequatchie</td>
<td>Headwaters above TN 8 highway to confluence with Caney Fork</td>
<td>31</td>
</tr>
<tr>
<td>Sequatchie River</td>
<td>Marion, Sequatchie, Bledsoe, Cumberland</td>
<td>Headwaters approximately ten miles south of Homestead to confluence with Tennessee River</td>
<td>116</td>
</tr>
<tr>
<td>Creek Name</td>
<td>County, Counties</td>
<td>Headwaters/Description</td>
<td>Fish, Wildlife, Geologic, Recreational Scenic, Wildlife</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Sink Creek</td>
<td>Dekalb</td>
<td>Headwaters near Cannon County line to confluence with Caney Fork of Cumberland River</td>
<td>Scenic floating stream</td>
</tr>
<tr>
<td>Smith Fork</td>
<td>Smith, Dekalb</td>
<td>TN 96 bridge and Wilson County line to confluence with Caney Fork</td>
<td>Scenic stream flowing over limestone bed</td>
</tr>
<tr>
<td>South Harpeth</td>
<td>Cheatham, Davidson, Williamson</td>
<td>Headwaters four miles east of Lake Weona to confluence with Harpeth River</td>
<td>High bluffs with extensive adjacent forested area.</td>
</tr>
<tr>
<td>Spring Creek</td>
<td>Jackson, Overton, Putnam</td>
<td>Headwaters two miles northeast of Brotherton to confluence with Roaring River</td>
<td>Natural, spectacular gorge area; intricately carved bluffs; 35 foot</td>
</tr>
<tr>
<td>Stinking Creek</td>
<td>Campbell</td>
<td>Headwaters east of I-75 to confluence with Hickory Creek</td>
<td>Rural, scenic stream that flows through unique Cumberland Black geologic formation.</td>
</tr>
<tr>
<td>Streams</td>
<td>Counties</td>
<td>Location Details</td>
<td>Miles</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Stones River</td>
<td>Davidson, Rutherford</td>
<td>Confluence with East and West Forks one mile below Jefferson Springs to above Percy Priest Dam</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stones River,</td>
<td>Rutherford</td>
<td>TN 96 bridge to confluence with Stones River</td>
<td>19</td>
</tr>
<tr>
<td>East Fork</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Federal Aid Secondary Road 4289 bridge at Hoovers Gap to confluence with West Fork of Stones River</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stones River,</td>
<td>Rutherford</td>
<td>Walnut Grove Rd bridge west of Christiana to southwest of Murfreesboro</td>
<td>10</td>
</tr>
<tr>
<td>West Fork</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>River</td>
<td>County</td>
<td>State Line/Location</td>
<td>Length</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Stones River, West Fork</td>
<td>Rutherford</td>
<td>North of Murfreesboro to confluence with Stones River and East Fork</td>
<td>12</td>
</tr>
<tr>
<td>Sweden Creek</td>
<td>Marion</td>
<td>Headwaters in Franklin State Forest to confluence with Battle Creek</td>
<td>12</td>
</tr>
<tr>
<td>Sycamore Creek</td>
<td>Cheatham</td>
<td>US 41A/TN 112 bridge below I-24 bridge to above TN 12 bridge</td>
<td>14</td>
</tr>
<tr>
<td>Tellico River</td>
<td>Monroe</td>
<td>North Carolina state line to confluence with Little Tennessee River</td>
<td>49</td>
</tr>
<tr>
<td>Watauga River</td>
<td>Johnson</td>
<td>North Carolina state line to upper portion of Watauga Lake</td>
<td>2</td>
</tr>
<tr>
<td>River</td>
<td>County(s)</td>
<td>Mileage</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------</td>
<td>---------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>West Harpeth River</td>
<td>Williamson</td>
<td>20</td>
<td>Scenic float stream with frequent riffles; significant historical values; low, tree-lined banks.</td>
</tr>
<tr>
<td>White Creek</td>
<td>Morgan</td>
<td>9</td>
<td>Scenic float and fishing stream.</td>
</tr>
<tr>
<td>White Oak Creek</td>
<td>Scott, Morgan</td>
<td>16</td>
<td>Scenic float stream of historical significance.</td>
</tr>
<tr>
<td>Wolf River</td>
<td>Pickett, Fentress</td>
<td>26</td>
<td>Scenic stream of historical interest.</td>
</tr>
<tr>
<td>Yellow Creek</td>
<td>Montgomery, Houston</td>
<td>9</td>
<td>Scenic, recreational stream that supports game fishery.</td>
</tr>
</tbody>
</table>
SUBJECTS

Urban Parks and Programs
Wetlands
Watersheds

View All Related Subjects

PARKS

Alagnak Wild River
Big South Fork National River & Recreation Area
Bluestone National Scenic River
Buffalo National River
Chattahoochee River National Recreation Area
Delaware Water Gap National Recreation Area

View All Related Parks
2019 Novel Coronavirus (COVID-19) Response

Following guidance from the White House, Centers for Disease Control and Prevention, and state and local public health authorities, we are increasing access and services in a phased approach across all units of the National Park System. Before visiting a park, please check the park website to determine its operating status. Updates about the overall NPS response to COVID-19, including safety information, are posted on www.nps.gov/coronavirus.

National Park Service

National Natural Landmarks

National Natural Landmarks by state

Tennessee

There are 13 National Natural Landmark sites located within the state of Tennessee. Natural features represented include one of the longest caves in the country, the largest known underground lake in the country, and one of the best remaining examples of a cedar glade community. All 13 sites received NNL designation in a nine-year period from 1966 to 1974. Sites range in size from 9 acres to over 1,100 acres and are owned by a variety of landowners including U.S. Fish and Wildlife Service, U.S. Air Force, Tennessee Department of Environment and Conservation and private individuals.

Below is a map of sites in Tennessee.

National Natural Landmark sites are located in the following counties: Coffee, Cumberland, Franklin, Grundy, Hardeman, Lake, Monroe, Obion, Rhea, Van Buren, Warren, and Wilson.

← Back to listing of all states and territories.
To learn more about National Natural Landmarks in Tennessee, select a site from the list or the map below:

Arnold Engineering Development Center Natural Areas  Go!

Please remember, National Natural Landmarks (NNLs) are not national parks. NNL status does not indicate public ownership, and many sites are not open for visitation.

EXPERIENCE MORE

ORGANIZATIONS

National Natural Landmarks Program
DETERMINING IF A WETLAND MAY BE PRESENT

INSTRUCTIONS: This form is used by FSA officials when a project has the potential to adversely impact a wetland and a wetland determination has not been previously completed for the project area and is not available from NRCS.

NOTE: If a violation has not been cited by NRCS for crop land which has historically been in production and for which NRCS is responsible for enforcement, it will be assumed not to be adversely impacted by annual operating loans for the production of an agricultural commodity by annual tilling of the soil, as “agricultural commodity” is defined by 7 CFR 12.2(a). The completion of this form is not necessary for annual operating loans in these circumstances.

PART A – BASIC INFORMATION

4. Applicant Name

5. Project Location
   401 Bright Road, Huntingdon, TN 38344

6. Description of Project and Impact Area
   Estimated disturbance of 4.5 acres that would construct two - 22' x 100' wean to finish swine barns that would each house 2,600 head with related infrastructure.

7. How Wetlands Can Be Recognized
   Wetlands are characterized by the presence of three distinguishing factors: wetland vegetation, hydric soils, and wetland hydrology. Wetlands consist primarily of hydric soils because of their capacity to support wetland vegetation. Wetland vegetation is comprised of plant types with the capacity to adapt to wet soil conditions associated with natural hydrological conditions. Therefore, unless an area has been altered or is an uncommon natural situation, the presence of hydric soil is indicative of the potential presence of a wetland and further evaluation is warranted.

8. Project Area Pre-Screening
   When the nature of a proposal to be funded with FSA assistance has potential to cause an adverse wetland impact the project area must be identified and evaluated for the potential presence of a wetland. When a wetland determination for the project area is not available from the Natural Resources Conservation Service (NRCS), the FSA approval official will follow the screening process outlined below.
   Note: If the screening process determines either the existence of, or cannot conclusively rule out, the existence of a wetland, the applicant must relocate the project, or the application will be denied and the applicant will bear the burden of providing documentation from the USACE or other qualified expert that a wetland is not present on the proposed site for the project or that the project is legally permissible.

PART B - PRE-SCREENING

Check the applicable “YES, NO or Unknown”:

9. Consult the National Wetlands Inventory online Data Mapper at [http://www.fws.gov/wetlands/Data/Mapper.html](http://www.fws.gov/wetlands/Data/Mapper.html)
   Does the wetland map clearly indicate some part of the project area is in a wetland? If “YES”, proceed to Part F, complete Item 2A, and take appropriate action. If “NO”, continue screening. YES NO UNK

10. Is a State or local permit required for the project’s operation or construction? If so, ascertain if, in the course of permitting processes it is a requirement to determine the presence of wetlands and if it is, was the presence of a wetland determined? If permits are not required or have not been issued, continue screening. Did the permitting process indicate a wetland is present and will be impacted? If “YES”, proceed to Part F, complete Item 2B, and take appropriate action. If the permitting process determines a wetland is present but that the project will not impact the wetland, answer “NO” and proceed to Part F, Item 3. If the state or local government permitting process does NOT mention or include a review for wetlands, continue the screening process. YES NO UNK

PART C – SOIL INDICATORS

Check the applicable box “YES”, “NO” or “Unknown”:

11. There are approximately 2,000 named soils in the United States that may occur in wetlands. Such soils, called hydric soils, have characteristics that indicate they were developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season. If the soil in the area is listed as hydric by NRCS it is an indicator that the area might be a wetland. Identify the project area and consult the NRCS Soil Survey:
   Does the project area contain hydric soils or is the site adjacent to prior converted wetland or previously drained areas that may have served to alter the site’s hydric soil characteristics? YES NO UNK

   NOTE: This includes looking for small pockets or “inclusions” of hydric soils within the project area, even though they may only make up a small fraction of the soil map unit.

   If “YES”, continue screening. * If “NO”, proceed to Part F and complete Item 1.

   *If there are hydric soils or non-hydric soils with hydric inclusions in or directly adjoining the project area, a site visit MUST be made. During the visit an assessment will be made of the hydrology and, if necessary, vegetation in and adjacent to the proposed project site.
PART D - HYDROLOGY INDICATORS

Check the applicable box “YES”, “NO” or “Unknown”:

12. Hydrology - Wetland hydrology - refers to the presence of water at or above the soil surface for a sufficient period of the year to significantly influence the plant types and soils that occur in the area. The following indicators, which may be possible to observe on a site visit, provide some evidence of the periodic presence of flooding or soil saturation:

- Standing or flowing water
- Waterlogged soil
- Crops or plants exhibiting signs of stress or mortality due to wetness.
- Watermarks. Stains on trees, fences, or other objects indicating water periodically covers the area to the depth shown on the object.
- Drift Lines. Small piles of debris oriented in the direction of water movement.
- Debris lodged in trees or piled against another object by water.
- Sediment deposited on leaves or other objects. Sometimes these become consolidated with small plant parts to form a discernible crust on the soil surface.
- Unknown: If the site has been significantly disturbed so indicators may have been removed, if conditions prevent or limit observation and/or the findings are questionable or inconclusive.

Based on a site visit, were any hydrology indicators observed in the project area? If “YES”, list or describe and attach photos.

□ YES □ NO □ UNK

If “YES” or “UNKNOWN”, proceed to Part F, complete item 2C and take appropriate action. If “NO”, continue screening process.

PART E - VEGETATION INDICATORS

Check the applicable box “YES”, “NO” or “Unknown”:

13. Plants known as hydrophytic vegetation thrive in wetlands. A complete listing can be accessed at http:// fos.sas.crel.usace.army.mil/NWPL/ and predominate regional plant information can be found at http://plants.usda.gov/core/wetlandSearch; however, it is only important to become familiar with wetland vegetation types which commonly occur in the geographic area of the project.

Regional Field Guides have been professionally developed for FSA use in identifying predominant wetland plant types that prevail in each geographic region. State Environmental Coordinators are responsible for incorporating these Regional Field Guides into the State Environmental Guide.

Review the Regional Field Guide of hydrophytic vegetation listing and related pictorial references to become familiar with the appearance and physical characteristics of predominant wetland plants in the region.

During the site visit observe plants when possible within and adjacent to the project area.

NOTE: Any unusual plants or any change in vegetation from that typically found on known non-wetlands.

Take pictures of anything questionable and research back at the office. Consult with available wetland experts when unsure.

Unknown applies to sites where the vegetation is managed in some fashion, has been removed, when conditions prevent or limit observation and/or the findings are questionable or inconclusive.

Based on a site visit, were any indicators of hydrophytic vegetation observed in the project area? If “YES”, enter the scientific and common names if available of two representative species and attach photos.

Scientific Name: __________________ Common Name: __________________
Scientific Name: __________________ Common Name: __________________

If “YES” or “UNKNOWN”, proceed to Part F, complete item 2C and take appropriate action. If “NO”, continue to Part F, Item 4, and proceed with application processing.

□ YES □ NO □ UNK
PART F - CONCLUSION

I have reviewed all available information including documents in the loan file, if necessary, made a site inspection and attached are copies of the website maps and soil surveys consulted. The determination is:

1. ☑ Wetland Inventories indicate the project area is not part of a recognized wetland, AND the soils review required in Part C has been completed, and it is clear that hydric soils are NOT present in the project area. Application processing will continue.

2. ☐ The project area is likely to include and affect a wetland because:
   - A. Wetlands inventory maps clearly indicate the project area includes wetland.
   - B. Local or state permitting information for the project indicates that the project area includes wetland and the project will impact wetland.
   - C. Preliminary wetland assessment results (maps and/or permits) were indecisive but hydric soils and at least one of the other wetland indicators identified in Parts D and E were found or results were inconclusive.

Processing will not continue. Advise the applicant that FSA has determined the site to be unsuitable based on available information; unless they wish to submit an alternative site, the application will be denied. Prepare a denial letter including provisions of 1-APP as appropriate. Refer to 1-EQ Paragraph 51 and Exhibit 26 for guidance regarding alternative options for pursuing a professional wetland opinion.

NOTE: The USACE has jurisdiction over areas considered to be “waters of the United States” such as streams or wetlands and contiguous or adjacent conveyance drainage and ditches. For projects with potential to impact a jurisdictional wetland the applicant must provide related documentation in support of a specific exemption or related permit from the USACE to be eligible for FSA assistance.

3. ☐ A local or state permit has been issued for the project; the permit process includes a wetland determination and concludes that there is no wetland present, or there is a wetland but it is not impacted by the project. Application processing will continue.

4. ☐ Hydric soils were identified. I certify that a site inspection was made. None of the wetland indicators identified in Parts D and E were found or observed. Application processing will continue.

PART G - SIGNATURES

14A. Signature of Preparer

Tim Storey

14C. Title of Preparer and Agency
Farm Loan Specialist

14E. Address
200 S. Jefferson St.
Winchester, TN 37398

14B. Printed Name of Preparer
Tim Storey

14D. Date Signed by Preparer
7/27/2020

14F. Phone Number (Including Area Code)
931-967-2521

NOTE: SECs may supplement this Exhibit as needed to reflect wetland indicators in their area. Any modification to this Exhibit requires National Office approval.

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA’s TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at http://www.ascr.usda.gov/complaint_filing_cust.html and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture Office of the Assistant Secretary for Civil Rights 1400 Independence Avenue, SW Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov. USDA is an equal opportunity provider, employer, and lender.
AFFIDAVIT OF PUBLICATION

STATE OF TENNESSEE
CARROLL COUNTY

Personally appeared before me, Teresa A. Washburn, a Notary Public in and for said County and State, the undersigned representative of The McKenzie Banner, a weekly newspaper published in McKenzie, Carroll County, Tennessee, who swears that the attached

USDA-FARM SERVICE NOTICE OF AVAILABILITY

was published in the issues dated April 7, 2020

of said newspaper.

Signed

Subscribed and sworn before me this
Day ofApril 1, 2020

Notary Public

My commission expires March 16, 2024.

USDA-FARM SERVICE AGENCY
NOTICE OF AVAILABILITY

Construction of 2 Wean to Finish Hog
Barns Draft Environmental Assessment

U.S. Department of Agriculture, Farm Service Agency (FSA) announces they will be completing an Environmental Assessment for the proposed construction of 2 Wean to Finish hog barns located at Map 061 Parcel 001.00. The primary objective of the activity is to provide FSA farm loan assistance for the construction of 2 – 100' x 200' wean to finish hog barns with the maximum capacity of 2,600 hogs per barn, in Carroll County, TN.

FSA is accepting comments on the potential effects of the proposed project on protected resources and the human environment through May 7, 2020. Information regarding this project can be reviewed in person at Carroll County FSA, 630 High St., Huntingdon, TN 38344. Comments should be submitted to Anita W. Mullins, FLO at the above address or by email to anita.mullins@usda.gov.
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STATE OF TENNESSEE
CARROLL COUNTY

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USDA FARM SERVICE NOTICE OF AVAILABILITY
was published in the issues dated April 14, 2020

of said newspaper.

Signed

Subscribed and sworn before me this Day of April

Notary Public

My commission expires March 16, 2024.

