

**SECTION 10-1**  
CORRESPONDENCE WITH THE  
U.S. FISH AND WILDLIFE SERVICE

for

Northern Madison County Sanitation District  
Regional Facilities Plan

Hi  
call him to get  
map electronically  
from his station

nesbitt engineering, inc.



providing proven solutions since 1976

RECEIVED

JUL 17 2020

USFWS KYFO

July 15, 2020

Mr. Lee Andrews  
Field Supervisor  
U.S. Fish and Wildlife Service  
330 W. Broadway Street, #265  
Frankfort, Kentucky 40601

Significant Impacts to federally-listed species are not likely to result from this project as currently proposed. Project re-coordination is needed if the project changes or if new species or critical habitats are listed that could be impacted by the project.

JENNIFER GARLAND Digitally signed by JENNIFER GARLAND  
Date: 2020.07.31 12:34:34 -04'00'

For **Kentucky Field Supervisor**  
**U.S. Fish and Wildlife Service**

Date

RE: Northern Madison County Sanitation District, Regional Facilities Plan, Madison Co., KY

Dear Mr. Andrews:

Nesbitt Engineering, Inc. has been retained by Northern Madison County Sanitation District (NMCSD) to prepare a Regional Facilities Plan triggered by a proposed capacity expansion to the existing Battlefield Wastewater Treatment Plant (WWTP) located in the Battlefield Estates subdivision in Madison County, Kentucky. This WWTP is located south of Richmond in an area called Terrell.

Project #0-2A – "Boone Village Subdivision Sewer Project" is planned to be constructed in the 0-2 year planning period. This proposed project will bring public sewer collection and treatment to an established subdivision with lots that are small for individual septic tanks and lateral lines. Some of the homeowner on-site systems are failing. This project proposes one pump station and gravity sewers to service the fully developed subdivision. The force main sewer system will be constructed within previously disturbed road rights-of-way, while the gravity system will be installed on previously disturbed private property within the subdivision.

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Recently you reviewed and sent letters on the Boone Village project. The Regional Facilities Plan will address eleven separate sites over the next 20 years which are shown in the attached drawing DWG 3-1. The remaining sites on the drawing are proposed for the three through twenty years in the future. An environmental approval and clearance will be required on each of these sites before any construction would be approved by the KY DOW.

We are requesting that the U.S. Fish and Wildlife Service provide us with information concerning the possibility of federally protected wetlands, ecologically sensitive areas, or federally listed endangered or threatened species within the impact area of the proposed project. Please submit comments in a letter addressed to the undersigned when you have completed your review. If you require additional information, please call me at (859) 685-4525. On behalf of the NMCSD, thank you for your kind and prompt attention to this matter.

Sincerely,

Bill McGregor, PE.  
attachments





July 15, 2020

Mr. Lee Andrews  
Field Supervisor  
U.S. Fish and Wildlife Service  
330 W. Broadway Street, #265  
Frankfort, Kentucky 40601

RE: Northern Madison County Sanitation District, Regional Facilities Plan, Madison Co., KY

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

Sincerely,

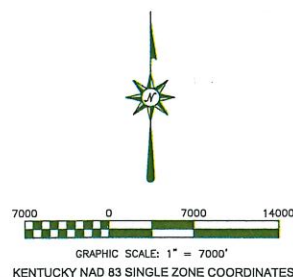
Bill McGregor, PE.  
attachments



This topographic map shows the Little Hickman (L61) and Buckeye (M41) areas. The map features contour lines indicating elevation, with a prominent peak in the upper left. A blue line represents Marble Creek, which flows from the upper right towards the center. A black line indicates the Watershed boundary, labeled 'WATERSHED MARBLE CREEK 33,589 A'. The map also shows a road network and a pink-shaded area in the upper left corner.

PLANNING PHASES	
PLANNING PERIOD (YEARS)	PROJECT DESCRIPTION
0-2A	EXTEND SEWER TO BOONE VILLAGE SUBDIVISION
0-2B	INCREASE BATTELFIELD ESTATES WWTP CAPACITY
3-10A	REHAB MADISON VILLAGE EXISTING SEWER SYSTEM
3-10B	EXTEND SEWER TO MCGUIRES MOBERLY SHELL, DECOMMISSION WWTP
3-10C	EXTEND SEWER TO WACO ELEMENTARY, DECOMMISSION WWTP
3-10D	EXTEND SEWER TO SHADY HILLS SUBDIVISION
11-20A	EXTEND SEWER TO BYBEE GROCERY, DECOMMISSION WWTP
11-20B	EXTEND SEWER TO KINGSTON ELEMENTARY, DECOMMISSION WWTP
11-20C	INCREASE CAPACITY OF WWTP OR DECOMMISSION WWTP AND PUMP TO BATTELFIELD WWTP
11-20D	INCREASE BATTELFIELD ESTATES WWTP CAPACITY
11-20E	INCREASE REGIONAL WWTP CAPACITY

LEGEND	
	NMCSO EXISTING PLANNING AREA
	NMCSO PROPOSED PLANNING AREA
	NMCSO EXISTING SEWERED AREA
	BEREA EXISTING SANITARY PLANNING AREA
	RICHMOND EXISTING SANITARY PLANNING AREA
	US ARMY DEPOT
★	SUBDIVISIONS SINCE 1995
■	PERMITTED WATER WITHDRAWALS
■	WATER WELLS (PUBLIC WATER SYSTEMS)
⊙	MUNICIPAL SEWAGE TREATMENT PLANT
▲	PRIVATE SEWAGE TREATMENT SYSTEM
1.	(KY0224006) BLUE GRASS ARMY DEPOT
2.	(KY0811299) BROCKLYN SUBDIVISION
3.	(KY0099317) EBYEE GROCERY
4.	(KY0224049) FORT BOONESSBOROUGH STATE PARK
5.	(KY0274543) KINGSTON ELEMENTARY SCHOOL
6.	(KY0104605) KIRKSVILLE COMMUNITY CENTER
7.	(KY0102571) KIRKSVILLE ELEMENTARY SCHOOL
8.	(KY0098175) MCGUIRES MOBERLY SHELL
9.	(KY0094803) PTRL, INC.
10.	(KY0074551) WACO ELEMENTARY SCHOOL
---	MADISON COUNTY BOUNDARY
---	WATERSHED BOUNDARY
---	CORPORATE BOUNDARY - CITY OF RICHMOND
---	CORPORATE BOUNDARY - CITY OF BEREA
PANDOLA (M&A)	USGS QUADRANGLE
NOTE: WATERSHED BOUNDARIES AND WATERSHED INFORMATION PROVIDED BY MADISON COUNTY GIS	



10/10/2018

NORTHERN MADISON COUNTY SANITATION DISTRICT  
201 AQUEDUCT DRIVE, 8-13, PO BOX 67  
RICHMOND, KENTUCKY 40476  
REGIONAL FACILITY PLAN

## GENERAL PLANNING AREA MAP



**mesbitt** engineering, inc.

**NORTHERN MADISON COUNTY SANITATION DISTRICT  
REGIONAL FACILITY PLAN**

drawn by:	job no.:	scale:
JCW	934.54	1" = 7000'

6-15-20



DWG 3-1



**SECTION 10-2**  
CORRESPONDENCE WITH THE  
KENTUCKY DEPARTMENT OF FISH AND WILDLIFE RESOURCES  
  
for  
Northern Madison County Sanitation District  
Regional Facilities Plan



**TOURISM, ARTS AND HERITAGE CABINET  
KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES**

**Andy Beshear**  
Governor

#1 Sportsman's Lane  
Frankfort, Kentucky 40601  
Phone (502) 564-3400  
Fax (502) 564-0506

**Mike Berry**  
Secretary

September 1, 2020

Nesbitt Engineering, Inc.  
Attn: Bill McGregor, P. E.  
227 North Upper Street  
Lexington, KY 40507

RE: Northern Madison County Sanitation District, Regional Facilities Plan, Madison Co., KY

Dear Mr. McGregor:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received your request for information regarding the subject project. Due to the location and nature of the project, KDFWR does not believe the project will impact any federal or state-listed threatened/endangered species or any associated critical habitat. No critical areas, wildlife preserves, or other significant ecological areas will be impacted by the proposed project.

To minimize indirect impacts to the aquatic environment, the KDFWR recommends that erosion control measures be developed and implemented prior to construction to reduce siltation into waterways located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed.

I hope this information is helpful to you, if you have questions or require additional information, please call me at 502-892-4472.

Sincerely,

A handwritten signature in black ink that reads "Doug Dawson".

Doug Dawson  
Environmental Section Chief







July 15, 2020

Mr. Daniel Stoelb  
Fisheries Program Coordinator  
Kentucky Department of Fish and Wildlife Resources  
#1 Sportsman's Lane  
Frankfort, Kentucky 40601

RE: Northern Madison County Sanitation District, Regional Facilities Plan, Madison Co., KY

Dear Mr. Stoelb:

Nesbitt Engineering, Inc. has been retained by Northern Madison County Sanitation District (NMCSD) to prepare a Regional Facilities Plan triggered by a proposed capacity expansion to the existing Battlefield Wastewater Treatment Plant (WWTP) located in the Battlefield Estates subdivision in Madison County, Kentucky. This WWTP is located south of Richmond in an area called Terrell.

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We request the Kentucky Department of Fish and Wildlife Resources provide us with information concerning the possibility of state listed or federally threatened or endangered species within the impact area of the proposed project. Please submit comments in a letter addressed to the undersigned when you have completed your review. If you require additional information, please call me at (859) 685-4525. On behalf of the NMCSD, thank you for your kind and prompt attention to this matter.

Sincerely,







Bill McGregor, PE.  
attachments







This topographic map displays the Little Hickman (L61) and Buckeye (M41) regions. The map features a network of roads, including a prominent red line running vertically on the left and a black line running horizontally across the middle. A blue line, representing Marble Creek, flows from the top right towards the bottom right. The map is divided into sections by a vertical black line on the right and a horizontal black line in the center. The text 'LITTLE HICKMAN (L61)' is located in the upper central part, and 'BUCKEYE (M41)' is in the lower central part. On the right side, near the creek, the text 'WATERSHED MARBLE CREEK 33,569 A' is visible. The map uses various shades of brown and green to represent different land features and elevations.