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Soil Map—Carroll County, Tennessee
(NRCS Soil Map)

MAP LEGEND

Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravely Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot

Soil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Streams and Canals
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,808.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Carroll County, Tennessee
Survey Area Data: Version 15, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 11, 2012—Jan 27, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
## Map Unit Legend

<table>
<thead>
<tr>
<th>Map Unit Symbol</th>
<th>Map Unit Name</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co</td>
<td>Collins silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration</td>
<td>0.0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Fa</td>
<td>Falaya silt loam, occasionally flooded</td>
<td>2.0</td>
<td>4.7%</td>
</tr>
<tr>
<td>LeB</td>
<td>Lexington silt loam, 2 to 5 percent slopes</td>
<td>2.8</td>
<td>6.7%</td>
</tr>
<tr>
<td>LeD2</td>
<td>Lexington silt loam, 8 to 12 percent slopes, eroded</td>
<td>3.5</td>
<td>8.3%</td>
</tr>
<tr>
<td>PrB</td>
<td>Providence silt loam, 2 to 5 percent slopes</td>
<td>18.8</td>
<td>44.6%</td>
</tr>
<tr>
<td>PrC2</td>
<td>Providence silt loam, 5 to 8 percent slopes, moderately eroded</td>
<td>5.1</td>
<td>12.1%</td>
</tr>
<tr>
<td>PrD2</td>
<td>Providence silt loam, 8 to 12 percent slopes, moderately eroded</td>
<td>0.0</td>
<td>0.0%</td>
</tr>
<tr>
<td>SmE</td>
<td>Smithdale fine sandy loam, 12 to 25 percent slopes</td>
<td>9.5</td>
<td>22.5%</td>
</tr>
<tr>
<td>SmE3</td>
<td>Smithdale fine sandy loam, 12 to 20 percent slopes, severely eroded</td>
<td>0.5</td>
<td>1.1%</td>
</tr>
<tr>
<td><strong>Totals for Area of Interest</strong></td>
<td></td>
<td><strong>42.2</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
Farmland Classification—Carroll County, Tennessee
(NRCS Farmland Classification Map)

The soil surveys that comprise your AOI were mapped at 1:15,800.

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# Farmland Classification

<table>
<thead>
<tr>
<th>Map unit symbol</th>
<th>Map unit name</th>
<th>Rating</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co</td>
<td>Collins silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration</td>
<td>All areas are prime farmland</td>
<td>0.0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Fa</td>
<td>Falaya silt loam, occasionally flooded</td>
<td>All areas are prime farmland</td>
<td>2.0</td>
<td>4.7%</td>
</tr>
<tr>
<td>LeB</td>
<td>Lexington silt loam, 2 to 5 percent slopes</td>
<td>All areas are prime farmland</td>
<td>2.8</td>
<td>6.7%</td>
</tr>
<tr>
<td>LeD2</td>
<td>Lexington silt loam, 8 to 12 percent slopes, eroded</td>
<td>Not prime farmland</td>
<td>3.5</td>
<td>8.3%</td>
</tr>
<tr>
<td>PrB</td>
<td>Providence silt loam, 2 to 5 percent slopes</td>
<td>All areas are prime farmland</td>
<td>18.8</td>
<td>44.6%</td>
</tr>
<tr>
<td>PrC2</td>
<td>Providence silt loam, 5 to 8 percent slopes, moderately eroded</td>
<td>Not prime farmland</td>
<td>5.1</td>
<td>12.1%</td>
</tr>
<tr>
<td>PrD2</td>
<td>Providence silt loam, 8 to 12 percent slopes, moderately eroded</td>
<td>Not prime farmland</td>
<td>0.0</td>
<td>0.0%</td>
</tr>
<tr>
<td>SmE</td>
<td>Smithdale fine sandy loam, 12 to 25 percent slopes</td>
<td>Not prime farmland</td>
<td>9.5</td>
<td>22.5%</td>
</tr>
<tr>
<td>SmE3</td>
<td>Smithdale fine sandy loam, 12 to 20 percent slopes, severely eroded</td>
<td>Not prime farmland</td>
<td>0.5</td>
<td>1.1%</td>
</tr>
</tbody>
</table>

| Totals for Area of Interest | 42.2 | 100.0% |

## Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

## Rating Options

*Aggregation Method:* No Aggregation Necessary

*Tie-break Rule:* Lower
Hydric Rating by Map Unit—Carroll County, Tennesse (NRCS Hydric Rating Map)

**MAP LEGEND**

- **Area of Interest (AOI)**
- **Soils**
  - Soil Rating Polygons:
    - Hydric (100%)
    - Hydric (66 to 99%)
    - Hydric (33 to 65%)
    - Hydric (1 to 32%)
    - Not Hydric (0%)
    - Not rated or not available
- **Transportation**
  - Interstate Highways
  - US Routes
  - Major Roads
  - Local Roads
- **Background**
  - Aerial Photography
- **Water Features**
  - Streams and Canals

**MAP INFORMATION**

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Carroll County, Tennessee
Survey Area Data: Version 15, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 11, 2012—Jan 27, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
# Hydric Rating by Map Unit

<table>
<thead>
<tr>
<th>Map unit symbol</th>
<th>Map unit name</th>
<th>Rating</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co</td>
<td>Collins silt loam, 0 to 2 percent slopes,</td>
<td>0</td>
<td>0.0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>occasionally flooded, brief duration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fa</td>
<td>Falaya silt loam, occasionally flooded</td>
<td>8</td>
<td>2.0</td>
<td>4.7%</td>
</tr>
<tr>
<td>LeB</td>
<td>Lexington silt loam, 2 to 5 percent slopes</td>
<td>0</td>
<td>2.8</td>
<td>6.7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LeD2</td>
<td>Lexington silt loam, 8 to 12 percent slopes,</td>
<td>0</td>
<td>3.5</td>
<td>8.3%</td>
</tr>
<tr>
<td></td>
<td>eroded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PrB</td>
<td>Providence silt loam, 2 to 5 percent slopes</td>
<td>0</td>
<td>18.8</td>
<td>44.6%</td>
</tr>
<tr>
<td>PrC2</td>
<td>Providence silt loam, 5 to 8 percent slopes,</td>
<td>0</td>
<td>5.1</td>
<td>12.1%</td>
</tr>
<tr>
<td></td>
<td>moderately eroded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PrD2</td>
<td>Providence silt loam, 8 to 12 percent slopes,</td>
<td>0</td>
<td>0.0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>moderately eroded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SmE</td>
<td>Smithdale fine sandy loam, 12 to 25 percent</td>
<td>0</td>
<td>9.5</td>
<td>22.5%</td>
</tr>
<tr>
<td></td>
<td>slopes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SmE3</td>
<td>Smithdale fine sandy loam, 12 to 20 percent</td>
<td>0</td>
<td>0.5</td>
<td>1.1%</td>
</tr>
<tr>
<td></td>
<td>slopes, severely eroded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Totals for Area of Interest</strong></td>
<td></td>
<td></td>
<td><strong>42.2</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
**Description**

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

**References:**


Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower
# EJSCREEN ACS Summary Report

**Location:** User-specified point center at 36.029264, -88.508678  
**Ring (buffer):** 1-mile radius  
**Description:**

### Summary of ACS Estimates 2013 - 2017

<table>
<thead>
<tr>
<th>Category</th>
<th>2013 - 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>152</td>
</tr>
<tr>
<td>Population Density (per sq. mile)</td>
<td>34</td>
</tr>
<tr>
<td>Minority Population</td>
<td>9</td>
</tr>
<tr>
<td>% Minority</td>
<td>6%</td>
</tr>
<tr>
<td>Households</td>
<td>67</td>
</tr>
<tr>
<td>Housing Units</td>
<td>81</td>
</tr>
<tr>
<td>Housing Units Built Before 1950</td>
<td>8</td>
</tr>
<tr>
<td>Per Capita Income</td>
<td>26,285</td>
</tr>
<tr>
<td>Land Area (sq. miles) (Source: SF1)</td>
<td>4.54%</td>
</tr>
<tr>
<td>% Land Area</td>
<td>100%</td>
</tr>
<tr>
<td>Water Area (sq. miles) (Source: SF1)</td>
<td>0.00%</td>
</tr>
<tr>
<td>% Water Area</td>
<td>0%</td>
</tr>
</tbody>
</table>

### Population by Race 2013 - 2017

<table>
<thead>
<tr>
<th>Race</th>
<th>ACS Estimates</th>
<th>Percent</th>
<th>MOE (±)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Total</td>
<td>152</td>
<td>100%</td>
<td>281</td>
</tr>
<tr>
<td>Population Reporting One Race</td>
<td>152</td>
<td>100%</td>
<td>355</td>
</tr>
<tr>
<td>White</td>
<td>150</td>
<td>98%</td>
<td>284</td>
</tr>
<tr>
<td>Black</td>
<td>3</td>
<td>2%</td>
<td>23</td>
</tr>
<tr>
<td>American Indian</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Asian</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Some Other Race</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Population Reporting Two or More Races</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Total Hispanic Population</td>
<td>6</td>
<td>4%</td>
<td>56</td>
</tr>
<tr>
<td>Total Non-Hispanic Population</td>
<td>147</td>
<td>96%</td>
<td>274</td>
</tr>
<tr>
<td>White Alone</td>
<td>144</td>
<td>94%</td>
<td>274</td>
</tr>
<tr>
<td>Black Alone</td>
<td>3</td>
<td>2%</td>
<td>23</td>
</tr>
<tr>
<td>American Indian Alone</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Non-Hispanic Asian Alone</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Pacific Islander Alone</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Other Race Alone</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Two or More Races Alone</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
</tbody>
</table>

### Population by Sex

<table>
<thead>
<tr>
<th>Gender</th>
<th>ACS Estimates</th>
<th>Percent</th>
<th>MOE (±)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>79</td>
<td>52%</td>
<td>188</td>
</tr>
<tr>
<td>Female</td>
<td>74</td>
<td>46%</td>
<td>168</td>
</tr>
</tbody>
</table>

### Population by Age

<table>
<thead>
<tr>
<th>Age</th>
<th>ACS Estimates</th>
<th>Percent</th>
<th>MOE (±)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 0-4</td>
<td>4</td>
<td>3%</td>
<td>39</td>
</tr>
<tr>
<td>Age 0-17</td>
<td>30</td>
<td>20%</td>
<td>133</td>
</tr>
<tr>
<td>Age 18+</td>
<td>122</td>
<td>80%</td>
<td>193</td>
</tr>
<tr>
<td>Age 65+</td>
<td>32</td>
<td>21%</td>
<td>93</td>
</tr>
</tbody>
</table>

**Data Note:** Detail may not sum to totals due to rounding.  Hispanic population can be of any race.  N/A means not available.  Source: U.S. Census Bureau, American Community Survey (ACS) 2013 - 2017.
## EJSCREEN ACS Summary Report

**Location:** User-specified point center at 36.029264, -88.508678  
**Ring (buffer):** 1-miles radius  
**Description:**

### Population 25+ by Educational Attainment

<table>
<thead>
<tr>
<th></th>
<th>2013 - 2017 ACS Estimates</th>
<th>Percent</th>
<th>MOE (±)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>111</td>
<td>100%</td>
<td>194</td>
</tr>
<tr>
<td>Less than 9th Grade</td>
<td>16</td>
<td>14%</td>
<td>67</td>
</tr>
<tr>
<td>9th - 12th Grade, No Diploma</td>
<td>15</td>
<td>13%</td>
<td>71</td>
</tr>
<tr>
<td>High School Graduate</td>
<td>44</td>
<td>39%</td>
<td>127</td>
</tr>
<tr>
<td>Some College, No Degree</td>
<td>27</td>
<td>24%</td>
<td>88</td>
</tr>
<tr>
<td>Associate Degree</td>
<td>6</td>
<td>5%</td>
<td>43</td>
</tr>
<tr>
<td>Bachelor's Degree or more</td>
<td>10</td>
<td>9%</td>
<td>48</td>
</tr>
</tbody>
</table>

### Population Age 5+ Years by Ability to Speak English

<table>
<thead>
<tr>
<th></th>
<th>2013 - 2017 ACS Estimates</th>
<th>Percent</th>
<th>MOE (±)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>149</td>
<td>100%</td>
<td>269</td>
</tr>
<tr>
<td>Speak only English</td>
<td>149</td>
<td>100%</td>
<td>256</td>
</tr>
<tr>
<td>Non-English at Home***</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Speak English &quot;very well&quot;</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Speak English &quot;well&quot;</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Speak English &quot;not well&quot;</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Speak English &quot;not at all&quot;</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Speak English &quot;less than well&quot;</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Speak English &quot;less than very well&quot;</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
</tbody>
</table>

### Linguistically Isolated Households*

<table>
<thead>
<tr>
<th></th>
<th>2013 - 2017 ACS Estimates</th>
<th>Percent</th>
<th>MOE (±)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Speak Spanish</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Speak Other Indo-European Languages</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Speak Asian-Pacific Island Languages</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Speak Other Languages</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
</tbody>
</table>

### Households by Household Income

<table>
<thead>
<tr>
<th>Household Income Base</th>
<th>2013 - 2017 ACS Estimates</th>
<th>Percent</th>
<th>MOE (±)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; $15,000</td>
<td>5</td>
<td>7%</td>
<td>33</td>
</tr>
<tr>
<td>$15,000 - $25,000</td>
<td>9</td>
<td>14%</td>
<td>49</td>
</tr>
<tr>
<td>$25,000 - $50,000</td>
<td>12</td>
<td>17%</td>
<td>53</td>
</tr>
<tr>
<td>$50,000 - $75,000</td>
<td>17</td>
<td>28%</td>
<td>93</td>
</tr>
<tr>
<td>$75,000 +</td>
<td>23</td>
<td>35%</td>
<td>89</td>
</tr>
</tbody>
</table>

### Occupied Housing Units by Tenure

<table>
<thead>
<tr>
<th></th>
<th>2013 - 2017 ACS Estimates</th>
<th>Percent</th>
<th>MOE (±)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>67</td>
<td>100%</td>
<td>112</td>
</tr>
<tr>
<td>Owner Occupied</td>
<td>55</td>
<td>83%</td>
<td>97</td>
</tr>
<tr>
<td>Renter Occupied</td>
<td>11</td>
<td>17%</td>
<td>67</td>
</tr>
</tbody>
</table>

### Employed Population Age 16+ Years

<table>
<thead>
<tr>
<th></th>
<th>2013 - 2017 ACS Estimates</th>
<th>Percent</th>
<th>MOE (±)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>131</td>
<td>100%</td>
<td>227</td>
</tr>
<tr>
<td>In Labor Force</td>
<td>76</td>
<td>58%</td>
<td>172</td>
</tr>
<tr>
<td>Civilian Unemployed in Labor Force</td>
<td>5</td>
<td>4%</td>
<td>38</td>
</tr>
<tr>
<td>Not in Labor Force</td>
<td>55</td>
<td>42%</td>
<td>129</td>
</tr>
</tbody>
</table>

---

**Data Note:** Totals may not sum to 100% due to rounding. Hispanic population can be of any race.  
N/A means not available. *Source: U.S. Census Bureau, American Community Survey (ACS)*  
*Households in which no one 14 and over speaks English "very well" or speaks English only.

May 29, 2020
### Population by Language Spoken at Home

<table>
<thead>
<tr>
<th>Language Spoken at Home</th>
<th>2013 ACS Estimates</th>
<th>2017 ACS Estimates</th>
<th>Percent</th>
<th>MOE (±)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (persons age 5 and above)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>English</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Spanish</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>French</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>French Creole</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Italian</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Portuguese</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>German</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Yiddish</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Other West Germanic</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Scandinavian</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Greek</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Russian</td>
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<td>Total Non-English</td>
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</table>

**Data Note:** Detail may not sum to totals due to rounding. Hispanic population can be of any race.


*Population by Language Spoken at Home is available at the census tract summary level and up.*
# EJSCREEN Report (Version 2019)

1 miles Ring Centered at 36.029264,-88.508678, TENNESSEE, EPA Region 4

Approximate Population: 152

Input Area (sq. miles): 3.14

<table>
<thead>
<tr>
<th>Selected Variables</th>
<th>State Percentile</th>
<th>EPA Region Percentile</th>
<th>USA Percentile</th>
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<tbody>
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<td>EJ Index for PM2.5</td>
<td>45</td>
<td>33</td>
<td>34</td>
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<td>EJ Index for Ozone</td>
<td>45</td>
<td>31</td>
<td>35</td>
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<tr>
<td>EJ Index for NATA+ Diesel PM</td>
<td>50</td>
<td>39</td>
<td>43</td>
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<tr>
<td>EJ Index for NATA+ Air Toxics Cancer Risk</td>
<td>44</td>
<td>34</td>
<td>43</td>
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<tr>
<td>EJ Index for NATA+ Respiratory Hazard Index</td>
<td>44</td>
<td>34</td>
<td>31</td>
</tr>
<tr>
<td>EJ Index for Traffic Proximity and Volume</td>
<td>46</td>
<td>37</td>
<td>44</td>
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<tr>
<td>EJ Index for Lead Paint Indicator</td>
<td>40</td>
<td>22</td>
<td>36</td>
</tr>
<tr>
<td>EJ Index for Superfund Proximity</td>
<td>30</td>
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<td>36</td>
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<td>EJ Index for RMP Proximity</td>
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<td>36</td>
<td>41</td>
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<td>EJ Index for Hazardous Waste Proximity</td>
<td>48</td>
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<td>44</td>
</tr>
<tr>
<td>EJ Index for Wastewater Discharge Indicator</td>
<td>30</td>
<td>24</td>
<td>31</td>
</tr>
</tbody>
</table>

---

This report shows the values for environmental and demographic indicators and EJSCREEN Indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

May 28, 2020
EJSCREEN Report (Version 2019)

1 miles Ring Centered at 36.029264,-88.508678, TENNESSEE, EPA Region 4

Approximate Population: 152
Input Area (sq. miles): 3.14

---

<table>
<thead>
<tr>
<th>Sites reporting to EPA</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Superfund NPL</td>
<td>0</td>
</tr>
<tr>
<td>Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)</td>
<td>0</td>
</tr>
</tbody>
</table>

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### Environmental Indicators