PLANNING PHASES	
PLANNING PERIOD (YEARS)	PROJECT DESCRIPTION
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3-10A	REHAB MADISON VILLAGE EXISTING SEWER SYSTEM
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11-20E	INCREASE REGIONAL WWTP CAPACITY





**LEGEND**

-  NMCSO EXISTING PLANNING AREA
-  NMCSO PROPOSED PLANNING AREA
-  NMCSO EXISTING SEWERED AREA
-  BEREA EXISTING SANITARY PLANNING AREA
-  RICHMOND EXISTING SANITARY PLANNING AREA
-  US ARMY DEPT

★ SUBDIVISIONS SINCE 1995

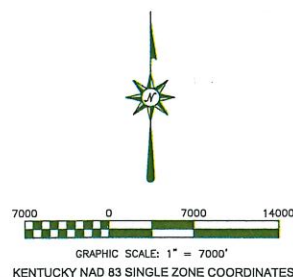
-  PERMITTED WATER WITHDRAWALS
-  WATER WELLS (PUBLIC WATER SYSTEMS)
-  MUNICIPAL SEWAGE TREATMENT PLANT
-  PRIVATE SEWAGE TREATMENT SYSTEM

1. (KY0224406) BLUE GRASS ARMY DEPT
2. (KY0811299) BROCKLYN SUBDIVISION
3. (KY0099317) BYRBE GROCERY
4. (KY0224409) FORT BOONESSBOROUGH STATE PARK
5. (KY0274548) KINGSTON ELEMENTARY SCHOOL
6. (KY0104695) KIRKSVILLE COMMUNITY CENTER
7. (KY0102571) KIRKSVILLE ELEMENTARY SCHOOL
8. (KY0981715) MCGUIRES MOBERLY SHELL
9. (KY0948033) PTRL, INC.
10. (KY0074551) WACO ELEMENTARY SCHOOL

-  MADISON COUNTY BOUNDARY
-  WATERSHED BOUNDARY
-  CORPORATE BOUNDARY - CITY OF RICHMOND
-  CORPORATE BOUNDARY - CITY OF BEREA

**PANDOLA (M&A)** USGS QUADRANGLE

NOTE: WATERSHED BOUNDARIES AND WATERSHED INFORMATION PROVIDED BY MADISON COUNTY GIS



10/10/2018

NORTHERN MADISON COUNTY SANITATION DISTRICT  
201 AQUEDUCT DRIVE, 8-13, PO BOX 67  
RICHMOND, KENTUCKY 40476  
REGIONAL FACILITY PLAN

# GENERAL PLANNING AREA MAP



**mesbitt** engineering, inc.

**NORTHERN MADISON COUNTY SANITATION DISTRICT  
REGIONAL FACILITY PLAN**

drawn by:	job no.:	scale:
JCW	934.54	1" = 7000'

6-15-20



DWG 3-1



**SECTION 10-3**

CORRESPONDENCE WITH THE  
KENTUCKY HERITAGE COUNCIL

for

Northern Madison County Sanitation District  
Regional Facilities Plan



**ANDY BESHEAR**  
GOVERNOR

**TOURISM, ARTS AND HERITAGE CABINET**  
**KENTUCKY HERITAGE COUNCIL**  
**THE STATE HISTORIC PRESERVATION OFFICE**

**MICHAEL E. BERRY**  
SECRETARY

**JACQUELINE COLEMAN**  
LT. GOVERNOR

410 HIGH STREET  
FRANKFORT, KENTUCKY 40601  
(502) 564-7005  
[www.heritage.ky.gov](http://www.heritage.ky.gov)

**CRAIG A. POTTS**  
EXECUTIVE DIRECTOR &  
STATE HISTORIC  
PRESERVATION OFFICER

August 11, 2020

Mr. Bill McGregor  
Nesbitt Engineering  
227 North Upper Street  
Lexington, KY 40507-1016

**Re: Northern Madison County Sanitation District Regional Facilities Plan.**

Dear Mr. McGregor:

Thank you for your letter and enclosed information concerning the above-mentioned project, received July 17, 2020. We understand that Nesbitt Engineering is assisting the Northern Madison County Sanitation District to develop a regional facilities plan comprising several projects that will be completed over the next twenty years.

We would recommend that, in general, the kinds of projects that are discussed in the letter have the potential to affect historic properties. However, we are unable to comment on any of the individual projects outlined in your letter as planning has not progressed far enough to identify an area of potential effect or funding sources. As specific projects as part of this plan are developed, we look forward to continuing consultation with you.

In the meantime, we would recommend that there are two approaches to gathering information concerning previously identified cultural resources within the general areas in which projects are proposed. The first is to submit a preliminary records request to the data managers at the Kentucky Heritage Council and at the Office of State Archaeology at the University of Kentucky. Both of these requests can be made online and can provide an overview of potentially affected resources. Web addresses for each of these services are included below. The second approach that you may consider is to contract with a cultural resources firm to develop a scoping study for your plan.

Should you have any questions concerning archaeological resources, feel free to contact Chris Gunn of my staff at (502) 892-3615 or [chris.gunn@ky.gov](mailto:chris.gunn@ky.gov). Questions concerning above-ground resources can be directed to Jennifer Ryall at (502) 892-3619 or [jennifer.ryall@ky.gov](mailto:jennifer.ryall@ky.gov).

Sincerely,

Craig A. Potts,  
Executive Director and  
State Historic Preservation Officer

CP:cmg, jr KHC #59111

Kentucky Heritage Council data requests: <https://secure.kentucky.gov/formservices/Heritage/SiteID>  
Office of State Archaeology data requests: <https://anthropology.as.uky.edu/recorded-archaeological-sites>



An Equal Opportunity Employer





July 15, 2020

Mr. Craig Potts  
Executive Director & State Historic Preservation Officer  
Kentucky Heritage Council  
410 High Street  
Frankfort, Kentucky 40601

RE: Northern Madison County Sanitation District, Regional Facilities Plan, Madison Co., KY

Dear Mr. Potts:

Nesbitt Engineering, Inc. has been retained by Northern Madison County Sanitation District (NMCSD) to prepare a Regional Facilities Plan triggered by a proposed capacity expansion to the existing Battlefield Wastewater Treatment Plant (WWTP) located in the Battlefield Estates subdivision in Madison County, Kentucky. This WWTP is located south of Richmond in an area called Terrell.

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We are requesting that the State Historic Preservation Office provide us with information concerning any historic and/or archaeological resources on and adjacent to the proposed project site. Please submit comments in a letter addressed to the undersigned when you have completed your review. If you require additional information, please call me at (859) 685-4525. On behalf of the NMCSD, thank you for your kind and prompt attention to this matter.







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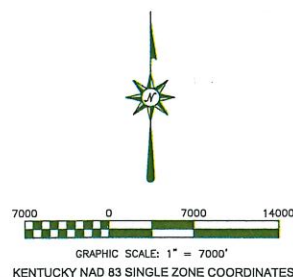
Bill McGregor, PE.  
attachments



This topographic map shows the Little Hickman (L41) and Buckeye (M41) areas. The map features a grid system with letters A through J along the top and numbers 1 through 10 along the right side. Key geographical features include Marble Creek and Waters, which are labeled in the upper right quadrant. The map also shows various roads, including a major road labeled '100' and several smaller roads. The terrain is depicted with contour lines and color shading, indicating elevation changes. The map is oriented with North at the top.

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10/10/2018

NORTHERN MADISON COUNTY SANITATION DISTRICT  
201 AQUEDUCT DRIVE, 8-13, PO BOX 67  
RICHMOND, KENTUCKY 40476  
REGIONAL FACILITY PLAN

# GENERAL PLANNING AREA MAP



**mesbitt** engineering, inc.

**NORTHERN MADISON COUNTY SANITATION DISTRICT  
REGIONAL FACILITY PLAN**

drawn by:	job no.:	scale:
JCW	934.54	1" = 7000'

6-15-20



DWG 3-1

**SECTION 10-4**  
CORRESPONDENCE WITH THE  
U.S. CORPS OF ENGINEERS

for

Northern Madison County Sanitation District  
Regional Facilities Plan



**DEPARTMENT OF THE ARMY**  
**U.S. ARMY CORPS OF ENGINEERS, LOUISVILLE DISTRICT**  
**600 DR. MARTIN LUTHER KING JR PL**  
**LOUISVILLE, KY 40202**

July 27, 2020

Regulatory Division  
South Branch  
ID No. LRL-2020-622-jwr

Nesbitt Engineering, Inc.  
Attn: Mr. Bill McGregor  
227 North Upper Street  
Lexington, Kentucky 40507

Dear Mr. McGregor:

This is in response to your request, dated July 15, 2020, on behalf of the Northern Madison County Sanitation District (NMCSO) concerning the proposal to expand the capacity of the existing Battlefield Wastewater Treatment Plant located in the Battlefield Estates subdivision. The proposed activities would include the relocation of an existing decommissioned and reconditioned package treatment plant to, and within, the existing property boundary of the battlefield treatment plant site. Under the NMCSO Regional Facilities Plan, additional proposals would include activities at eleven (11) separate sites over the next 20 years. All proposed activities, based on the submitted documentation, would take place in Madison County, Kentucky.

The U.S. Army Corps of Engineers (USACE) exercises regulatory authority under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act, 1972 (33 USC 1344) for certain activities in "waters of the United States (U.S.)." These waters include all waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce. "Waters of the U.S." include hydrologically connected lakes, rivers, and stream channels exhibiting an Ordinary High Water Mark (OHWM); wetlands; sloughs; and wet meadows and wetlands adjacent to "waters of the U.S."

The mapping you provided shows proposed work in or near what appears to be "waters of the U.S." These waters include wetlands, intermittent tributaries, and/or perennial tributaries to include, but not limited to, Hays Fork. If the project would necessitate the discharge of dredged or fill material into any "waters of the U.S." including wetlands, then you should submit a DA permit application for review by this office.



We will need a completed DA permit application along with additional details regarding the project's design, scope, construction methods, purpose and a delineation of all "waters of the U.S.," including the coordinates and locations of each "water" within the proposed project area and all impacts to waters (linear feet, width, and acreage).

Our comments on this project are limited to only those effects which may fall within our area of jurisdiction and thus does not obviate the need to obtain other permits from State or local agencies. Further information on the Regulatory Program, including the DA Permit application, can be obtained from our website at <http://www.lrl.usace.army.mil/Missions/Regulatory.aspx>. Please allow sufficient time in your preconstruction schedule for the processing of a DA permit application.

Your request has been assigned ID No. LRL-2020-622-jwr. Please reference this number on all correspondence pertaining to this project. If you have any questions please contact this office by writing to the above address, ATTN: CELRL-RDS or by calling me at 502-315-2643.

Sincerely,



Jason Rhoades  
Regulatory Biologist, South Branch  
Regulatory Division



July 15, 2020

Mr. David Baldrige  
Chief, South Branch – Regulatory Division  
United States Army Corps of Engineers, Louisville District  
P.O. Box 59 Room 752  
Louisville, Kentucky 40201

RE: Northern Madison County Sanitation District, Regional Facilities Plan, Madison Co., KY

Dear Mr. Baldrige:

Nesbitt Engineering, Inc. has been retained by Northern Madison County Sanitation District (NMCSD) to prepare a Regional Facilities Plan triggered by a proposed capacity expansion to the existing Battlefield Wastewater Treatment Plant (WWTP) located in the Battlefield Estates subdivision in Madison County, Kentucky. This WWTP is located south of Richmond in an area called Terrell.