<table>
<thead>
<tr>
<th>Selected Variables</th>
<th>Value</th>
<th>State Avg.</th>
<th>%ile in State</th>
<th>EPA Region Avg.</th>
<th>%ile in EPA Region</th>
<th>USA Avg.</th>
<th>%ile in USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulate Matter (PM 2.5 in μg/m³)</td>
<td>8.01</td>
<td>9.04</td>
<td>4</td>
<td>8.59</td>
<td>33</td>
<td>8.3</td>
<td>39</td>
</tr>
<tr>
<td>Ozone (ppb)</td>
<td>40.9</td>
<td>44.4</td>
<td>4</td>
<td>40</td>
<td>49</td>
<td>43</td>
<td>33</td>
</tr>
<tr>
<td>NATA* Diesel PM (μg/m³)</td>
<td>0.176</td>
<td>0.396</td>
<td>14</td>
<td>0.417</td>
<td>&lt;50th</td>
<td>0.479</td>
<td>&lt;50th</td>
</tr>
<tr>
<td>NATA* Cancer Risk (lifetime risk per million)</td>
<td>30</td>
<td>35</td>
<td>18</td>
<td>36</td>
<td>&lt;50th</td>
<td>32</td>
<td>&lt;50th</td>
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<tr>
<td>NATA* Respiratory Hazard Index</td>
<td>0.42</td>
<td>0.48</td>
<td>23</td>
<td>0.52</td>
<td>&lt;50th</td>
<td>0.44</td>
<td>&lt;50th</td>
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<tr>
<td>Traffic Proximity and Volume (daily traffic count/distance to road)</td>
<td>23</td>
<td>260</td>
<td>27</td>
<td>350</td>
<td>23</td>
<td>750</td>
<td>16</td>
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<tr>
<td>Lead Paint Indicator (% Pre-1960 Housing)</td>
<td>0.093</td>
<td>0.2</td>
<td>41</td>
<td>0.15</td>
<td>54</td>
<td>0.28</td>
<td>37</td>
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<tr>
<td>Superfund Proximity (site count/km distance)</td>
<td>0.041</td>
<td>0.071</td>
<td>64</td>
<td>0.083</td>
<td>53</td>
<td>0.13</td>
<td>35</td>
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<tr>
<td>RMP Proximity (facility count/km distance)</td>
<td>0.14</td>
<td>0.53</td>
<td>40</td>
<td>0.6</td>
<td>30</td>
<td>0.74</td>
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<tr>
<td>Hazardous Waste Proximity (facility count/km distance)</td>
<td>0.11</td>
<td>0.61</td>
<td>26</td>
<td>0.52</td>
<td>31</td>
<td>4</td>
<td>20</td>
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<tr>
<td>Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)</td>
<td>1.1E-05</td>
<td>0.018</td>
<td>50</td>
<td>0.45</td>
<td>54</td>
<td>14</td>
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### Demographic Indicators

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<tr>
<td>Minority Population</td>
<td>6%</td>
<td>26%</td>
<td>24</td>
</tr>
<tr>
<td>Low Income Population</td>
<td>24%</td>
<td>37%</td>
<td>28</td>
</tr>
<tr>
<td>Linguistically Isolated Population</td>
<td>0%</td>
<td>2%</td>
<td>66</td>
</tr>
<tr>
<td>Population With Less Than High School Education</td>
<td>27%</td>
<td>13%</td>
<td>90</td>
</tr>
<tr>
<td>Population Under 5 years of age</td>
<td>3%</td>
<td>6%</td>
<td>15</td>
</tr>
<tr>
<td>Population over 64 years of age</td>
<td>21%</td>
<td>15%</td>
<td>78</td>
</tr>
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</table>

* The National Scale Air Toxics Assessment (NATA) is EPA’s ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: [https://www.epa.gov/national-air-toxics-assessment](https://www.epa.gov/national-air-toxics-assessment).

For additional information, see: [www.epa.gov/environmentaljustice](http://www.epa.gov/environmentaljustice)

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**EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.**
### Summary

<table>
<thead>
<tr>
<th></th>
<th>Census 2010</th>
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<tbody>
<tr>
<td>Population</td>
<td>151</td>
</tr>
<tr>
<td>Population Density (per sq. mile)</td>
<td>33</td>
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<tr>
<td>Minority Population</td>
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<tr>
<td>% Minority</td>
<td>6%</td>
</tr>
<tr>
<td>Households</td>
<td>63</td>
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<tr>
<td>Housing Units</td>
<td>71</td>
</tr>
<tr>
<td>Land Area (sq. miles)</td>
<td>4.54</td>
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<td>% Land Area</td>
<td>100%</td>
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<tr>
<td>Water Area (sq. miles)</td>
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<td>% Water Area</td>
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### Population by Race

<table>
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<th>Population Reporting One Race</th>
<th>Number</th>
<th>Percent</th>
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<tr>
<td>Total</td>
<td>148</td>
<td>98%</td>
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<tr>
<td>White</td>
<td>144</td>
<td>95%</td>
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<td>Black</td>
<td>3</td>
<td>2%</td>
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<td>American Indian</td>
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<td>1%</td>
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<tr>
<td>Asian</td>
<td>1</td>
<td>0%</td>
</tr>
<tr>
<td>Pacific Islander</td>
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<td>0%</td>
</tr>
<tr>
<td>Some Other Race</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Population Reporting Two or More Races</td>
<td>3</td>
<td>2%</td>
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</table>

Total Hispanic Population: 2 (1%)

### Population by Race

<table>
<thead>
<tr>
<th>Total Non-Hispanic Population</th>
<th>Number</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>White Alone</td>
<td>143</td>
<td>94%</td>
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<tr>
<td>Black Alone</td>
<td>3</td>
<td>2%</td>
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<tr>
<td>American Indian Alone</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Non-Hispanic Asian Alone</td>
<td>1</td>
<td>0%</td>
</tr>
<tr>
<td>Pacific Islander Alone</td>
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<td>0%</td>
</tr>
<tr>
<td>Two or More Races Alone</td>
<td>2</td>
<td>1%</td>
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### Population by Sex

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<thead>
<tr>
<th>Sex</th>
<th>Number</th>
<th>Percent</th>
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<tr>
<td>Male</td>
<td>74</td>
<td>49%</td>
</tr>
<tr>
<td>Female</td>
<td>77</td>
<td>51%</td>
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### Population by Age

<table>
<thead>
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<th>Age Group</th>
<th>Number</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Age 0-4</td>
<td>8</td>
<td>5%</td>
</tr>
<tr>
<td>Age 0-17</td>
<td>33</td>
<td>22%</td>
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<td>Age 18+</td>
<td>118</td>
<td>78%</td>
</tr>
<tr>
<td>Age 65+</td>
<td>27</td>
<td>18%</td>
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</table>

### Households by Tenure

<table>
<thead>
<tr>
<th>Tenure Type</th>
<th>Number</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Total</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>Owner Occupied</td>
<td>49</td>
<td>79%</td>
</tr>
<tr>
<td>Renter Occupied</td>
<td>13</td>
<td>21%</td>
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</tbody>
</table>

**Data Note:** Detail may not sum to totals due to rounding. Hispanic population can be of any race.

**Source:** U.S. Census Bureau, Census 2010 Summary File 1.
# County Profile

## Carroll County
Tennessee

### Total and Per Farm Overview, 2017 and change since 2012

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>% change since 2012</th>
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</thead>
<tbody>
<tr>
<td>Number of farms</td>
<td>662</td>
<td>-10</td>
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<tr>
<td>Land in farms (acres)</td>
<td>169,536</td>
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<tr>
<td>Average size of farm (acres)</td>
<td>256</td>
<td>+5</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
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<tr>
<td>Market value of products sold</td>
<td>52,624,000</td>
<td>-15</td>
</tr>
<tr>
<td>Government payments</td>
<td>3,582,000</td>
<td>+43</td>
</tr>
<tr>
<td>Farm-related income</td>
<td>2,666,000</td>
<td>-26</td>
</tr>
<tr>
<td>Total farm production expenses</td>
<td>44,222,000</td>
<td>-11</td>
</tr>
<tr>
<td>Net cash farm income</td>
<td>14,650,000</td>
<td>-21</td>
</tr>
<tr>
<td>Per farm average</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market value of products sold</td>
<td>79,492</td>
<td>-6</td>
</tr>
<tr>
<td>Government payments</td>
<td>12,353</td>
<td>+81</td>
</tr>
<tr>
<td>(average per farm receiving)</td>
<td>8,859</td>
<td>-24</td>
</tr>
<tr>
<td>Farm-related income</td>
<td>66,801</td>
<td>-2</td>
</tr>
<tr>
<td>Total farm production expenses</td>
<td>22,130</td>
<td>-12</td>
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<tr>
<td>Net cash farm income</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Share of Sales by Type (%)

- Crops: 95%
- Livestock, poultry, and products: 5%

### Land in Farms by Use (%)

- Cropland: 63%
- Pastureland: 10%
- Woodland: 21%
- Other: 6%

### Acres irrigated: 4,919
3% of land in farms

### Land Use Practices (% of farms)

- No till: 17%
- Reduced till: 5%
- Intensive till: 2%
- Cover crop: 5%

### Farms by Value of Sales

<table>
<thead>
<tr>
<th>Value Range</th>
<th>Number</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $2,500</td>
<td>359</td>
<td>54</td>
</tr>
<tr>
<td>$2,500 to $4,999</td>
<td>66</td>
<td>10</td>
</tr>
<tr>
<td>$5,000 to $9,999</td>
<td>87</td>
<td>13</td>
</tr>
<tr>
<td>$10,000 to $24,999</td>
<td>68</td>
<td>10</td>
</tr>
<tr>
<td>$25,000 to $49,999</td>
<td>35</td>
<td>5</td>
</tr>
<tr>
<td>$50,000 to $99,999</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>$100,000 or more</td>
<td>35</td>
<td>5</td>
</tr>
</tbody>
</table>

### Farms by Size

<table>
<thead>
<tr>
<th>Size Range</th>
<th>Number</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 9 acres</td>
<td>28</td>
<td>4</td>
</tr>
<tr>
<td>10 to 49 acres</td>
<td>212</td>
<td>32</td>
</tr>
<tr>
<td>50 to 179 acres</td>
<td>275</td>
<td>42</td>
</tr>
<tr>
<td>180 to 499 acres</td>
<td>97</td>
<td>15</td>
</tr>
<tr>
<td>500 to 999 acres</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>1,000 + acres</td>
<td>37</td>
<td>6</td>
</tr>
</tbody>
</table>
### Market Value of Agricultural Products Sold

<table>
<thead>
<tr>
<th></th>
<th>Sales ($1,000)</th>
<th>Rank in State</th>
<th>Counties Producing Item</th>
<th>Rank in U.S.</th>
<th>Counties Producing Item</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>52,624</td>
<td>23</td>
<td>95</td>
<td>1,715</td>
<td>3,077</td>
</tr>
<tr>
<td><strong>Crops</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grains, oilseeds, dry beans, dry peas</td>
<td>49,820</td>
<td>14</td>
<td>95</td>
<td>1,089</td>
<td>3,073</td>
</tr>
<tr>
<td>Tobacco</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cotton and cottonseed</td>
<td>33,779</td>
<td>14</td>
<td>95</td>
<td>943</td>
<td>2,916</td>
</tr>
<tr>
<td>Tobacco</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetables, melons, potatoes, sweet potatoes</td>
<td>52,624</td>
<td>23</td>
<td>95</td>
<td>1,715</td>
<td>3,077</td>
</tr>
<tr>
<td>Fruits, tree nuts, berries</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursery, greenhouse, floriculture, sod</td>
<td>(D)</td>
<td>90</td>
<td>95</td>
<td>(D)</td>
<td>2,821</td>
</tr>
<tr>
<td>Cultivated Christmas trees, short rotation woody crops</td>
<td>-</td>
<td>-</td>
<td>36</td>
<td>-</td>
<td>1,384</td>
</tr>
<tr>
<td>Other crops and hay</td>
<td>758</td>
<td>70</td>
<td>95</td>
<td>2,108</td>
<td>3,040</td>
</tr>
<tr>
<td><strong>Livestock, poultry, and products</strong></td>
<td>2,804</td>
<td>79</td>
<td>95</td>
<td>2,647</td>
<td>3,073</td>
</tr>
<tr>
<td>Poultry and eggs</td>
<td>17</td>
<td>77</td>
<td>94</td>
<td>1,622</td>
<td>3,007</td>
</tr>
<tr>
<td>Cattle and calves</td>
<td>2,415</td>
<td>75</td>
<td>95</td>
<td>2,073</td>
<td>3,055</td>
</tr>
<tr>
<td>Milk from cows</td>
<td>(D)</td>
<td>54</td>
<td>68</td>
<td>(D)</td>
<td>1,892</td>
</tr>
<tr>
<td>Hogs and pigs</td>
<td>(D)</td>
<td>33</td>
<td>93</td>
<td>(D)</td>
<td>2,856</td>
</tr>
<tr>
<td>Sheep, goats, wool, mohair, milk</td>
<td>37</td>
<td>82</td>
<td>94</td>
<td>1,912</td>
<td>2,984</td>
</tr>
<tr>
<td>Horses, ponies, mules, burros, donkeys</td>
<td>92</td>
<td>56</td>
<td>93</td>
<td>1,486</td>
<td>2,970</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>-</td>
<td>-</td>
<td>30</td>
<td>-</td>
<td>1,251</td>
</tr>
<tr>
<td>Other animals and animal products</td>
<td>155</td>
<td>7</td>
<td>95</td>
<td>603</td>
<td>2,878</td>
</tr>
</tbody>
</table>

### Total Producers


### Percent of farms that:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Have internet access</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td>Farm organically</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Sell directly to consumers</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Hire farm labor</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Are family farms</td>
<td>97</td>
<td></td>
</tr>
</tbody>
</table>

### Top Crops in Acres

- Soybeans for beans: 31,220
- Corn for grain: 28,422
- Cotton, all: 22,958
- Forage (hay/haylage), all: 8,805
- Wheat for grain, all: 7,744

### Livestock Inventory (Dec 31, 2017)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Broilers and other meat-type chickens:</td>
<td>338</td>
</tr>
<tr>
<td>Cattle and calves:</td>
<td>8,638</td>
</tr>
<tr>
<td>Goats:</td>
<td>541</td>
</tr>
<tr>
<td>Hogs and pigs:</td>
<td>100</td>
</tr>
<tr>
<td>Horses and ponies:</td>
<td>721</td>
</tr>
<tr>
<td>Layers:</td>
<td>1,878</td>
</tr>
<tr>
<td>Pullets:</td>
<td>372</td>
</tr>
<tr>
<td>Sheep and lambs:</td>
<td>428</td>
</tr>
<tr>
<td>Turkeys:</td>
<td>21</td>
</tr>
</tbody>
</table>

---

See 2017 Census of Agriculture, U.S. Summary and State Data, for complete footnotes, explanations, definitions, commodity descriptions, and methodology.

* May not add to 100% due to rounding. 
* Among counties whose rank can be displayed. 
* Data collected for a maximum of four producers per farm. 
* Crop commodity names may be shortened: see full names at www.nass.usda.gov/go/cropnames.pdf. 
* Position below the line does not indicate rank. 
* (D) Withheld to avoid disclosing data for individual operations. (NA) Not available. (Z) Less than half of the unit shown. (-) Represents zero.
States’ Right-To-Farm Statutes

State of Tennessee
§ 43-26-101. Short title

This chapter shall be known and may be cited as the “Tennessee Right to Farm Act.”

§ 43-26-102. Definitions

As used in this chapter, unless the context otherwise requires:

(1) “Farm” means the land, buildings, and machinery used in the commercial production of farm products and nursery stock as defined in § 70-8-303;

(2) “Farm operation” means a condition or activity that occurs on a farm in connection with the commercial production of farm products or nursery stock as defined in § 70-8-303, and includes, but is not limited to: marketed produce at roadside stands or farm markets; noise; odors; dust; fumes; operation of machinery and irrigation pumps; ground and aerial seeding and spraying; the application of chemical fertilizers, conditioners, insecticides, pesticides, and herbicides; the employment and use of labor; marketing of farm products in conjunction with the production of farm products thereof; and any other form of agriculture as defined in § 43-1-113;

(3) “Farm product” means those plants and animals useful to man and includes, but is not limited to, forages and sod crops; grains and feed crops; dairy and dairy products; poultry and poultry products; livestock, including breeding and grazing; fruits; vegetables; flowers; seeds; grasses; industrial hemp; trees; fish; apiaries; equine and other similar products; or any other product that incorporates the use of food, feed, fiber or fur; and

(4) “Industrial hemp”:

(A) Means the plants, plant parts, or whole plant extract, whether in manufacturing process or reconstituted, of the genera cannabis that do not contain a delta-9 tetrahydrocannabinol (THC) concentration more than three-tenths of one percent (0.3%) on a dry mass basis and that are grown:

(i) From seed or propagules from seed certified by a certifying agency, as defined in § 43-10-103;
(ii) From seed or propagules derived from landrace varieties of industrial hemp; or

(iii) By an institution of higher education in this state that offers a baccalaureate or post-graduate level program of study in agricultural sciences; and

(B) Includes any industrial hemp-derived products that do not contain more than three-tenths of one percent (0.3%) of delta-9 tetrahydrocannabinol (THC) in a topical or ingestible consumer product.

§ 43-26-103. Nuisance

(a) It is a rebuttable presumption that a farm or farm operation is not a public or private nuisance. The presumption created by this subsection (a) may be overcome only if the person claiming a public or private nuisance establishes by a preponderance of the evidence that either:

(1) The farm operation, based on expert testimony, does not conform to generally accepted agricultural practices; or

(2) The farm or farm operation alleged to cause the nuisance does not comply with any applicable statute or rule, including without limitation statutes and rules administered by the department of agriculture or the department of environment and conservation.

(b) Any person who grows or processes industrial hemp in this state must obtain an annual license from the department of agriculture. In order to obtain and maintain an industrial hemp license, the grower or processor must consent to reasonable inspection by the department of agriculture of the person's industrial hemp crop and inventory.

(c) Viable industrial hemp in the possession or control of a person licensed by the department as a grower or processor shall not be considered marijuana under § 39-17-415. Non-viable industrial hemp or any product made from non-viable industrial hemp procured through a grower or processor licensed by the department, or otherwise procured in accordance with the department's rules, shall not be considered marijuana under § 39-17-415.

(d) The department of agriculture shall register landrace varieties of industrial hemp for the purpose of providing notice to licensed growers and processors of which landrace varieties of hemp are industrial hemp.