Project #0-2A – “Boone Village Subdivision Sewer Project” is planned to be constructed in the 0-2 year planning period. This proposed project will bring public sewer collection and treatment to an established subdivision with lots that are small for individual septic tanks and lateral lines. Some of the homeowner on-site systems are failing. This project proposes one pump station and gravity sewers to service the fully developed subdivision. The force main sewer system will be constructed within previously disturbed road rights-of-way, while the gravity system will be installed on previously disturbed private property within the subdivision.

The second project proposed in the 0-2 year Planning Period is the “Battlefield WWTP Expansion Project”, mentioned above which has been labeled as Project #0-2B - Increase Battlefield WWTP Capacity. This project will relocate an existing decommissioned and reconditioned package treatment plant to and within the existing property boundary of the BF treatment plant site in parallel with the existing treatment units.

Recently you reviewed and sent letters on the Boone Village project. The Regional Facilities Plan will address eleven separate sites over the next 20 years which are shown in the attached drawing DWG 3-1. The remaining sites on the drawing are proposed for the three through twenty years in the future. An environmental approval and clearance will be required on each of these sites before any construction would be approved by the KY DOW.







We are requesting that the Army Corps of Engineers provide us with information concerning the possibility of wetlands within the impact area of the proposed project. Please submit comments in a letter addressed to the undersigned when you have completed your review. If you require additional information, please call me at (859) 685-4525. On behalf of NMCSD, thank you for your kind and prompt attention to this matter.

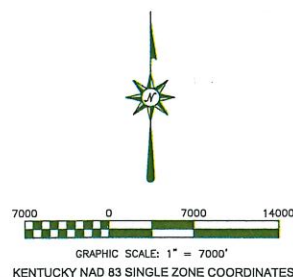
Sincerely,

Bill McGregor, PE.  
attachments



PLANNING PHASES	
PLANNING PERIOD (YEARS)	PROJECT DESCRIPTION
0-2A	EXTEND SEWER TO BOONE VILLAGE SUBDIVISION
0-2B	INCREASE BATTELFIELD ESTATES WWTP CAPACITY
3-10A	REHAB MADISON VILLAGE EXISTING SEWER SYSTEM
3-10B	EXTEND SEWER TO MCGUIRES MOBERLY SHELL, DECOMMISSION WWTP
3-10C	EXTEND SEWER TO WACO ELEMENTARY, DECOMMISSION WWTP
3-10D	EXTEND SEWER TO SHADY HILLS SUBDIVISION
11-20A	EXTEND SEWER TO BYBEE GROCERY, DECOMMISSION WWTP
11-20B	EXTEND SEWER TO KINGSTON ELEMENTARY, DECOMMISSION WWTP
11-20C	INCREASE CAPACITY OF WWTP OR DECOMMISSION WWTP AND PUMP TO BATTELFIELD WWTP
11-20D	INCREASE BATTELFIELD ESTATES WWTP CAPACITY
11-20E	INCREASE REGIONAL WWTP CAPACITY

LEGEND	
	NMCSO EXISTING PLANNING AREA
	NMCSO PROPOSED PLANNING AREA
	NMCSO EXISTING SEWERED AREA
	BEREA EXISTING SANITARY PLANNING AREA
	RICHMOND EXISTING SANITARY PLANNING AREA
	US ARMY DEPOT
★	SUBDIVISIONS SINCE 1995
■	PERMITTED WATER WITHDRAWALS
■	WATER WELLS (PUBLIC WATER SYSTEMS)
⊙	MUNICIPAL SEWAGE TREATMENT PLANT
▲	PRIVATE SEWAGE TREATMENT SYSTEM
1.	(KY0024406) BLUE GRASS ARMY DEPOT
2.	(KY0081299) BROCKLYN SUBDIVISION
3.	(KY0099317) EBYEE GROCERY
4.	(KY0024409) FORT BOONESSBOROUGH STATE PARK
5.	(KY0074543) KINGSTON ELEMENTARY SCHOOL
6.	(KY0104605) KIRKSVILLE COMMUNITY CENTER
7.	(KY0102571) KIRKSVILLE ELEMENTARY SCHOOL
8.	(KY0098175) MCGUIRES MOBERLY SHELL
9.	(KY0094803) PTRL, INC.
10.	(KY0074551) WACO ELEMENTARY SCHOOL
---	MADISON COUNTY BOUNDARY
---	WATERSHED BOUNDARY
---	CORPORATE BOUNDARY - CITY OF RICHMOND
---	CORPORATE BOUNDARY - CITY OF BEREA
PANDOLA (M&A)	USGS QUADRANGLE
NOTE: WATERSHED BOUNDARIES AND WATERSHED INFORMATION PROVIDED BY MADISON COUNTY GIS	



10/10/2018

NORTHERN MADISON COUNTY SANITATION DISTRICT  
201 AQUEDUCT DRIVE, 8-13, PO BOX 67  
RICHMOND, KENTUCKY 40476  
REGIONAL FACILITY PLAN

## GENERAL PLANNING AREA MAP



**mesbitt** engineering, inc.

**NORTHERN MADISON COUNTY SANITATION DISTRICT  
REGIONAL FACILITY PLAN**

drawn by:	job no.:	scale:
JCW	934.54	1" = 7000'

6-15-20



DWG 3-1

**SECTION 10-5**  
CORRESPONDENCE WITH THE  
NATURAL RESOURCES AND CONSERVATION SERVICES

for  
Northern Madison County Sanitation District  
Regional Facilities Plan





United States Department of Agriculture

Natural Resources Conservation Service  
Owensboro USDA Service Center  
3100 Alvey Park Drive W  
Owensboro, KY 42303

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August 5, 2020

Bill McGregor  
Nesbitt Engineering, INC.  
227 North Upper Street  
Lexington, KY 40507

**RE: NORTHERN MADISON COUNTY SANITATION DISTRICT, REGIONAL FACILITIES PLAN, MADISON CO., KY**

Dear Mr. McGregor:

In response to your request from 7/15/2020 regarding the above referenced project in Madison County, Kentucky, the Natural Resources Conservation Service (NRCS) has no congressional authority for conducting Environmental Assessments (EA).

NRCS is mandated to provide information on the soils and/or impact to farmland according to the Farmland Protection Policy Act (P.L. 97-98) for projects that will be utilizing federal funding.

Based on the information contained in your request and accompanying map, no conversion of agricultural lands (*Prime or Statewide Important Farmland*) will occur or be negatively impacted by the proposed project #0-2A or #0-2B. Therefore, this office has no other concerns at this time.

If I may be of additional assistance, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Perri Pedley", is located below the "Sincerely," text.

**Perri Pedley**  
Soil Scientist  
*Perri. Pedley@usda.gov*



July 15, 2020

Mr. Randall Templeman  
District Conservationist  
Natural Resources Conservation Service  
1024 Ival James Blvd.  
Richmond, KY 40475

RE: Northern Madison County Sanitation District, Regional Facilities Plan, Madison Co., KY

Dear Mr. Timpleman:

Nesbitt Engineering, Inc. has been retained by Northern Madison County Sanitation District (NMCS D) to prepare a Regional Facilities Plan triggered by a proposed capacity expansion to the existing Battlefield Wastewater Treatment Plant (WWTP) located in the Battlefield Estates subdivision in Madison County, Kentucky. This WWTP is located south of Richmond in an area called Terrell.

Project #0-2A – “Boone Village Subdivision Sewer Project” is planned to be constructed in the 0-2 year planning period. This proposed project will bring public sewer collection and treatment to an established subdivision with lots that are small for individual septic tanks and lateral lines. Some of the homeowner on-site systems are failing. This project proposes one pump station and gravity sewers to service the fully developed subdivision. The force main sewer system will be constructed within previously disturbed road rights-of-way, while the gravity system will be installed on previously disturbed private property within the subdivision.

The second project proposed in the 0-2 year Planning Period is the “Battlefield WWTP Expansion Project”, mentioned above which has been labeled as Project #0-2B - Increase Battlefield WWTP Capacity. This project will relocate an existing decommissioned and reconditioned package treatment plant to and within the existing property boundary of the BF treatment plant site in parallel with the existing treatment units.

Recently you reviewed and sent letters on the Boone Village project. The Regional Facilities Plan will address eleven separate sites over the next 20 years which are shown in the attached drawing DWG 3-1. The remaining sites on the drawing are proposed for the three through twenty years in the future. An environmental approval and clearance will be required on each of these sites before any construction would be approved by the KY DOW.

We request that the Natural Resource Conservation Service provide information concerning the possibility of hydric soils, prime farmland, or farmland of statewide importance within the impact area of the proposed project areas. Please submit comments in a letter addressed to the undersigned when you have completed your review. If you require additional information, please call me at (859) 685-4525. On behalf of the NMCS D, thank you for your kind and prompt attention to this matter.







Sincerely,

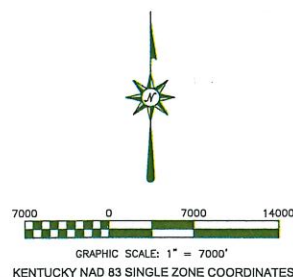
Bill McGregor, PE.  
attachments



This topographic map shows the Little Hickman (L61) and Buckeye (M41) areas. The map features contour lines indicating elevation, with a prominent peak in the upper left. A blue line represents Marble Creek, which flows from the upper right towards the center. A black line indicates the Watershed boundary, labeled 'WATERSHED MARBLE CREEK 33,589 A'. The map also shows a road network and a pink-shaded area in the upper left corner.

PLANNING PHASES	
PLANNING PERIOD (YEARS)	PROJECT DESCRIPTION
0-2A	EXTEND SEWER TO BOONE VILLAGE SUBDIVISION
0-2B	INCREASE BATTELFIELD ESTATES WWTP CAPACITY
3-10A	REHAB MADISON VILLAGE EXISTING SEWER SYSTEM
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11-20E	INCREASE REGIONAL WWTP CAPACITY

LEGEND	
	NMCSO EXISTING PLANNING AREA
	NMCSO PROPOSED PLANNING AREA
	NMCSO EXISTING SEWERED AREA
	BEREA EXISTING SANITARY PLANNING AREA
	RICHMOND EXISTING SANITARY PLANNING AREA
	US ARMY DEPOT
★	SUBDIVISIONS SINCE 1995
■	PERMITTED WATER WITHDRAWALS
■	WATER WELLS (PUBLIC WATER SYSTEMS)
⊙	MUNICIPAL SEWAGE TREATMENT PLANT
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1.	(KY0024406) BLUE GRASS ARMY DEPOT
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5.	(KY0074543) KINGSTON ELEMENTARY SCHOOL
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PANDOLA (M&A)	USGS QUADRANGLE
NOTE: WATERSHED BOUNDARIES AND WATERSHED INFORMATION PROVIDED BY MADISON COUNTY GIS	



10/10/2018

NORTHERN MADISON COUNTY SANITATION DISTRICT  
201 AQUEDUCT DRIVE, 8-13, PO BOX 67  
RICHMOND, KENTUCKY 40476  
REGIONAL FACILITY PLAN