(e) The department of agriculture shall promulgate rules, including rules establishing reasonable fees for industrial hemp licenses, necessary to implement and administer an industrial hemp program in this state on an ongoing basis. All revenue collected from fees established pursuant to this subsection (e) shall be used exclusively for
administration of the industrial hemp program and regulation of industrial hemp.

§ 43-26-104. Applicability of chapter

This chapter does not affect any rights or duties that exist or mature under title 44, chapter 18. This chapter shall be broadly construed to effectuate its purposes.
County Regulation of Concentrated Animal Feeding Operations

*1 The Honorable Craig Fitzhugh
State Representative
425 5th Avenue North
Cordell Hull Building, Suite 664
Nashville, Tennessee 37243

Question 1
Do Tennessee's zoning statutes authorize counties to regulate concentrated animal feeding operations?

Opinion 1
No.

Question 2
Does Tenn. Code Ann. § 44-18-104 authorize counties to regulate concentrated animal feeding operations?

Opinion 2
No. Tennessee Code Annotated § 44-18-104 is not an independent source of authority for a county to enact zoning requirements or regulations; it merely states which zoning requirements and regulations are applicable in determining whether a feedlot, dairy farm, or poultry production house can be afforded absolute immunity from a nuisance claim.

Question 3
If counties may regulate concentrated animal feeding operations pursuant to Tenn. Code Ann. § 44-18-104, must the regulations have been in effect as of April 12, 1979?

Opinion 3
As stated in Opinion 2, Tenn. Code Ann. § 44-18-104 is not an independent source of authority for a county to enact zoning requirements or regulations. It merely states which zoning requirements and regulations are applicable in determining whether a feedlot, dairy farm, or poultry production house can be afforded absolute immunity from a nuisance claim. Generally, feedlots, dairy farms, and poultry production houses established prior to April 12, 1979, must comply with zoning requirements and regulations in effect on that date. But later zoning requirements and regulations can apply when the feedlot, dairy farm, or poultry production house has an “established date of operation” subsequent to the effective date of a zoning requirement or regulation.
**Question 4**

Does Tenn. Code Ann. § 13-7-114 affect the reservation of local regulatory authority found in Tenn. Code Ann. § 44-18-104?

**Opinion 4**

No. As stated in Opinion 2, Tenn. Code Ann. § 44-18-104 is not an independent source of authority for a county to enact zoning requirements or regulations. Therefore, there is no conflict between Tenn. Code Ann. § 13-7-114 and Tenn. Code Ann. § 44-18-104.

**Question 5**

What is the effect of Tenn. Code Ann. § 44-18-104(b) and (d), which direct compliance with the section when no zoning requirements or regulations exist?

**Opinion 5**

Tennessee Code Annotated § 44-18-104(b) and (d) do not direct compliance with the section when no zoning requirements or regulations exist. When no zoning requirements or regulations exist, these provisions convey that a person's compliance with the section is deemed to be established as a matter of law.

**ANALYSIS**

This opinion addresses local government regulation of “concentrated animal feeding operations.” This term has its origin in the federal Clean Water Act of 1972, 33 U.S.C. §§ 1251-1387. Congress passed this Act to “restore and maintain the chemical, physical, and biological integrity of the Nation's waters.” 33 U.S.C. § 1251(a). To achieve this goal, the Act established a permitting system that prohibits the discharge of pollutants from “point sources” into navigable waters except as authorized by a National Pollution Discharge Elimination System (NPDES) permit. 33 U.S.C. §§ 1311, 1342(a). The Act defines “point source” as including “concentrated animal feeding operations (CAFOs).” 33 U.S.C. § 1362(14). CAFOs with more than a defined number of animals require NPDES permits. 40 C.F.R. § 122.23.


In sum, CAFOs in Tennessee that require NPDES permits receive those permits through TDEC. See Tenn. Code Ann. § 69-3-108(b). See, e.g., Tennessee Envtl. Council v. Tennessee Water Quality Control Bd., 254 S.W.3d 396, 400 (Tenn. Ct. App. 2007). The questions posed concern the authority that counties might have to also regulate CAFOs.

**County Control of Private Property Through Zoning Laws and General Powers**

Since the power to control private property belongs to the State, see Ready Mix, USA, LLC v. Jefferson Cnty., 380 S.W.3d 52, 64 n. 17 (Tenn. 2012); Lafferty v. City of Winchester, 46 S.W.3d 752, 757 (Tenn. Ct. App. 2000), a county lacks the inherent authority to control the use of private property within its boundaries. Shore v. Maple Lane Farms, LLC, 411 S.W.3d 405, 425 (Tenn. 2013); Lafferty, 46 S.W.3d at 757. A county's power to control private property must derive from the State through specific delegation by the General Assembly. Shore, 411 S.W.3d at 426; Edwards v. Allen, 216 S.W.3d 278, 284 (Tenn. 2007). Accordingly, the


The grants of power in these statutes are broad, *Fallin v. Knox Cnty. Bd. of Comm'r's*, 656 S.W.2d 338, 342 (Tenn. 1983), but not without limit. *421 Corp. v. Metropolitan Gov't of Nashville and Davidson Cnty.*, 36 S.W.3d 469, 475 (Tenn. Ct. App. 2000). Ever since county zoning statutes were enacted, counties have not been authorized to regulate “agricultural uses” of property: *This part shall not be construed as authorizing the requirement of building permits nor providing for any regulation of the erection, construction, or reconstruction of any building or other structure on lands now devoted to agricultural uses or which may hereafter be used for agricultural purposes, except on agricultural lands adjacent or in proximity to state federal-aid highways, public airports or public parks; provided, that such building or structure is incidental to the agricultural enterprise. Nor shall this chapter be construed as limiting or affecting in any way or controlling the agricultural uses of land.*


These statutory prohibitions on county regulation of buildings and other structures devoted to agricultural uses and on county regulation of agricultural uses of land are reaffirmed in Chapter 1 of Title 5 of the Code, which governs the powers of counties generally. In 1995, the General Assembly granted counties certain powers that previously had been granted to municipalities but made clear that it was not granting counties “the power to prohibit or regulate normal agricultural activities.” *See 1995 Tenn. Pub. Acts ch. 264* (codified at Tenn. Code Ann. § 5-1-118(b)). Furthermore, the General Assembly reiterated: “The powers granted to counties by this part do not include the regulation of buildings used primarily for agricultural purposes; it being the intent of the general assembly that the powers granted to counties by this part should not be used to inhibit normal agricultural activities.” *See id.* (codified at Tenn. Code Ann. § 5-1-122).

In sum, Tenn. Code Ann. § 13-7-114(a), § 5-1-118(b), and § 5-1-122 prevent counties from regulating buildings and other structures devoted to agricultural uses or purposes and from regulating normal agricultural activities and the agricultural uses of land.

Neither “agriculture” nor its adjectival form, “agricultural,” is defined in any of these provisions, but the definition of “agriculture” provided in Tenn. Code Ann. § 43-1-113(b)(1) applies “unless a different definition is specifically made applicable to the part, chapter, or section in which the term appears,” Tenn. Code Ann. § 43-1-113(a), just as the identical definition of “agriculture” in Tenn. Code Ann. § 1-3-105(a)(2)(A) applies wherever “‘agriculture’ is used in the Code “unless the context otherwise requires.” Tenn. Code Ann. § 1-3-105(a)(2)(A). Thus, by applicable statutory definition “agriculture” means:

(A) The land, buildings and machinery used in the commercial production of farm products and nursery stock;

(B) The activity carried on in connection with the commercial production of farm products and nursery stock;

(C) Recreational and educational activities on land used for the commercial production of farm products and nursery stock; and

(D) Entertainment activities conducted in conjunction with, but secondary to, commercial production of farm products and nursery stock, when such activities occur on land used for the commercial production of farm products and nursery stock.

*Tenn. Code Ann. § 1-3-105(a)(2)(A) and § 43-1-113(b)(1). And because the natural and ordinary meaning of “agricultural” is “of or relating to agriculture,” this definition of “agriculture” applies as well to define “‘agricultural’ as used in Tenn. Code Ann. § 13-7-114(a), § 5-1-118(b), and § 5-1-122. See Tenn. Att'y Gen. Op. 17-35 (July 26, 2017).*
Based on the applicable definitions of “agriculture” and “agricultural,” CAFOs clearly involve “agricultural” activities and the “agricultural” use of land and structures. Thus, a county is not authorized to regulate CAFOs under its zoning powers or its general powers under Chapter 1 of Title 5 of the Code.

Tennessee Code Annotated §§ 44-18-101 to -104

Tennessee Code Annotated §§ 44-18-101 to -104 is a right-to-farm law that protects “feedlots, dairy farms, and poultry production houses” from nuisance suits. Margaret Rosso Grossman & Thomas G. Fisher, Protecting the Right to Farm: Statutory Limits on Nuisance Actions Against the Farmer, 1983 Wis. L. Rev. 95, 118 n. 108 (1983). Right-to-farm laws became prevalent throughout the United States in the late 1970s as a means to curtail the conversion of farmland to nonagricultural uses. Id. at 97, 117-118. These laws were designed to stem farmland conversion by insulating farming operations from nuisance liability. Id. at 117-118. While the States differ in their approach to providing this insulation, right-to-farm laws generally codify the common-law concept of “coming to a nuisance.” Id. at 118.

Tennessee’s law embodies the “coming to a nuisance” doctrine in Tenn. Code Ann. § 44-18-102. Subsections (a) and (b) of this statute shield feedlots, dairy farms, and poultry production houses from nuisance claims when they are in compliance with applicable rules and regulations. Subsections (a) and (b) specify that when conditions or circumstances alleged to constitute a nuisance are subject to the rules and regulations in § 44-18-103 or § 44-18-104, proof of compliance with those rules and regulations is an “absolute defense” to a nuisance action when the plaintiff's date of ownership of realty is subsequent to the defendant's “established date of operation” or when the plaintiff’s actual or proposed use of realty for residential or commercial purposes is subsequent to the defendant's established date of operation. Subsection (c) states that the “normal” noises, odors, and appearance of feedlots, dairy farms, and poultry production houses are not grounds for a nuisance action if the plaintiff's date of ownership is subsequent to the established date of operation.

The statutory provision in question — Tenn. Code Ann. § 44-18-104 — addresses the “applicability of zoning requirements and regulations.” As explained above, compliance with § 44-18-103 and § 44-18-104 can afford a feedlot, dairy farm, or poultry production house with absolute immunity from a nuisance action. Accordingly, § 44-18-103 sets forth the TDEC rules that are “applicable” and § 44-18-104 sets forth the “zoning requirements” and “regulations” that are “applicable” for the purpose of determining whether absolute immunity is to be afforded to a feedlot, dairy farm, or poultry production house under Tenn. Code Ann. § 44-18-102.

The applicable zoning requirements and regulations under § 44-18-104 are generally as follows: Feedlots, dairy farms, and poultry production houses established prior to April 12, 1979, must comply with zoning requirements and regulations in effect on that date; and later zoning requirements and regulations can apply when the established date of operation of the feedlot, dairy farm, or poultry production house is subsequent to the effective date of a zoning requirement or regulation.

In sum, § 44-18-104 merely sets forth which zoning requirements and regulations apply when determining whether a feedlot, dairy farm, or poultry production house is to be afforded absolute immunity from a nuisance claim. But § 44-18-104 does not provide authority for a county to enact zoning requirements or regulations. See Howard v. Willocks, 525 S.W.2d 132, 135 (Tenn. 1975) (counties have no authority other than that expressly given by statute or necessarily implied from the provisions of such statute).

Moreover, the General Assembly specifically provided in its definition of “zoning requirement” that “[n]othing in this chapter shall be deemed to empower any agency described in this definition to make any regulation or ordinance.” Tenn. Code Ann. § 44-18-101(14). Consequently, Tenn. Code Ann. § 13-7-114, which prevents counties from using their zoning power to regulate structures and land used for agricultural purposes, is not in conflict with Tenn. Code Ann. § 44-18-104 because there is no independent source of zoning power bestowed upon any local entity under this right-to-farm law.
5. The last question concerns the effect of subsections (b) and (d) of Tenn. Code Ann. § 44-18-104 when no zoning requirements or regulations exist. Subsection (b) states that “[a] person shall comply with this section as a matter of law where no zoning requirement exists,” and subsection (d) similarly states that “[a] person shall comply with this section as a matter of law where no regulation exists.” (Emphasis added.)

When the word “shall” appears in a statute, it is normally construed as a mandatory, Home Builders Ass’n of Middle Tennessee v. Williamson Cnty, 304 S.W.3d 812, 819 (Tenn. 2010), and means “must.” Bateman v. Smith, 183 Tenn. 541, 543, 194 S.W.2d 336, 336 (1946). Such a construction here, however, would lead to an absurd result: a person would be commanded to comply with zoning requirements and regulations that do not exist. A statute is not to be interpreted in a manner that yields an absurd result. State v. Fleming, 19 S.W.3d 195, 197 (Tenn. 2000). To avoid an absurd result in this instance, the most reasonable construction is that a person is deemed “as a matter of law” to have complied with the section when no zoning requirements or regulations exist. See State v. Turner, 913 S.W.2d 158, 160 (Tenn. 1995) (“We must seek a reasonable construction in light of the purposes, objectives, and spirit of the statute based on good sound reasoning.”).

*6 Herbert H. Slatery III
Attorney General and Reporter
Andrée Sophia Blumstein
Solicitor General
Laura T. Kidwell
Senior Counsel

Footnotes
1 Federal regulations initially define an “animal feeding operation” as follows:
   Animal feeding operation (“AFO”) means a lot or facility (other than an aquatic animal production facility) where the following conditions are met:
   (i) Animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and
   (ii) Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.
40 C.F.R. § 122.23(b)(1). The regulations then classify the AFOs as large, medium, or small “concentrated animal feeding operations” based on the type and number of animals and the manner in which pollutants of the operations are discharged into the waters of the United States. 40 C.F.R. § 122.23(b)(4), (6) and (9).
2 Tennessee has two right-to-farm laws. 4 Am. Law Zoning § 33:5 n. 7 (5th ed). The other is codified at Tenn. Code Ann. §§ 43-26-101 to -104. Id. See Shore, 411 S.W.3d at 421-424.
3 “‘Established date of operation’ means the date on which a feedlot, dairy farm or poultry production house commenced operating.” Tenn. Code Ann. § 44-18-101(3). The date of a subsequent expansion is “deemed to be a separate and independent ‘established date of operation,’” but does not divest the feedlot, dairy farm, or poultry production house of its previously established date of operation. Id.
4 Tennessee Code Annotated § 44-18-104 provides:
   (a) The applicability of zoning requirements is as follows:
   (1) A zoning requirement shall apply to a feedlot, dairy farm or poultry production house with an established date of operation subsequent to the effective date of the zoning requirement;
   (2) A zoning requirement shall not apply to a feedlot, dairy farm or poultry production house with an established date of operation prior to the effective date of the zoning requirement;
   (3) A zoning requirement that is in effect on April 12, 1979, shall apply to a feedlot, dairy farm or poultry production house with an established date of operation prior to April 12, 1979; and
   (4) A zoning requirement adopted by a city shall not apply to a feedlot, dairy farm or poultry production house that becomes located within an incorporated or unincorporated area subject to regulation by that city by virtue of an incorporation or annexation that takes effect after April 12, 1979.
   (b) A person shall comply with this section as a matter of law where no zoning requirement exists.
(c) The applicability of regulations shall be as follows:

1. A regulation shall apply to a feedlot, dairy farm or poultry production house with an established date of operation subsequent to the effective date of such regulation;

2. A regulation shall not apply to a feedlot, dairy farm or poultry production house with an established date of operation prior to the effective date of the regulation;

3. A regulation that is in effect on April 12, 1979, shall apply to a feedlot, dairy farm or poultry production house with an established date of operation prior to April 12, 1979; and

4. A regulation adopted by a city shall not apply to a feedlot, dairy farm or poultry production house that becomes located within an incorporated or unincorporated area subject to regulation by such city by virtue of an incorporation or annexation that takes effect after April 12, 1979.

(d) A person shall comply with this section as a matter of law where no regulation exists.

5. “Zoning requirement” means a regulation or ordinance that has been adopted by a city, county, township, school district, or any special-purpose district or authority, that materially affects the operation of a feedlot, dairy farm or poultry production house ....” Tenn. Code Ann. § 44-18-101(14).

6. “Regulations’ means a resolution by the county legislative body or an ordinance by the governing body of any municipality regulating or prohibiting the normal noises of animals or fowls, the noises in the operation of the equipment, the odors normally associated with any feedlot, dairy farm, or poultry production house, or the preclusion of any animals or fowls from within the city or from within a defined area of the county.” Tenn. Code Ann. § 44-18-101(12).

7. See note 4 supra.
Humboldt v dies after drowning in

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c County June 16
The iff's De around w scene p until the A r
planned Humbol She h parents Medin charge c

TCAP
The Association has 12 dis-

tricts across the state.
Smothers will be representing
District 11 which is comprised
of the counties of Carroll,
Weakley, Gibson, Obion, Lake,
Dyer and Crockett.
"I plan to contribute in every
possible way to help this great

HUNTINGDON SCHOOL BOARD
Public meeting planned for Thursday
to discuss school opening

shirleynanney "School starts Aug. 4 and 30.
Tenn. School System for Eq-
Remembering those who died for freedom’s sake

Memorial Day 2020 is now history. The usual Memorial Day ceremonies in Huntington’s Thomas Park and McKenzie’s downtown park and at Liberty All United Methodist Church were all cancelled this year due to the coronavirus pandemic.

I hope everyone took time to pause and think of the million plus members who have died for their country and our freedom.

As is my custom, I went to the Gibson Cemetery in Henry County where my uncle Elbert McClure is buried. He died of wounds he received in World War II.

The first official Decoration Day was May 30, 1866. General John A. Logan is credited with declaring the day which was observed at Arlington National Cemetery. The graves of more than 20,000 Union and Confederate soldiers were decorated that day.

Decoration Day eventually became Memorial Day to honor those who died in service of their country and was declared a national holiday in 1971.