# GENERAL PLANNING AREA MAP



**mesbitt** engineering, inc.

**NORTHERN MADISON COUNTY SANITATION DISTRICT  
REGIONAL FACILITY PLAN**

drawn by:	job no.:	scale:
JCW	934.54	1" = 7000'

6-15-20



DWG 3-1

**SECTION 10-6**

**ALL AGENCY CORRESPONDENCE ON  
PROJECT #0-2A – BOONE VILLAGE SUBDIVISION**

for

Northern Madison County Sanitation District  
Regional Facilities Plan





**CEDA**  
COMMUNITY & ECONOMIC  
DEVELOPMENT ASSOCIATES, INC.

P.O. Box 855  
Richmond, KY 40476

Phone: 859-624-3396

[www.cedainc.net](http://www.cedainc.net)

November 5, 2019

James Gruhala  
U.S. Fish & Wildlife Service  
330 W. Broadway, Room 265  
Frankfort, KY 40601

Re: Northern Madison County Sanitation District- Boone Village Wastewater Collection System

Dear Mr. Gruhala:

The NMCS D is undertaking an environmental assessment for a proposed project to install approximately 7,701 LF of gravity sewers, 35 manholes, two submersible pump stations and approximately 4,700 LF of 4" diameter force main.

All activities will occur in existing disturbed areas.

As part of the process in preparing an Environmental Assessment for the Project, we request your input relating to the potential on any threatened, rare or endangered species as well as the impact on any wetland resource in the area.

I have enclosed a set of project maps for your review. Should you have any questions please do not hesitate to call.

Sincerely,

Patrick Kirby

Enclosures



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Kentucky Ecological Services Field Office  
J C Watts Federal Building, Room 265  
330 West Broadway  
Frankfort, KY 40601-8670  
Phone: (502) 695-0468 Fax: (502) 695-1024  
<http://www.fws.gov/frankfort/>

IPaC Record Locator: 818-21420503

April 23, 2020

Subject: Consistency letter for the 'Boone's Village Wastewater Collection System' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Patrick Kirby:

The U.S. Fish and Wildlife Service (Service) received on April 23, 2020 your effects determination for the 'Boone's Village Wastewater Collection System' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause "take"<sup>[1]</sup> of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action's effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

The IPaC-assisted determination for the northern long-eared bat **does not** apply to the following ESA-protected species that also may occur in your Action area:

- Gray Bat, *Myotis grisescens* (Endangered)

- Indiana Bat, *Myotis sodalis* (Endangered)
- Running Buffalo Clover, *Trifolium stoloniferum* (Endangered)
- Sheepnose Mussel, *Plethobasus cyphus* (Endangered)
- Short's Bladderpod, *Physaria globosa* (Endangered)
- Virginia Big-eared Bat, *Corynorhinus* (= *Plecotus*) *townsendii virginianus* (Endangered)

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].



**Action Description**

You provided to IPaC the following name and description for the subject Action.

**1. Name**

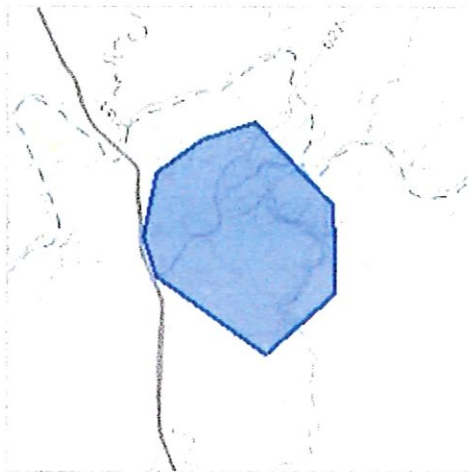
Boone's Village Wastewater Collection System

**2. Description**

The following description was provided for the project 'Boone's Village Wastewater Collection System':

Installation of approximately 7,701 LF of gravity sewers, thirty-five manholes, two submersible pump stations and approximately 4,700 LF of 4" diameter force main to collect and transport the wastewater from 70 residences and 1 commercial establishment to the existing NMCSD system. This flow will ultimately be treated at the District's Regional WWTP. Currently, this subdivision has only on site (septic) treatment and during the summer, sewage has been reported to run on top of the ground and in ditch lines. This sewage and odor is quite a nuisance and health hazard for the residents and their children that live in this area.

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/37.856277715726144N84.29169054173636W>

**Determination Key Result**

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

**Determination Key Description: Northern Long-eared Bat 4(d) Rule**

This key was last updated in IPaC on **May 15, 2017**. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

## Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

## Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

*No*

2. Will your activity purposefully **Take** northern long-eared bats?

*No*

3. Is the project action area located wholly outside the White-nose Syndrome Zone?

**Automatically answered**

*No*

4. Is the project action area located within 0.25 miles of a known northern long-eared bat hibernaculum?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency

**Automatically answered**

*No*

5. Is the project action area located within 150 feet of a known occupied northern long-eared bat maternity roost tree?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency

**Automatically answered**

*No*



## Project Questionnaire

**If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.**

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

**If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.**

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

**If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.**

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

**If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.**

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?  
0



**CEDA**  
COMMUNITY & ECONOMIC  
DEVELOPMENT ASSOCIATES, INC.

P.O. Box 855  
Richmond, KY 40476

Phone: 859-624-3396

[www.cedalnc.net](http://www.cedalnc.net)

November 5, 2019

Mr. Mike Turner  
CELRL-PM-P-E Rm. 708  
United States Army Corp of Engineers  
PO Box 59  
Louisville, KY 40201-0059

Re: Northern Madison County Sanitation District- Boone Village Wastewater Collection System

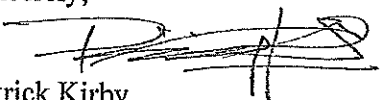
Dear Mr. Turner:

The NMCS D is undertaking an environmental assessment for a proposed project to install approximately 7,701 LF of gravity sewers, 35 manholes, two submersible pump stations and approximately 4,700 LF of 4" diameter force main.