I am only a baby when my uncle died in 1944, but in later years I can remember hearing family members talk about how his death devastated the family for a very long time. I am glad to see parks where monuments are erected and American flags flown to honor those men and women who have died for freedom.

I recently built Veterans Cemetery in Parker’s Cross family who are still living and in 1982 my uncle was buried there. Last summer, my wife and I visited William Henry Clay Cemetery which is located there.

We drove to Fort Loudon Cemetery and built at the top of a hillside and was to beautiful.

America is still the most wonderful and greatest country in the world. It is true we have had problems, but we have always persevered in time of trouble.

I am very concerned that we still have freedom due to the sacrifices that were made by our past and present soldiers.

Huss University, and a doctorate in jurisprudence from the Nashville School of Law. Huss served as director of schools at South Carroll County from 1999 to 2003.

Huss also served as director of schools at Gibson County and as director of LEA Support Services with the Tennessee Department of Education. Huss and his wife, Jamie, have two children together, Preston, 9, and Nathan, 7, and Huss has two sons from a previous marriage. Brandon Huss, 26, and Hunter, 18, work in the

In other business:

The board acknowledged the resignations of pre-K teacher Genia Maddox and teacher’s aide Alicia Holten.

The board acknowledged the re-employment of all certified teachers, non-certified staff, and cafeteria staff members, except those who have received a letter.

The board was granted to Tonya Davis and Selina Peterson.

The board approved amendments to the current fiscal year budget.

To the concerned citizens of Big Buck Community and Carroll County:

I am writing this letter so you know that we (county commissioners) and the mayor aren’t disregarding your concerns. As your friends, we understand your concern and the concerns of your neighbors. (County commissioners) have been approached by other concerned citizens in months and years past in regard to concentrated animal feeding operations, and we expect that these operations continue to be planned and built in Carroll County and other counties around us.

As a county commissioner, I want to be clear on the county’s position in all of this. I encourage you to read the Tennessee Attorney General’s opinion on this specific matter in relation to county regulation of these operations (Tenn. Op. Att’y Gen. No. 18-30 (Tenn.AG), 2018 WL 3490044).

According to the Attorney General, the state of Tennessee’s zoning statutes do not “authorize counties to regulate concentrated animal feeding operations.” Even though Carroll County does not have local zoning requirements or regulations in respect to agriculture or concentrated animal feeding operations, these operations and their activities would be exempt from them through the state of Tennessee, if we did.

As you will see in the Attorney General’s opinion, while counties have been granted the power to prohibit or regulate certain powers of zoning and regulations, they have not been granted “the power to prohibit or regulate normal agricultural activities.” Likewise, these operations cannot be regulated by a local private act. The granting of these powers would have to come from the state of Tennessee.

Until the laws and statutes change, Carroll County government has no power to prohibit or regulate these operations and their activities.

It is important to note that the owner of this operation will have to adhere to federal and state regulations, including environmental regulations, as well as state guidelines. It is our opinion that he is doing so and will do so, as these agencies are already involved in the process.

I know this isn’t the news some had hoped for, but we always strive to serve you with honesty and transparency. I hope this helps you understand the county’s stance on this matter.

Sincerely,

Larry Spencer
Third District
County Commissioner

Big Buck resident wants pig operation moved

Dear Editor,

I purchased a little over 100 acres back in 2018 in a small community known as Big Buck in Huntington. The property lies between Bright Road and Pearl Lake with Renfro being the connecting major road. Over the last few weeks we in Big Buck have been advised that the developers plans were made, but overall I believe our concerns fell on deaf ears.

So I’m writing this to you, whom I believe are very well known in this area to reach out and hope that things are made to be done right. I believe that what he’s doing to us in Big Buck. We are a very diverse group of homeowners, young and old, some of whom have been here their whole lives and others such as myself, only 15 years, and a few who are even newer to our area.

As I indicated earlier, does not live here in Big Buck, but in McKenzie. As a group, the residents of Big Buck are all concerned about a number of things, including a decrease in property values, contamination of our well water, the air pollution, odorous odors, and possible illnesses that can come with this type of endeavor. Most all of these issues can lead to serious illnesses. Our concerns are legitimate ones and not without merit. So having said all that, what I’d like to convey to you is that we understand where he’s coming from based on our meeting last Thursday.

Despite the tone of the meeting, we had hoped he would understand our views as well. Not sure that happened. However, I would still ask him to search his soul and see if he can find it in himself to think of all the others he’s going to hurt, not only physically, but certainly emotionally and financially, possibly even medically. He’s got a good support system in his family and friends who can help him find somewhere else to build his CAFO, hopefully in a more rural environment with less resistance and pressure.

Lastly, I would like to invite him to my home so that he can see just what I and my family are living for. I would encourage him to drive around our little community and actually see us, not as potential property to buy, but as homeowners and neighbors, enjoying the homes and lives we’ve built and are hoping to maintain for ourselves and our families. If none of this strikes a chord with him, I will still love his family, and they, or can’t, or won’t, see that we’re not trying to end his dreams, we’re just trying to get him to realize that he can make a change here, and maybe see that he can find it in himself to think of all the others who are going to hurt. We’re not here to create a problem, but to find a solution.

Sincerely,

[Signature]

FROM PAGE 1A
rs may try to get impact payment

Dear Editor,

As a Carroll County resident living in the Big Buck community, I am opposed to the construction of two wean to finish hog barns in our community. What has been shocking is the deaf ear we have received from local, state, and federal elected officials. At the county level, there appears to be a “don’t touch it” opinion.

I have been told that the county has no say concerning hog barns. Our Founding Fathers envisioned that most regulation and control would be at the town and county levels, with minimum control from the state and federal government. Have any of you ever voted to give up zoning and permitting rights in your county?

I find it very interesting that when it comes to Concentrated Animal Feeding Operations (CAFOs) the National Historical Preservation Act defines that hog CAFOs must be kept at least 3/4 miles away from historical sites. Counties in neighboring states also have restrictions in placing CAFOs within specific distances of homes, but apparently not in Carroll County. Someone visiting and spending 10 minutes looking at an old building must be protected against the offensive pig odor, but if you live next to a CAFO in Carroll County, well the attitude is just live with it 24/7.

If someone spits in you tea, they are bad. If someone puts something in your food or medicine, it is a crime. Just look at all the seals required on packaging to protect us. But if someone stinks up our air, what are we—oh ya—we are just a bunch of complainers.

Why does pig manure smell bad? Just like our taste tells us that if something is bitter it is likely poisonous and should be avoided. If something smells bad it is well, bad, and should be avoided.

And why does pig manure smell so bad? Of the 100s of chemicals in pig manure gas, the worst are Methane, Ammonia, and Hydrogen Sulfide. Ammonia burns eyes, skin, throat, and lungs. All of which are quite uncomfortable. Hydrogen Sulfide is the big one. Hydrogen Sulfide is very poisonous, corrosive, and flammable, and can lead to apnea, coma, convulsions, dizziness, headaches, stomach upset, and nerve damage. At a level of 100 PPM Hydrogen Sulfide (the surface of a manure pit is 500-1000 PPM) causes shock, convulsions, inability to breathe, unconsciousness, coma, and death.

It is argued that it is not so bad; farmers are around it all the time. Per the September 2015 National Hog Farmer, 1% of hogs in CAFOs die from their own Hydrogen Sulfide each year. Per the National Traumatic Occupational Fatality Data Base an average of one farm worker dies every year from manure gas.

One does not need to die to be affected by hog manure. The University of Southern California Keck School of Medicine published in 2012 research entitled Human Impairment from Living Near Confined Animal (Hog) Operations. They studied people in Ohio that lived within 9,842 feet of hog CAFOs and compared them to those that did not live near a hog CAFO. The report summarized that “Beyond being unpleasant, effluent gasses adversely affect human lungs, brains, and other organs”. Measured data in the report showed that compared to a normal population those living within 9,842 feet of a hog CAFO, had an 81% increase in memory loss, 58% increase in extreme fatigue, 73% loss of balance, 42% increase in dizziness, 62% loss of smell, 58% increase in eye irritation, 65% increase in confusion, 47% fatigue, 86% increase in depression, and a 67% increase in tension. This was just a sampling from the multiple pages of tests cited in the report.

Many people will simply say “I’m OK, this does not affect me”. Since December 2019, bills have been introduced in the US House and Senate that would stop construction of CAFOs (chicken, cattle, hog) in the future. In the mean time, while the legislation is being worked on, the corporate farms will be working overtime to bring a CAFO to your neighborhood while they can still get away with it. These are 13,248 housing units in Carroll County and 662 farms. We, the residents of Carroll County, must have some say about what is happening to our air and water.

Garry Korbel
Huntingdon, TN 38344
Concerned citizens address hog barns and Shooting Sports Park issues

shirleyNANNEY
Editor

Approximately 50 concerned citizens showed up at the Carroll County Legislative Body meeting Monday night to discuss two different issues they felt needed addressing — one was the proposed hog barns in the Big Buck Community and the other was the safety issue at the Carroll County Shooting Sports Park.

Billy Webb, who lives in the Big Buck Community, spoke during the Concerned Citizens portion of the meeting.

One of these type barns in other communities have advised the Big Buck Community residents to fight it.

He said it is understood that commissioners have said they have no control over it and can't stop it.

“We also realize that if [name redacted] is bound and determined to do this, we probably can't stop him,” said Webb. “But I tell you this, I promise you we will explore every legal option to stop this before or after they are built. We will monitor our wells and ground water, keep odor logs, and look every day for any potential violations.”

He added that a lawsuit would probably be filed over the issue and would be handled by a law firm that specializes in such matters.

“This will never be over for us and I have told him this,” said Webb. Cindy Sanders, who lives on North Fork Creek Road, spoke during the Citizen’s Forum, concerning the safety issue at the Carroll County Shooting Sports Park.

She said she and her husband were out by their shop on May 16 at 6:15 p.m. when they heard a bullet come whizzing by them.

“My first reaction was shock and my second was anger,” she said.

She said her sister-in-law, Diane Pritchard, who lives across the road from her has been dealing with this problem for several years.

See CONCERNED, Page 3A

Published in Carroll County NEWS-LEADER
Wednesday June 10, 2020

Pg 1 of 2
The man and two women arrested in connection to the May 27 shooting of a local teen are scheduled to appear in Weakley County General Sessions Court on June 17.

Cannon Magourick, 18, was shot at least seven times outside his home at 2020 Union Church Road near McKenzie in Weakley County.

Malcolm Lee, Jr., 18, who is believed to live in the McKenzie area, was taken into custody on May 29 during a traffic stop in McEwen and charged with attempted murder.

Mary Beth Lyles, 20, of Martin was charged with accessory after the fact for allegedly obtaining the vehicle Lee was caught in. Smith was in that car with Lee when he was arrested.

More people may be charged as the investigation continues, according to Investigator Randall McGowan with the Weakley County Sheriff's Department, though no other arrests had been made in the case as of press time Monday.

Lee is believed to be one of at least two shooters involved.

As of press time last week, Magourick was listed in critical but stable condition at Vanderbilt Medical Center in Nashville, but updated information regarding his condition was not available as of press time this week.

CONCERNED

years.

When you review the layout of the shooting range on Google maps you can see that the long distance rifle section is in direct line with both the Sanders and Pritchard properties.

"As our elected officials, I am asking for your support and backing to ensure that this unsafe practice is corrected before anyone is hurt or killed," she said.

Dianne Pritchard, Paul Haselbrink and Derek Skelton also spoke about their safety concerns about the park. Pritchard read a statement from Malcolm Pearson, who owns Carroll Hardwood located in the area. He said he feared for the safety of his employees.

County Mayor Joseph Butler said the rifle range has been closed.

"It has been closed indefinitely until maybe other measures can be put in place," said Butler who noted the county does not own the park, but does have funds in the budget to operate it.

Commissioners passed the five resolutions that were presented at the Resolutions Committee meeting, including:

- A resolution to amend fees, rules, and regulations for the Civic Center. The changes include a $300 per day fee for the Civic Center and $200 per day for the Exhibit Building for any profitable organization using the facilities and charging an admission fee; $200 per day for the Civic Center and $100 per day for the Exhibit Building for use by non-profit organizations, religious entities, cultural or fraternal groups, civic groups or clubs, general public meetings, or family reunions provided that no admission is charged, and no fee for schools, city governments, and county government for use of the Civic Center, Exhibit Building, or fairgrounds.

- A resolution to accept a $100,000 impact payment from the Carroll County E911 Board for the purchase of emergency communications equipment.

- A resolution to transfer $2,000 in donations received from the Huntingdon Elks Lodge for the purchase of personal protective equipment for the Carroll County Fire Department.

- A resolution to amend line items budgeted for the Prevention Coalition account by $5,712 in the current fiscal year budget to account for funds received from the state.

- A resolution to transfer $9,740 in insurance money received for water damage at Carroll Academy.

The rules were suspended in order for commissioners to vote on six more resolutions that were presented at the last minute. County Mayor Joseph Butler said they were time sensitive and needed to be acted upon.

All of them involved budget amendments except one that changed the name of the Clarksburg Utility District to the South Carroll Utility District because it serves more than just Clarksburg.

Elected as notaries were: Kim A. Callahan, Jennifer Carroll, Cristy L. Gooch, Karen Hilton, Angela Hollowell, Daniel Hollowell, Sandra Reynolds and Chuck Sisson.
LETTERS TO THE EDITOR

Concerned About Hog Barns

As a concerned citizen of Big Buck Community, I am opposed to the construction of two wean-to-finish hog barns on Bright Road off Renfro Road in Huntington, Carroll County. I am writing this from the perspective of a dietitian with an advanced degree in community health.

Corporate livestock facilities, known as concentrated animal feeding operations (CAFOs), threaten the health of communities and pollutes the air and water. CAFO-related pollution is more than a nuisance; it is dangerous. Manure from CAFOs contains more than 150 pathogens that have the potential to contaminate water supplies, while fumes and particulate matter elevate rates of asthma, lung disease, and bronchitis among farm workers and people living nearby. Confined large numbers of animals in close proximity require routine antibiotic regimens, and this, in turn, exacerbates the global crisis of antibiotic resistance.

Today the pork, broiler chicken, and beef sectors are highly concentrated in the hands of a few companies that exercise enormous market power, and control the practices used across these facilities. CAFOs are tailored to produce vast quantities of meat, eggs, and dairy that can be sold to consumers at low prices. However, these low consumer prices hide true cost of production. Supermarket prices do not account for the fact that the public heavily subsidizes CAFOs through the United States’ vast system of agricultural price supports and subsidies.

This proposed site will house two hog barns, each holding 2,600 head (5,200 total). Each barn will generate 800,000 gallons of manure (1,600,000 gallons total) annually. Manure will be applied to farmland around the barns and injected into and applied spring or fall prior to crop planting.

Localized harms include impaired drinking water, antibiotic resistance, air pollution, and waste spills. More than 150 pathogens are found in animal manure. Six of these, Campylobacter, Salmonella, Listeria, E. coli, Cryptosporidium, and Giardia, account for 90 percent of all human foodborne and waterborne diseases. Though healthy people may be exposed to these pathogens often recover after a bout of diarrhea, more vulnerable groups, and those with weak immune systems are at risk of severe illness or death.

Odors can harm a community’s quality of life, preventing people from spending time outside, and even impacting mental health.

I am fighting for clean water and breathable air in my community. Citizens concerned with the environmental and health threats that CAFOs pose to their communities must demand much more from their representatives at the local, state, and federal levels. Just because it’s not illegal, it doesn’t make it right.

Renfro Road
Huntington

The Issue About Police, Guns

There are no laws which properly cover the prosecution of police officers, and it would be very difficult to create laws which could.

Police are protected by the fact (ideally) that they act at the behest of the State to enforce its laws. This requires that said officers must see convictions such as the case in the Freddie Gray incident, where all of the charges resulted in either acquittals or were dropped.

That said, how do we go about “fixing” what is in and of itself a fundamental requirement of the police? You can hire all the “good” people you want police. This puts the anti-gun crowd in a bit of a pickle. Their claim is you don’t need a gun because the police are there to protect you. Now there is talk of eliminating police in some cities. Will they then claim everyone needs guns?

Concealed Carry Permits
The laughter started down near her belly. She had to put a hand on the chain holding the swing in place to keep from doubling over. It took her a few minutes before she could speak.

She didn't exactly say that she wouldn't go to the prom with me if I was the last guy on earth. But she came pretty darn close to it...

The moonbeams melted and the night grew dark and cold.

And I discovered several things about myself and those special "life moments" before I could get back to the car. Maybe I wasn't as cool as I thought. And those dim yellow porch lights don't always give off a romantic glow...

And some moments you just don't ever want to get back.

Respectfully,
Kes

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LETTER TO THE EDITOR POLICY

Letters to the editor bear the opinion of the letter writer, and not necessarily that of the newspaper management or staff. Letters of opinion are not verified for accuracy of fact and truly stand only as the writer's opinion.

Letters to the editor of public interest are solicited. Most letters, not libelous or harmful, will be published. The editorial staff may restrict the number of letters dealing with the same subject matter. The signature of the writer must be affixed to the letter with a verifiable address and phone number. The address and phone number will not be published at the request of the writer, however the name will be published. Tri-County Publishing has the right to edit the material while preserving the intent of the letter.

The McKenzie Banner and Dresden Enterprise reserve the right to refuse any item deemed libelous, not of public interest, or commercial in nature. The editorial staff reserves the right to edit the material while preserving the intent of the letter.

Upon receipt in the office of Tri-County Publishing, the letter becomes the property of the newspaper and will be retained in the files. Tri-County Publishing may solicit contrary opinion concerning the content of the letter.

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ed States Constitution
Bill of Rights: Amendment I

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the government for a redress of grievances.
Letters to the Editor

Dietitian opposes hog barns in Big Buck Community

Dear Editor,

As a Concerned Citizen of Big Buck Community, I am opposed to the construction of two (2) wean-to-finish hog barns on Bright Road off Reafroe Road in Huntingdon, Carroll County, TN. I am writing this from the perspective of a dietitian with an advanced degree in community health.

Corporate livestock facilities, known as concentrated animal feeding operations (CAFOs), threaten the health of communities and pollutes the air and water. CAFO-related pollution is more than a nuisance, it is dangerous. Manure from CAFOs contains more than 150 pathogens that have the potential to contaminate water supplies, while fumes and particulate matter elevate rates of asthma, lung disease, and bronchitis among farm workers and people living nearby. Confining large numbers of animals in close proximity requires routine antibiotic regimens, and this, in turn, exacerbates the global crisis of antibiotic resistance.

Today the pork, broiler chicken, and beef sectors are highly concentrated in the hands of a few companies that exercise enormous market power, and control the practices used across these facilities. CAFOs are tailored to produce vast quantities of meat, eggs, and dairy that can be sold to consumers at low prices. However, these low consumer prices hide true cost of production. Supermarket prices do not account for the fact that the public heavily subsidizes CAFOs through the United States' vast system of agricultural price supports and subsidies.

This proposed site will house two hog barns, each holding 2,600 head (5,200 total). Each barn will generate 800,000 gallons of manure (1,600,000 gallons total) annually. Manure will be applied to fields around the barns and injected and applied spring or fall prior to crop planting.

Localized harms include impaired drinking water, antibiotic resistance, air pollution and waste spills. More than 150 pathogens are found in animal manure. Six of these, Campylobacter, Salmonella, Listeria, E coli, Cryptosporidium, and Giardia, account for 90 percent of all human foodborne and waterborne diseases. Though healthy people who are exposed to these pathogens often recover after a bout of diarrhea, some vulnerable groups, and those with weak immune systems at risk of severe illness or death.

Odors can harm communities' quality of life, prevent families from going outdoors and impacting mental health. I am fighting for clean water and breathable air in my community. Citizens concerned with the environmental and health threats that CAFOs pose to their communities must demand more from their representatives at the local state and federal levels. Just because it's not illegal, it doesn't make it right.

Sincerely,

[Name]

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Huntingdon School Board pass policies and hires staff for 2020-2021 school year

One resolution and three policies approved. Budget amendments were approved.

The retirements of Helen McClain, Debbie Stinson and Jan-

Concerns About Proposed Hog Barn

purchased a little over 100 acres in 2018 in a small community known as Big Buck in Huntington. The property lies between Bright Road and Pearle Lane with Renfro being the connecting major road. Over the last few weeks, we at Big Buck have been advised of a proposal to erect two pig barns (a CAFO) containing 2,400 pigs each on this property which we believe he is doing with the backing of Tosh Farms. Apparently a lot of thought and planning has gone into his decision and we, the community who are in the direct path of this, are coming late to the party.

We held a community meeting Thursday May 14 and invited Tosh Tosh to discuss and share our concerns with him, also along with Jimmy Tosh, his friends and family attended. Discussions were had back and forth, concerns were shared, plans were made, but overall I believe our concerns fell on deaf ears. So I'm writing this to


It's Worse Than Kissing Your Sister!

Two things are becoming crystal clear as we muddle our way through this pandemic mess. Both have to do with how we are governed. Neither one is very comforting. And, really, deep down, in the honest section of our hearts, we have known this malady is the government's solution to every single problem we face—just throw enough money at it; and in some magical mystical way, everything will be "fixed!"

How shortsighted.

I used to think along the same lines. When I was nine years old, I kept almost thirty dollars! I was thirteen years old. I could not keep playing with the $2.50 Western Auto Revelation glove I'd "managed with" for most of a decade. Thirty dollars in 1960 was a pipe dream. I compromised for an old MacGregor Goldsmith
Dear Editor,

I'm one of many who live in an area that has countless, beautiful views, running streams and rivers. With trees that are so big and beautiful that one can only guess how old they really are. Land to grow pretty much anything a heart desires and enough wildlife to enjoy for a lifetime.

We call this area our home, it's Big Buck in Carroll County, and proud to say, we have at least 3 different zip codes. To me, it's an American dream. A place where one can live free, and do as one pleases. Some of us have been here their whole lives, and some, like me, moved here at love at first sight.

Here, I would like to believe that a friend or neighbor wouldn't do or say anything to offend because we all live here in this land we call home, together.

Unfortunately, the people of Big Buck have discovered that many acres have been sold, you might say, right in our own back yard. The individual that bought the land has high hopes and big dreams of making a living in our neck of the woods. He plans on raising hogs, which, I've been told, number about 5,000.

Remember, this is still America. Land of the free and home of the brave. Where one shouldn't have the right to tell another land owner what they can or can't do on their own property. But, there's also a known fact of common courtesy. Where one knocks on a neighbor's door, sets down and discusses plans and dreams that will affect several individuals. Granted, I was young once and literally felt that what the world could offer, all one had to do was just grab and go.

But, one has to live with one's actions and their own consciousness.

Sincerely,

CCBB

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**POLICE**

protested Floyd's death in McKenzie.

"We had a little protesting, but it was all calm and peaceful," said Moates. "We even helped them out by providing drinks."

Moates attended meetings of the Tennessee Police Chiefs Association last week, and police reform was one of the topics discussed at those meetings.

Moates said there was talk about putting a special task force together to help police departments across the state address this issue and hopefully come up with consistent use-of-force policies that can be adopted statewide.

Dickson, Smothers, and Moates all said that their officers are not trained to or allowed to use choke holds, and they all said their departments have strict policies against racial profiling.

The HPD's policy on racial profiling states: "No law enforcement action shall ever commence solely on the basis of the individual's actual or perceived race, color, ethnicity or national origin [and] personnel shall not engage in racial profiling and shall respect the dignity of all persons ..."

"We are constantly looking at our policies to see if there need to be any changes, and we appropriately make those changes when necessary," said Moates.

Dickson said that his deputies are required to put in 40 hours of in-service training every year, and how to safely restrain a suspect without causing injury and how to judge when it is and when it is not necessary to use deadly force are a part of that training.

"We try to treat people the way we want to be treated ourselves," said Smothers. "And if I ever found an officer discriminating against anyone, that person would be out the door."

According to Smothers, there hasn't been an incident of a HPD officer using deadly force in at least 30 years.

Moates said there haven't been any fatal shootings by police during the seven years he has headed up the MPD.

Dickson said there have been a couple of instances over the past decade in which deputies have used deadly force resulting in a loss of life, but he pointed out that most instances do not result in a death, even when potentially deadly force is used.

The sheriff also said that he will not hesitate to charge his own officers if they step over the line, and there have been some instances of deputies being charged and convicted in the past.

"I didn't try to cover these things up," said Dickson. "We just have to continue with transparency and keep holding ourselves accountable."

Dickson, Smothers, and Moates all said that maintaining good relations with the community is important to both public safety and the safety of officers.

"I think we have a good relationship with the community, and we try to interact with the community at every level," said Moates.

"We have good people who live here and good officers," said Smothers. "I'm thankful for that, and I hope no-one can ever say they were mishandled by the Huntingdon Police Department."

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**Perishable and Frozen FOOD DROP**
Local law enforcer weigh in on pol

ronPARK
Staff Writer

Calls for police reform have erupted across the nation in the wake of the May 25 death of 46-year-old black Minneapolis resident George Floyd.

Floyd was killed during an arrest by Minneapolis police officers for allegedly using a counterfeit bill.

Multiple videos taken by witnesses at the scene and security cameras in the area showed Officer Derek Chauvin kneeling with his knee on Floyd’s neck for nearly nine minutes while Floyd was handcuffed and lying face down.

Two other officers assisted Chauvin in holding Floyd down while another officer kept bystanders from intervening.

Floyd could be heard begging for his life and repeatedly saying, “I can't breathe.”

Chauvin was initially charged with third-degree murder and second-degree manslaughter, but a second-degree murder charge was later added. The other three officers have been charged with aiding and abetting second degree murder.

And while Carroll County hasn’t seen much of the protesting and none of the mayhem that has broken out in US cities over the past two weeks, local law enforcement officials say they are taking the situation and the issue of police reform seriously.

Carroll County Sheriff Andy Dickson, Huntingdon Director of Public Safety Walter Smothers, and McKenzie Police Chief Craig Moates all condemned the actions of Chauvin and the other officers.

Dickson pointed out that one of the Minneapolis officers involved had 19 prior complaints.

“His would not have been an employee at the Carroll County Sheriff’s Department,” said Dickson. “When police departments don’t police their own that’s when you get situations like that. Law enforcement has to be held accountable when someone does something that tarnishes and dishonors the badge.”

Smothers said he found the actions of the Minneapolis officers deplorable.

“It’s incomprehensible to me that anyone would do that,” said Smothers.

According to Moates, he and his department supported the small group of protestors who

See POLICE, Page 2A

Trezevant budget

Carroll County News-Leader
June 17, 2020
Big Buck Community Neighbors Rally Against Hog Barn

Concerned Citizens of Big Buck are holding a meeting on Thursday, May 14, 6 p.m. at Union Academy Baptist Church parking lot to discuss options to stop the proposed construction of a large hog barn operation between Renfro Road and Bright Road. The group is expressing its concerns about the safety of well water, property values, and air quality. The group encourages attendees to bring a lawn chair and honor social distancing.

Big Fish from Carroll Lake

Anders and Braxton Rider display the big fish they caught at the newly reopened Carroll Lake in McKenzie. The two fished from kayaks in the lillypads. The fishing lake re-opened May 1 after being closed since June 2014 after a flood damaged the spillway. The lake is a TWRA-operated lake with an honor pay system for daily use. Since its opening, anglers have reported great success in their catches.

Chamber Recognizes 14 High School Seniors for Outstanding ACT Scores

CARROLL COUNTY — Fourteen high school seniors from Carroll County were recognized by the Carroll County Chamber of Commerce for their academic excellence, by scoring a 28 or better on the national ACT test.

"These students are in the top 10 percent in the nation of all the students who took the ACT exam," said Brad Hurley, Chamber President. "Their academic excellence is exemplary, and the expectations for these young women and men are extremely high."

Eliah Brewer, Zachary Taylor Childress, Isabella Florrie Colotta, Mariah Jordan Momblani Delosch, Olivia Goostree, Carter Graves, Caley Elaine Harris, Joshua Cameron Kee, Kaitlyn Lane, Laura Millsaps, Braden than Laron Whitesell, and Jack- oy Qiliny Zhang are the eighth group of students selected for the Chamber’s ACT Wall of Honor. The Wall was created in 2013 and a total of 106 students have been recognized by the Carroll County Chamber of Commerce for their academic achievement.

"The Chamber’s board and its membership are proud of these young women and men for striving to attain excellence," said Hurley. "These students have set high standards for themselves, and we know by keeping their standards high, they will be successful in every endeavor they undertake."

American College Testing (ACT) is a standardized test for high school achievement and college admission. This 60-year-
Proposed hog farm operation draws opposition from neighbors

Hog farms that will hold as many as 5,000 pigs and are planned to be built in the area of Renfroe and Bright Roads out from McKenzie are being vigorously opposed by the neighbors in that area.

A meeting on the parking lot of Union Academy Baptist Church initiated by those in opposition to the hog operation attracted a very large gathering that some estimated at 100 or more people.

But not everyone that came was against the hog operation.

There were a number of people in the crowd who were in support of one of McKenzie, the young man who is proposing to build the barns and manage the operation.

Alton Cressino, who opposed the operation, served as master of ceremonies. He allowed various people in the audience to express their opinions and ask questions.

Neighbors fear it will lower their property values besides emitting an unpleasant odor.

Bobby and Joella Lundy, who live on Highway 436 in the area where the hog barns will be located, strictly oppose the operation.

“We’re upset about it,” said Joella Lundy. “The people in this community don’t want it.”

She has written a letter to the editor which appears on page 3A in this issue.

She also spoke during the meeting about her desire to start a hog farm business and the management of it.

She owns 113 acres of land where he plans to build the barns. He has to go through a permit process and has already obtained three of the four permits required and expects to have the fourth one approved within a week or two.

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Campbell Arms, MIDB, state exchange lawsuits

Eighty-six Huntingdon High School seniors graduate Monday

Photo by Corey Haumey

Heated opposition - Kathy Butler, who owns land next to where a hog farming operation is to be built, expresses her opposition to the proposal to John Wright, who spoke in support of the proposal. Butler. On the porch from left are Jimmy Toth, who will furnish the pigs, and
LOCAL NEWS

Bruceton’s case to assist with burn

Property owners in Bruceton will again be taxed $7.20 per $100 of assessed property value for the 2020-2021 fiscal year. Meeting by electronic means May 12, aldermen passed the first of two required readings on the proposed new budget. The second and final reading will be held at the June 9 meeting.

In the first of two required readings, aldermen also amended the 2019-2020 budget.

Vice Mayor Cliff Sturdivant pointed out that the sale of military surplus items benefited the budget and money was also saved in the police department due to being one officer short. Included in the amended budget were one-time time bonuses for employees.

They have worked during the coronavirus pandemic and the storm as well, said Mayor Bob Kroston who recommended the bonuses.

Full-time police officers and city employees will receive $320 every two weeks while a part-time officer will get $104. The city has a total of nine part-time officers who will receive $312. The total payout will amount to $6,994.

In the new 2020-2021 proposed budget, the Cost Of Living Adjustment (COLA) of 2.4 percent for water rates will increase the average consumption amount per household in increase by $0.37.

The town will benefit by $12,500 from the increase. Aldermen first considered a 3 percent adjustment that would have caused the average water bill to be bumped by $2.71 per household.

HOG FROM PAGE 1A

the barns by the end of the year, but it may be delayed some, he said, noting that he builds the barns with Tosh Farms of Henry furnishing the pigs and he then serves as the manager of the operation.

Jimmy Tosh, who is also a part of the team, said he will continue his duties there in the raising of cotton, corn, soybeans and beef cattle. He is due married this summer and will make his home in McKenzie.

Neighbor landowner Kathy Butler and John Wright of McKenzie, who spoke in support of the property owner, brought the meeting to a close.

In Butler's words, "It's in my front yard.

Leota Webb and her husband Dr. Billy Webb, who live in the community near her parents, the Landys, were also opposed to the operation. She videotaped the session.

Leota Webb said the situation has been discussed with a Nashville lawyer who advised there is little that can be done to stop the process. However, after it is built if there are problems there may be legal steps that can be taken.

Memorial Day Of Cenetered in Huntingdon

Neither Huntington or McKenzie will have their usual Memorial Day ceremonies due to the current circumstances and in following the guidelines for the coronavirus.

"However, we do not want to let this occasion pass without recognizing how much this day means to us," said Huntingdon Administrative Assistant Katie Dill. "Our community should always remember our veterans who have sacrificed their lives for our country and everyday workers who protect America and our freedom. Although we may not be able to have a gathering of friends and family, please remember those who faithfully served and honor those who are.

MCKENZIE

welcomed his classmates, MHS staff and administrators, Board of Education members, and all attending family and friends.

Speeches were delivered by Senatorator Jenna Tucker and Valedictorian Isabella Collett.

MHS Principal Kelly Spivey recognized those seniors receiving special honors and awards.
HOG

the barns by the end of the year, but it may be delayed some," he said, noting that he builds the barns with Tosh Farms of Henry furnishing the pigs and he then serves as the manager of the operation.

[Blank paragraph]

He is to be and will make his home in McKenzie. Jimmey Tosh, who is associated with Tosh Farms of Henry, spoke in support of [Blank paragraph].

A confrontation between neighborhood landowner Kathy Butler and John Wright of McKenzie, who spoke in support of [Blank paragraph], brought the meeting to a close.

In Butler’s words, “It’s in my front yard.”

Leisa Webb, her husband Dr. Billy Webb, who live in the community near her parents, the Landrys, were also opposed to the operation. She videorecorded the session.

Leisa Webb said the situation has been discussed with a Nashville lawyer who advised there is little that can be done to stop the process. However, after it is built if there are problems there may be legal steps that can be taken.

DISCUSSING -- Jimmey Tosh (left) and [Blank paragraph] talk among themselves after speaking about a proposed hog operation in the Big Buck community. Tosh will build the barns and manage the operation while Tosh will furnish the pigs.

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Speeches were then delivered by Salutatorian Jena Tackett and Valedictorian Isabella Coulter.

MHS Principal Kelly Spivey recognized those seniors receiving special honors and awards and offered a few words of advice to the soon-to-be graduates.

"You control your responses," said Spivey. "You have the power to change everything in the way you respond to the challenges of life."

Row-by-row, seniors filed up to the podium and as their names were called, each senior stepped up to claim his or her diploma.

Spivey invited them to turn their tassels as an outward sign of their new status as graduates.

The new graduates then sang the Alma Mater before tossing their caps high and filing back out of the gymnasium to meet outside with family and friends.

VALEDICTORY ADDRESS -- Isabell Coulter, Valedictorian, delivers her address during graduation ceremonies on Sunday.


Dear Editor,

We need help! Something is happening in our neighborhood and we don’t know what to do or where to turn. With this Pandemic occurring, it has been hard to get information. We live in what is known as Big Buck or the «19» district in Carroll County. A large hog barn operation, with over 5,000 hogs, is being planned to be built right in the middle of our neighborhood!

There are homes in all directions, at least 41 homes plus our little Baptist Church (Union Academy) in a one-mile radius. Only three are rental houses, including one on the proposed hog barn farm. My husband was born in this neighborhood 81 years ago. In 1958, as newlyweds we purchased his family home place. We farmed and raised our three girls here. We had hogs, cattle, chickens and row-crops. A fire destroyed our house and years later a tornado took our barn but we built back and are still here.

Two of our daughters and their husbands live in this community. Our two grandsons, just this year, came back to Big Buck one bought a small farm on Bright Road (near proposed hog barn site) and the other is building a house 11/2 miles away. Most of the people in this neighborhood have lived here for years and plan to stay. We are all upset and have several concerns about this hog barn. Just a few of our concerns are: odor, contaminated drinking water, diseases, increased heavy road traffic and decreased property values.

We are so concerned that even with the threat of Covid19 we had a neighborhood meeting last week. Approximately 120 people attended. We had a question and answer session. Their answers did nothing to alleviate our fears! We found out what they do with dead hogs, compost area. We realize our meat (pork included) has to be raised somewhere but should there not be regulation for these barns to be built in remote areas, not in the middle of an established neighborhood? If people want to build their homes near a hog barn, that is their choice. But we have no choice here. We feel as if our neighborhood has been invaded and violated! It is going to be hard to work in the garden, grill out or mow the yard while holding your nose! Our family comes to our house for Sunday dinner after church and we enjoy sitting out in the yard. Is that going to be a thing of the past, depending on which way the wind is blowing? Hasn’t Covid-19 done enough to affect our lifestyle?

As a community we have consulted several people. The lawyers say “Let them build and then sue”. We don’t want to do that to them. People in other neighborhoods near hog barns have this advice: “If there is anything in the world you can do to stop it, DO IT because it will ruin your community.

How can we stop it? Towns have zoning laws- why can’t rural neighborhoods? Have we NO rights? Could this be something our County Mayor and Commissioners should consider? Where else can we turn? We understand that the laws protect ag- but who protects the citizens?

I realize my husband and I won’t have many years left but we don’t want to leave this «Hog Barn Operation» in our neighborhood as a legacy to our family and neighbors.

We wish no harm to the young man who has purchased this farm. He seemed very well mannered and nice. We just DO NOT WANT a Hog Barn!

Would you want one in your neighborhood?


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**Teens concerned about falling behind**

malisSTRONG  
Student Writer

Although businesses have begun to reopen due to an expected decrease in the number of COVID-19, schools are still ordered to stay closed until the next school year. As a result, there is a new rise in concern for students and their mental health.

“I’m stressed because when I go back [to school] I’m not going to be used to any of the stuff we learned before the pandemic,” said Michael Nolen, a

and beyond” effort to serve students during this time of separation anxiety. She believes that as COVID-19 continues, the mental health of teens will be affected and also that Huntingdon High School will be able to diminish the worry of students.

As for what students and parents can do to help the transition back to school easier, Sedgebear recommends keeping a routine in students' daily lives, noting that sleep schedules specifically need to be strictly enforced.

The transition back to school.
Proposed Hog Barn Concerns Neighbors

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Our two grandsons just this year came back to Big Buck. One bought a small farm on Bright Road (near proposed hog barn site) and the other is building a house 1/2 mile away. Most of the people in this neighborhood have lived here for years and plan to stay. We are all upset and have several concerns about this hog barn.

Just a few of our concerns are: odor, contaminated drinking water, diseases, increased heavy road traffic and decreased property values. We are so concerned that even with the threat of Covid-19 we had a neighborhood meeting last week. Approximately 120 people attended. We had a question and answer session. Their answers did nothing to alleviate our fears! We found out what they do with dead hogs - compost area.

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We wish no harm to the young man who has purchased this farm. He seemed very well mannered and nice. We just do not want a hog barn!

Would you want one in your neighborhood? Thank you.

Are We Willing . . .

Recently we have heard the who will suffer first from the climate crisis? The poor, those living in crowded conditions like nursing homes and prisons

William ‘Bill’ Beasley

The Milk Man and the Dairy Queen

rowing up in McKenzie, I can not think of any place more iconic in this town than the Dairy Queen. Older generations may have had a dozen other places they loved, but to me, nothing was more special than picking up a few “baby burgers” or some type of ice cream treat.

It wasn’t until I married Brittany that I learned more about Dairy Queen and the Beasley family. My mother-in-law’s of basic training in San he sent $50 of his check family.

“I thought I was on sion. That left me with the that was more than I had before.”

While in the Navy, assigned to a salvage unit duty it was to clean up work for World War II. He his unit worked in Okinawa Island, Pearl Harbour the end of his service, saved $24,000.
May 3, 2020

RE: USDA Farm Service Notice of Availability: Map 061 Parcel 001.00

Dear Ms. Mullins,

We are submitting this letter in protest to and objection of the proposed construction and ongoing operation of the pork production facility to be located at the above referenced location. We live within a very close proximity to the proposed site and have numerous valid concerns inclusive of odor, environmental impact and property devaluation. We shutter at the thought of not being able to walk out our doors and spend time enjoying a beautiful day without having to endure the stench provided by this facility. This is not to mention the potential of possible contamination of the water table that provides our everyday needs inclusive of our drinking water. Considering the current COVID-19 circumstances with this virus originally found in animals, this facility represents a similar potential risk with the number of animals to be housed in one location. I realize steps are taken to prevent these possibilities, but nothing is 100% fail safe. In turn, increased traffic will be produced with large trucks and equipment transporting the commodity along with their byproducts. – Causing higher traffic hazards and excessive wear to our roads. The amount of devaluation to our property value is undeterminable. Who would consider investing in a home so closely located to a hog operation that included a major potential of experiencing the odor of hog defecation every time a north wind blew? We are sure our property taxes were increased due to property evaluations based on recent sales. – Hint Hint – this purchase – but are reevaluations going to be done determining the value of our properties after experiencing the impacts this facility has produced???
Thirty-one years ago, we built our home and have spent the large majority of our lives working to pay for it while making additional improvements over the years with the intent of remaining here the rest of our lives. Our question is why was this location was chosen by Mr. Austin for this purpose? Mr. Austin is an extended member of a family that owns thousands of acres of uninhabited land in which a five-acre plot surely could have been utilized for this purpose without any detriment to others personal lives and belongings. Appearances are Mr. Austin purchased this property for the sole intent of building this facility that would provide a large return to him and his family without having to deal personally with the detrimental impacts it provides. This farm includes a house he could live in but instead he chooses to rent this home and purchase a house located in McKenzie to reside. The proposed location is in very close proximity to numerous residents and will provide detrimental circumstances to many and large returns only to one.

Very Concerned,
May 4, 2020

RE: Proposed hog operation, Carroll county, Tennessee CTRL map 061, parcel 001.00

Ms. Mullins,

I was raised on a farm less than [redacted] from where this proposed hog operation is planned to be installed. While I no longer live in this area, I do own property. [redacted] still reside on this farm and [redacted] are also in the community. My [redacted] have both purchased land and moved back to this area in the last few months. We all have some very real concerns about a hog operation this close to their homes and our property.

I would like to raise some of these concerns before the issues become a reality.

For starters, a commercial hog operation is going to smell, making outdoor activities for families in the surrounding area unpleasant at the very least.

Possible contamination of the water table in an area where everyone’s water supply, including drinking water, is from wells.

Large increase in commercial traffic on small rural roads. These roads were not designed to handle this traffic and large heavy vehicles. The threat of serious accidents involving residents on these narrow roads is very real.

Diseases spread from animals to humans are more likely with a huge number of animals confined to small spaces.

Our property values and opportunities to sale will decrease, would you purchase a house in this neighborhood after the hog operation is installed?

I know the extended family of the young man that is opening this operation. His family has MANY options for locating for this hog operation in a non-populated area. Why were some of these locations not considered?

I would just like to thank you for taking time to read my concerns and hope this will have an impact on the hog operation opening in my community.

Thank you,

[redacted]
May 1, 2020

Carroll County FSA
Attn: Anita W. Mullins
630 High Street
Huntingdon TN 38344

RE: USDA-Farm Service Agency Notice of Availability
Construction of 2 wean to finish hog barns, Map 061, Parcel 001.00
Draft Environmental Assessment

Dear Ms. Mullins:

We live at [redacted] While this is a rural road, it is in reality a mini “Residential/Retirement/Bedroom Community”. A drive down our road reveals 41 residences. Intermixed down the road are seven fields which are contracted out for row cropping by [redacted], [redacted], one cattle pasture at Cross residence, and horses pastured at [redacted].

We have several areas of concern: 1) Health 2) Storage and disposal of sewage 3) Run Off 4) Smell 5) Transportation and 6) Property Devaluation

Could pigs be vectors for human infections? The pig immune system shares significant similarities to that of humans.

As we are now experiencing a zoonosis migration of an infectious Covid 19 organism from one species to humans, the worst does happen. At our former home in [redacted] there was an internationally known breeder of Red Pole hogs a [redacted]. A mycoplasmic pneumonia escaped from their herd into the human population. The two of us nearly died from that disease. Six people in that community did die before the disease was identified and an antibiotic administered. That is one experience we certainly do not want to relive.

Runoff is also a major concern for us. We live [redacted] of the proposed location. Two runoff creeks bracket the area and both run [redacted]. One of them fills a [redacted] pond in [redacted] just [redacted] from our house and well. The last thing we want is for our beautiful pond to turn into a sewage treatment facility. Design plans and engineering evaluations are great but anything human designed and built can fail. Just listen to the news. The so-called 100 year storms and runoff seems to be occurring more frequently, just about every couple of years. It seems that traditional design goals are no longer acceptable. A local example is the recent runoff and legal issues facing [redacted] in Dresden.
Infrastructure is a concern. Renfroe road has a thin one-inch overlay that is only sound for cars and pickups. When farm tractors use the road in spring and fall, the top layer delaminates and requires repair. When highway 22 floods, the increased traffic on Renfroe does significant damage. The heavier trucks required for feed stock, animal transport, and sewage disposal will likely require rebuilding of the Renfroe Road.

Smell. Our location of the site means that we will be subject to the pig smell all summer long. We are outdoor people spending our time gardening from sunrise to sunset. The ability to live and use the outdoors was a key reason for us selecting this location to retire. In we lived one of a pig farm. The wind rarely blows from east to west, but when it did, oh my, did we know that the pigs were there! We specifically chose this location because it did not have any livestock producers.

Property Devaluation. If the best layed plans do not work and there is environmental contamination, our property is worthless. Even if all the design wishes are correct, and are met, and maintained properly, we are left with human perception. With humans, no matter what actual reality is, what people believe is their individual reality. When someone is looking for a home and they learn that there is a pig farm in the area, they will not even go out to have a look --- that is real devaluation.

We know there is a petition circulating about this very issue. We know for a fact that the families on Renfroe Road are not pleased with the possibility of two wean to finish hog barns.

We pray that you will take into consideration our concerns, as well as our friends and neighbors in making your decision.

Sincerely,
Good afternoon Ms. Mullins,

I’m writing you regarding the proposed hog farm on Bright Rd by [redacted]. I would like to express my concern regarding this build site. I work [redacted], and understand its importance as much as anyone. But there are far better locations for this hog barn, especially for someone whose family already farms 5,000+ acres in our county. As someone who will live close to this barn, it concerns me that [redacted] didn’t choose to put it closer to his house. The primary reason I believe this location to be a poor site for a hog barn is its proximity to family dwellings. From my understanding, hog barns should be no less than 1/4 mile from a family dwelling. After scouring Google Earth and from growing up in the neighborhood, I see no spot on that parcel that a hog barn could be built without being less than 1/4 mile from multiple homes. These families, which have been there for my entire life deserve to live without the increased traffic, stench, and potential environmental concerns that a hog barn would come with. I have no doubt that many of these families have already written to you. I would also mention that the roads leading to this site, whether it’s Bright Rd or Renfroe Rd, are not built to sustain the consistent loaded truck traffic that would come with a hog barn.

After searching on Tosh Farms’ website (whom I’ve heard is financing this barn), it appears that the 1/4 mile distance is actually 1500-1700ft which further concerns me given that there’s no location on this track of land where they can build this barn further than 800-900ft from a family dwelling.

On top of that, it also mentions that 300 acres is needed for a 2 barn site when it comes to waste disposal. Even if [redacted] proposed to build 1 barn, I would imagine that 150 acres would be needed. This site is less than 70 acres. All of these people living nearby, myself included, have well water. How will injecting manure into the ground on this build site not contaminate the very water that we drink?
Given the information above, if these regulations are incorrect or if there's a way he can do this within regulation please let me know. As residents of Big Buck (unincorporated), we're looking at the landscape that we've known our entire lives changing. I haven't even mentioned our property values.

I do appreciate your time, Ms. Mullins. I hope to hear soon that [redacted] has chosen a different location to build his hog barns.

Thank you,

[Signature]

[Redacted]
Subject: proposed hog barn map 061 parcel 001.00

Ms. Mullins,

I am sending this in regards to the proposed hog barn being built on Renfroe Road / Bright Road in the Big Buck Community by Mr. Reed Austin (Map 061 Parcel 001.00). I was in this community and now live not far from the proposed area. One of the first concerns that comes to mind is the stench that this will create! My parents live at which is maybe from the Renfroe Road frontage and they have lived there over . To say they are upset about it is an understatement! (from what I understand) over 5,000 acres. Why is he not putting it closer to his residence and in a less populated area? This acreage is in a densely populated area. One would assume it's because they don't want it near their homes. On Tosh Farm's website, (which I understand is financing this endeavor) it states that the barns need to be 1,500 to 1,700 ft. away from any dwelling. There is NOWHERE on this property that the barn or barns can be placed and be that far away from a resident. The Tosh Farm website also states that the manure will be injected into the soil and a two barn operation would require 300 acres to handle this. Even if he plans on having one barn that would require 150 acres and this farm has less than 70 acres! How will this affect our water? We all have well water and how will this not seep in to our drinking water? How will it affect the health of the nearby residents? This is a rural area and our roads were not built to sustain such heavy traffic, so this will tear up our roads, and I'm afraid would cause accidents.

Another serious concern for all nearby residents is the decrease in our property value! We own property on and this would have a significantly negative effect on the value of this property! Who would want to buy a home that had a large hog barn operation in its neighborhood, with rotten egg type stench as a bonus with the purchase? This is another reason I am sure did not plan to put it near his family's property.

In general, I don't even understand how this property even meets the criteria to put in an operation like this, in this particular area, and considering the health and well-being of the nearby residents - it's just not reasonable! Especially when he had so many more choices of less populated property to place it that his family already owned.

Please take this into consideration when making your decision.... would you want it near your home?

Thank you for your consideration!

Sincerely,
May 4, 2020

Anita W. Mullins, FLO
Carroll County FSA
630 High Street
Huntingdon, TN 38344

RE: Proposed Construction of 2 Wean to Finish Hog Barns Draft Environmental Assessment

Ms. Mullins,

I/we are writing to object the proposed construction of the 2 wean to finish hog barns located at Map 061 Parcel 001.00. There are 55 signatures from the Carroll countians whereby their adjacent property would be directly affected and there may be more. We are all alarmed by the close proximity of these proposed hog barns and we are all concerned about the environment and overall public health for all of us.

This project will have a direct effect on our human environment and other protected resources.

1. We will be unable to be outside and have enjoyment of our property with the foul odor of pig feces.

2. Toxic waste particles can cause health problems for us. These waste particles are filled with bacteria and high amounts of ammonia that can cause all kinds of respiratory health issues for us.

3. Underground springs that we depend on for our drinking water could potentially be contaminated should a holding tank leak into our underground water we drink from our wells.

4. These hog barns will attract many insects such as a tremendous amount of flys.

5. There will be trucks coming and going hauling feed and transporting hogs adjacent to our property into the hog farm and hauling the hogs out to slaughter houses. This will create noise and disruption in our way of life.

6. Data analyzed demonstrates that whenever a hog farm is placed, that property value in the area decreases. People do not want to live near these hog farms and cannot move away and no longer sell their homes for they are worth. This is unacceptable.

Property owners have signed this petition and are objecting to this hog farm and are all in agreement of how each and everyone of us will be directly affected. We have all proudly joined together and we are prepared to do everything it takes to avert having these hog barns placed near to our homes. Please take us into consideration when making this decision. Hopefully the right one.
Overall, we feel that if you allow this hog farm to move forward, it will not be the best interests of some of citizens of Carroll County, Tennessee and we strongly urge you to reconsider your decision.

Thank you for your attention to this important matter.

Signed on behalf of the Carroll Countians in the attached petition that would be impacted by the hog barn as referenced by their signatures to this objection.
Greetings;

We, the people of the Big Buck Community located approximately [blank] of Huntingdon, Tennessee city limits are very much against the proposed hog barns with a capacity of 5,000 hogs being built in our Big Buck community.

This will produce an unbearable odor that we will have to endure on a daily basis. Also, our concern is our drinking water being contaminated due to an accidental breakage of the waste holding tanks.

It will be an unfair ordeal with costly consequence because of devaluation of property in the neighborhood if the proposed building of these hog barns of this magnitude becomes a reality.

There are at least (40) forty residences and a Baptist Church less than one mile from the proposed hog barn building site, with some of the homes being within yards.

The odor and devaluation of property is the most important reason for the signing of this petition.

Following is the person of intent of building the above said hog barns.

[Blank] of Mckenzie, Tennessee, location of said hog barns being on 2375 Renfroe Road, Huntingdon, Tn. 38344 (Big Buck Community) Map 061 parcel 001.00, Carroll County.

We, the undersigned, would greatly appreciate any help you can give us in this matter.
Signatures against hog barns located at Map 061 Parcel 001.00

<table>
<thead>
<tr>
<th>Signature</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>
Ms. Mullins,

This letter is in response to the proposed new barn in our neighborhood (Map 061, Parcel 001.00). We live at [redacted]. My husband [redacted] was born in this community, we've lived here and raised our family here, some of which still live in this area.

We feel invaded and violated when someone purchases land in our community with that intent. His extended family owns thousands of acres in not very populated areas. Here we have homes in all directions, so we are offended when someone chooses to contaminate our little neighborhood. We hear that it will bring in unwanted road traffic, create unpleasant odors, and possibly unsanitary living conditions besides lowering our property values. Who wants that?

How would you feel if this were happening to your neighborhood?

If you have any questions you can reach us at [redacted].

Thanks for listening!
Tim,

Please see attached e-mail with pictures I received on Friday.

Thank you.

Anita W. Mullins
Farm Loan Manager
Farm Loan Programs, TN Carroll County
USDA Farm Service Agency
630 High Street
Huntingdon, TN 38344
Office: 731-209-4153
Fax: 855-494-1760
Anita.Mullins@usda.gov
www.fsa.usda.gov

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USDA is an equal opportunity provider and employer.
To: Mullins, Anita - FSA, Huntingdon, TN <anita.mullins@usda.gov>
Cc: 
Subject: Hog barn permit application Renfroe rd

Reviewing the permit application where agencies give their approval, I noticed that on page 67 of 98 the TN Historical Commission states that there are no known historical sites within 3/4 miles of the hog barns.

At 2060 Renfroe rd is a log cabin with two out buildings. The log home is owned by [redacted] who currently lives in McKenzie and he weekly cleans and maintains the log home. We have been told that the log home is the oldest home in Carroll county. The log home is 2370 feet, per Google Earth, from the proposed hog barns. Well within the 3/4 mile limit.

It appears that at a minimum this requires a public posting for two weeks in local papers and requests for public comments.

Thank you for your attention to this matter.
FYI – Another e-mail received for [redacted]

Please see e-mail below.

Thanks

Anita W. Mullins
Farm Loan Manager
Farm Loan Programs, TN Carroll County
USDA Farm Service Agency
630 High Street
Huntingdon, TN 38344
Office: 731-209-4153
Fax: 855-494-1760
Anita.Mullins@usda.gov
www.fsa.usda.gov

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Cc: 
Subject: Schultz log cabin, further information

We have learned from [redacted] that his log cabin on Renfroe rd was built in 1830, making it 190 years old. There is a display about it in the Gordon Browning museum in McKenzie.

Thank you for your attention to this matter.
The address is 2060 Renfroe rd which is also the start of Morgan Lane which is a dead end road/drive way to the log cabin.

The cabin is surrounded by trees making it invisible on a satellite view.

My cell phone will not allow me to attach any images to this response. Will try a separate e-mail.

On Mon, Jun 1, 2020, 1:10 PM Storey2, Tim - FSA, Winchester, TN <tim.storey2@usda.gov> wrote:

Good Afternoon,

Anita Mullins in our local FSA Office received information from you earlier about a log cabin located at 2060 Renfroe Road and owned by a [REDACTED]. In your email you indicated this cabin was located 2,370 feet away from the proposed hog barn site. I have been reviewing Google Maps and cannot locate the site of the cabin. Can you provide more information that would assist in determining its location on an aerial map?

Thanks,

Tim Storey

Farm Loan Specialist/State Environmental Coordinator

USDA Farm Service Agency
Tennessee State Office
931-967-2521 Ext. 106
tim.storey2@usda.gov
www.fsa.usda.gov

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From: [Redacted]
To: Storey2, Tim - FSA, Winchester, TN
Cc: Mullins, Anita - FSA, Huntingdon, TN
Subject: [Redacted]
Date: Monday, June 1, 2020 2:43:26 PM
Attachments: 0601201438.jpg
0529201009.jpg

Tim, Anita, the following image is a photo of a Google Earth image with a circle over the log cabin on Renfroe road. It is very hard to see the dark roof in the trees. I am also including a picture of the sign across the entrance to the cabin road.

Thanks for following up on this.

-------- Forwarded message --------
From: [Redacted]
Date: Mon, Jun 1, 2020, 2:31 PM
Subject: [Redacted]
To: [Redacted]
Ms Mullins, Mr Storey,

I understand you’ve been in contact with about a historic home in The Big Buck community. It has come to my attention that there is also a cemetery located on the premises & I wanted to make sure you were aware of that as well. Please share whatever information is garnered in this regard.

Thank you.

Sent from my iPhone
Ms Mullins, Mr Storey,

I understand you’ve been in contact with Garry Korbel about a historic home in The Big Buck community. It has come to my attention that there is also a cemetery located on the premises & I wanted to make sure you were aware of that as well. Please share whatever information is garnered in this regard.

Thank you.

Debbie Anderson

Sent from my iPhone
Tim,

Per your request for information on minimum requirements.
It came from the documents titled:
Storm Water Pollution Protection Plan. (Redacted)
10/26/2015
Page 67 of 98

FSA-1940-9 TN FLP
(09-13-2016)
US Department of Agriculture
Tennessee Farm Services Agency
Position 3
Tennessee Historical Commission Consultation Letter
RE: Environmental Review March 30, 2020
Dear Mr McIntire: 7018 3090 0002 0783 9467
Paragraph 7 states:
Should historic or potentially historic properties be noted by the SHPO as impacted by the
proposed project, FSA will work with the SHPO to develop mitigation of impacts. FSA will
only provide public notification if the project merits a Class II environmental assessment
(more than one protected resource affected) or an environmental impact statement (EIS).
Notification will be published in the local newspaper serving the Area. - - - If a weekly
publication, will be published for two consecutive weeks. Notification will be located in a
non-legal section of the paper with other public notices in an easily readable print. A thirty day
comment period will occur following the first publication, during no action will be taken.

Local citizens know of two historical sites directly affected: the 190 year old, oldest home in
the county, and old grave sites.

Impact is more than a bulldozer running over the buildings or grave sites. If the air stinks so
bad from the 5,000 plus hogs and 1,600,000 gallons of stored manure then those cleaning and
maintaining these culturally and historical significant sites may let them decay.

On Mon, Jun 8, 2020, 1:42 PM Storey2, Tim - FSA, Winchester, TN <tim.storey2@usda.gov>
wrote:

Mr.

Thank you for providing me with the information and location of the log cabin that you
brought to our attention. Concerning your initial email you indicated that “it appears at a
minimum this requires a public posting for two weeks in local papers and requests for public
comments.” Can you explain what you are referring to that would require this? Also can
you explain what issues you have with the log cabin being located as you state 2,370 feet from the proposed hog barns?

Thank you for looking into this

Tim Storey
Farm Loan Specialist/State Environmental Coordinator
USDA Farm Service Agency
Tennessee State Office
931-967-2521 Ext. 106
tim.storey2@usda.gov
www.fsa.usda.gov

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From: Storey2, Tim - FSA, Winchester, TN; Mullins, Anita - FSA, Huntingdon, TN
To: Storey2, Tim - FSA, Winchester, TN; Mullins, Anita - FSA, Huntingdon, TN
Subject: Civil War Graves on hog barn property
Date: Wednesday, June 10, 2020 12:17:24 AM

Tim, Anita,
A couple of local residents searched for the cemetery on the proposed hog barn site. They found it in a brambles patch. Here is what they got off of three tombstones before being driven off.

WA Clark Co. D
7. Tenn CAV

GH Morgan
Co. F.
7th Tenn CAV

Sarj HJ Morgan
Co. I
7th Tena CAV

I have done some research and learned:
The 7th Cavalry was a Union force active Aug 1862 to Aug 1865. It looks like they had 21 actions, including a month fighting General Forrest. In three years they lost 337 men.

For years now, I have been trying to learn how General Forrest got out of McKenzie. After Forrest captured the arms depot in McKenzie he was surrounded by Union forces and was backed up against the river south of town. It looked like it was over for Forrest, but a farmer showed Forrest a way south across the river, and his force escaped in the dead of night. The Cemetery on the proposed hog farm is just 2.2 miles straight south of the McKenzie/Obion river.

The gentlemen that was cutting his way in the thorns said he only was able to get in to see the three stones, but he believes that if allowed he would have found more.

History records show that these three Cavalry soldiers were in the force that fought Forrest for a month. And Forrest was in a running battle from McKenzie all the way down to Parker's Crossroad. It seems likely that a battle was fought close to if not on this farm.

Thank You for Your Attention
Tim, thank you for following up on the historic home and Civil War grave sites impacted by the hog barns. It is very sad to see that no one cares about these sites. But then, as we are seeing in the news daily the younger generation is hell bent on destroying and eliminating all traces of our heritage. Soon we will be just a gray society with no history or heritage. And if the adage is true, we are doomed to repeat the error of the past.

Sadly

On Wed, Jul 1, 2020, 4:46 PM Garry Korbel <garry.korbel@gmail.com> wrote:

--------- Forwarded message ---------
From: Storey2, Tim - FSA, Winchester, TN <tim.storey2@usda.gov>
Date: Wed, Jul 1, 2020, 4:32 PM
Subject: RE: Civil War Graves on hog barn property
To: Mullins, Anita - FSA, Huntingdon, TN <anita.mullins@usda.gov>

Thanks for following up. I have contacted the TN Historical Commission with the location and information you provided about the cemetery. They responded that the cemetery is not eligible for the National Register and will not be directly affected by the proposed hog barn construction. I also contacted the TN Historical Commission about the cabin which was brought to our attention. They stated that the proposed barns are far enough away and blocked by enough vegetation to still receive a no effect determination.

Thanks for your comments, if you have any further questions please let me know.

Happy Fourth of July,

Tim Storey
From: [Name Deleted] >
Sent: Monday, June 29, 2020 11:11 PM
To: Storey2, Tim - FSA, Winchester, TN <tim.storey2@usda.gov>; Mullins, Anita - FSA, Huntingdon, TN <anita.mullins@usda.gov>
Subject: Re: Civil War Graves on hog barn property

Tim, how is the review of all the information we supplied going?

Do you need any further information?

On Wed, Jun 10, 2020, 12:17 AM [Name Deleted] > wrote:

Tim, Anita,

A couple of local residents searched for the cemetery on the proposed hog barn site. They found it in a brambles patch. Here is what they got off of three tombstones before being
driven off.

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# QuickFacts
## Carroll County, Tennessee; United States

QuickFacts provides statistics for all states and counties, and for cities and towns with a population of 5,000 or more.

<table>
<thead>
<tr>
<th>ALL TOPICS</th>
<th>Carroll County, Tennessee</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population estimates, July 1, 2019 (V2019)</td>
<td>NA</td>
<td>328,239,623</td>
</tr>
</tbody>
</table>

## PEOPLE

### Population

| Population estimates, July 1, 2016 (V2016) | NA | 338,239,523 |
| Population estimates, July 1, 2018 (V2018) | 28,620 | 327,167,434 |
| Population estimates base, April 1, 2010, (V2010) | NA | 308,750,105 |
| Population estimates base, April 1, 2016, (V2016) | 28,466 | 300,750,105 |
| Population, percent change - April 1, 2010 (estimates base) to July 1, 2019, (V2019) | NA | 6.3% |
| Population, percent change - April 1, 2010 (estimates base) to July 1, 2016, (V2016) | -1.5% | 6.0% |
| Population, Census, April 1, 2010 | 28,620 | 308,746,633 |

### Age and Sex

- **Persons under 5 years, percent**: ▲ 5.6% ▲ 6.1%
- **Persons under 18 years, percent**: ▲ 21.4% ▲ 22.4%
- **Persons 65 years and over, percent**: ▲ 20.3% ▲ 16.0%
- **Female, percent**: ▲ 51.1% ▲ 50.8%

### Race and Hispanic Origin

- **White alone, percent**: ▲ 86.7% ▲ 70.5%
- **Black or African American alone, percent**: ▲ 10.2% ▲ 13.4%
- **American Indian and Alaska Native alone, percent**: ▲ 0.6% ▲ 1.3%
- **Asian alone, percent**: ▲ 0.4% ▲ 5.9%
- **Native Hawaiian and Other Pacific Islander alone, percent**: ▲ 2 ▲ 0.2%
- **Two or More Races, percent**: ▲ 2.0% ▲ 2.7%
- **Hispanic or Latino, percent**: ▲ 2.8% ▲ 18.3%
- **White alone, not Hispanic or Latino, percent**: ▲ 84.5% ▲ 60.4%

### Population Characteristics

- **Veterans, 2014-2016**: 1,682 | 18,611,432 |
- **Foreign born persons, percent, 2014-2016**: 8.9% | 13.5%

### Housing

- **Housing units, July 1, 2018, (V2018)**: 13,260 | 138,537,070 |
- **Owner-occupied housing unit rate, 2014-2016**: 72.8% | 63.0%
- **Median value of owner-occupied housing units, 2014-2018**: $377,100 | $204,900 |
- **Median selected monthly owner costs - with a mortgage, 2014-2016**: $1,568 |
- **Median selected monthly owner costs - without a mortgage, 2014-2018**: $317 | $400 |
- **Median gross rent, 2014-2018**: $608 | $1,023 |
- **Building permits, 2018**: 3 | 1,520,827 |

### Families & Living Arrangements

- **Households, 2014-2016**: 11,062 | 119,730,128 |
- **Persons per household, 2014-2016**: 2.45 | 2.63 |
- **Living in same house 1 year ago, percent of persons age 1 year+, 2014-2016**: 87.6% | 85.5%
- **Language other than English spoken at home, percent of persons age 5 years+, 2014-2016**: 1.6% | 21.5%

### Computer and Internet Use

- **Households with a computer, percent, 2014-2016**: 76.0% | 88.8%
- **Households with a broadband internet subscription, percent, 2014-2016**: 66.5% | 80.4%

### Education

- **High school graduate or higher, percent of persons age 25 years+, 2014-2018**: 82.1% | 87.7%
- **Bachelor's degree or higher, percent of persons age 25 years+, 2014-2018**: 17.2% | 31.3%

### Health

- **With a disability, under age 65 years, percent, 2014-2016**: 16.8% | 8.6%
- **Persons without health insurance, under age 65 years, percent**: ▲ 10.5% ▲ 10.0%
### Economy

<table>
<thead>
<tr>
<th></th>
<th>2014-2016</th>
<th>2015-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>In civilian labor force, total, percent of population age 16 years+</td>
<td>51.0%</td>
<td>62.9%</td>
</tr>
<tr>
<td>In civilian labor force, female, percent of population age 16 years+</td>
<td>47.2%</td>
<td>58.2%</td>
</tr>
<tr>
<td>Total accommodation and food services sales, 2012 ($1,000) (c)</td>
<td>18,464</td>
<td>708,130,596</td>
</tr>
<tr>
<td>Total health care and social assistance receipts/revenue, 2012 ($1,000) (c)</td>
<td>111,509</td>
<td>2,046,441,203</td>
</tr>
<tr>
<td>Total manufacturing shipments, 2012 ($1,000) (c)</td>
<td>672,461</td>
<td>5,696,729,832</td>
</tr>
<tr>
<td>Total merchant wholesaler sales, 2012 ($1,000) (c)</td>
<td>0</td>
<td>5,298,023,478</td>
</tr>
<tr>
<td>Total retail sales, 2012 ($1,000) (c)</td>
<td>254,447</td>
<td>4,219,831,871</td>
</tr>
<tr>
<td>Total retail sales per capita, 2012 (c)</td>
<td>7,201</td>
<td>13,443</td>
</tr>
</tbody>
</table>

### Transportation

Mean travel time to work (minutes), workers age 16 years+, 2014-2016: 28.6

### Income & Poverty

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Median household income (in 2016 dollars), 2014-2015</td>
<td>$48,810</td>
<td>$50,290</td>
</tr>
<tr>
<td>Per capita income in past 12 months (in 2018 dollars), 2014-2018</td>
<td>$22,607</td>
<td>$23,621</td>
</tr>
<tr>
<td>Persons in poverty, percent</td>
<td>18.6%</td>
<td>11.5%</td>
</tr>
</tbody>
</table>

### BUSINESSES

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
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<tbody>
<tr>
<td>Total employer establishments, 2017</td>
<td>427</td>
<td>7,860,974</td>
</tr>
<tr>
<td>Total employment, 2017</td>
<td>5,683</td>
<td>128,591,812</td>
</tr>
<tr>
<td>Total annual payroll, 2017 ($1,000)</td>
<td>179,520</td>
<td>6,725,346,754</td>
</tr>
<tr>
<td>Total employment, percent change, 2016-2017</td>
<td>-8.6%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Total nonemployer establishments, 2017</td>
<td>1,597</td>
<td>25,703,671</td>
</tr>
<tr>
<td>All firms, 2012</td>
<td>2,115</td>
<td>27,626,360</td>
</tr>
<tr>
<td>Men-owned firms, 2012</td>
<td>1,174</td>
<td>14,444,597</td>
</tr>
<tr>
<td>Women-owned firms, 2012</td>
<td>617</td>
<td>9,870,397</td>
</tr>
<tr>
<td>Minority-owned firms, 2012</td>
<td>62</td>
<td>7,952,366</td>
</tr>
<tr>
<td>Nonminority-owned firms, 2012</td>
<td>1,565</td>
<td>18,917,918</td>
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<tr>
<td>Veteran-owned firms, 2012</td>
<td>248</td>
<td>2,521,882</td>
</tr>
<tr>
<td>Nonveteran-owned firms, 2012</td>
<td>1,602</td>
<td>24,070,685</td>
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### GEOGRAPHY

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<thead>
<tr>
<th></th>
<th>2010</th>
<th>2010-2016</th>
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<tbody>
<tr>
<td>Population per square mile</td>
<td>47.6</td>
<td>87.4</td>
</tr>
<tr>
<td>Land area in square miles</td>
<td>592.25</td>
<td>3,531,505.43</td>
</tr>
<tr>
<td>FIPS Code</td>
<td>47017</td>
<td>00</td>
</tr>
</tbody>
</table>
About datasets used in this table

Value Notes

- Estimates are not comparable to other geographic levels due to methodology differences that may exist between different data sources.

Some estimates presented here come from sample data, and thus have sampling errors that may render some apparent differences between geographies statistically indistinguishable. Click the Quick Info icon in TABLE view to learn about sampling error.

The vintage year (e.g., V2019) refers to the final year of the series (2010 thru 2019). Different vintage years of estimates are not comparable.

Fact Notes

(a) Includes persons reporting only one race
(b) Hispanics may be of any race, so also are included in applicable race categories
(c) Economic Census - Puerto Rico data are not comparable to U.S. Economic Census data

Value Flags

- Either no or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest or open ended distribution.
D Suppressed to avoid disclosure of confidential information
FN Footnote on this item in place of data
NA Not available
S Suspressed; does not meet publication standards
X Not applicable
Z Value greater than zero but less than half unit of measure shown

A diagram of the prevailing winds at KMKL: Jackson Mckellar-Sipes Rgnl. The blue diagram at left is a wind rose: the bar length shows the frequency of winds from each direction. In the red diagram at right the bar length shows the average speed of winds when they come from that direction. For more information, see about this site.

Wind History, Copyright © 2011 Daedalus Bits, LLC. All rights reserved.