All activities will occur in existing disturbed areas. I have attached mapping of the project location. The coordinates for the entrance to the Boone Village neighborhood are: 37°51'25.4N 84°18'24.5"W

As part of the process in preparing an Environmental Assessment for the Project, we request your input relating to the potential impact on Waters of the U.S. that this project could create.

Sincerely,

  
Patrick Kirby

Enclosures





**CEDA**  
COMMUNITY & ECONOMIC  
DEVELOPMENT ASSOCIATES, INC.

P.O. Box 855  
Richmond, KY 40476

Phone: 859-624-3396

[www.cedainc.net](http://www.cedainc.net)

## MEMORANDUM

**TO:** EA File  
NMCSO- Boone Village Wastewater Collection System Project

**FROM:** Patrick Kirby

**DATE:** April 17, 2020

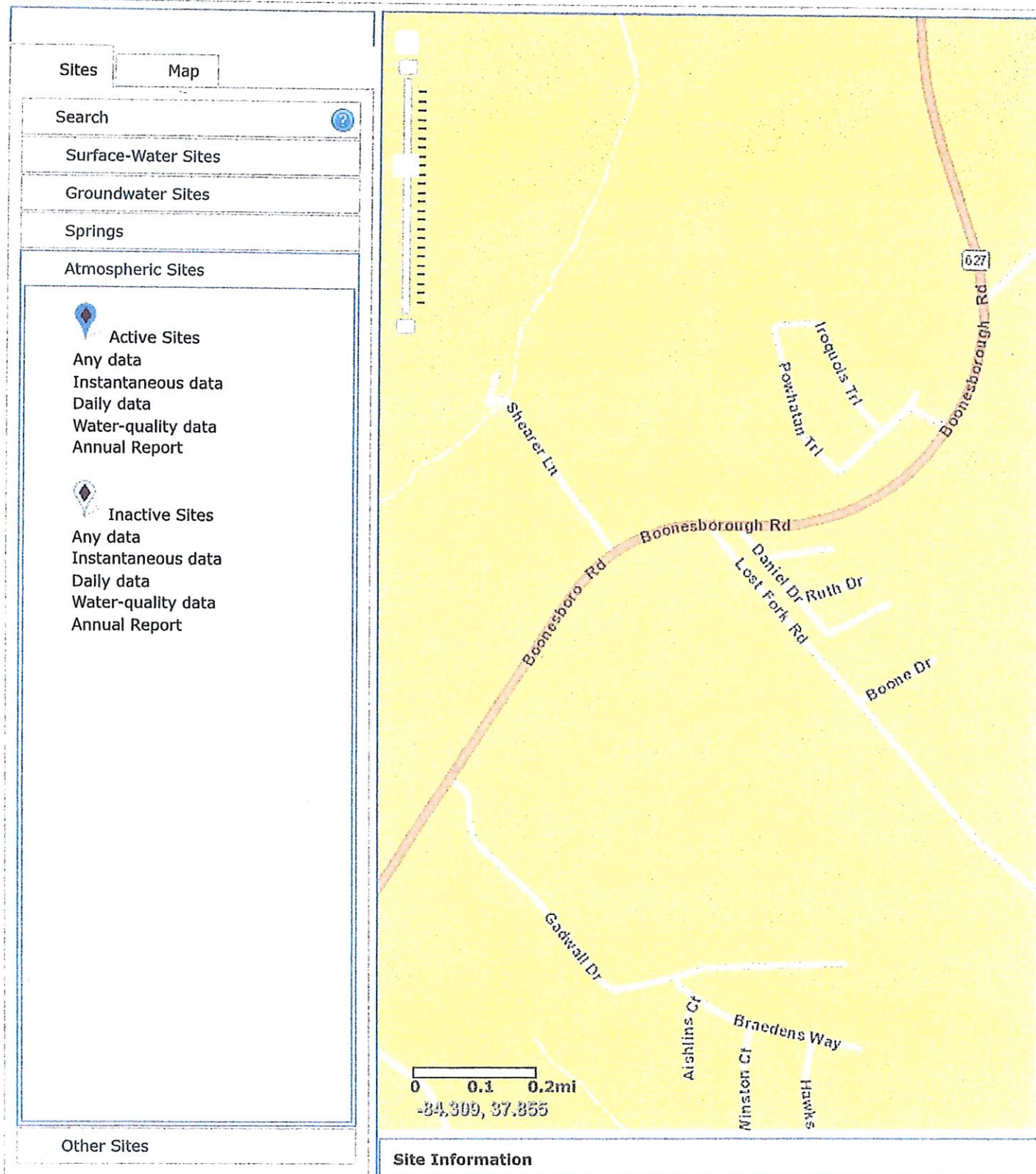
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A letter was sent to the U.S. Army Corp of Engineers on November 5, 2019 requesting input regarding adverse effects to Waters of the U.S. by the activities involved in the Boone Village Wastewater Collection System Project. As of April 17, 2020, I have not received a response.

I have examined USGS National Water Information System mapping of the proposed project area, utilizing it's filters to determine if the project area contains any of the following (selecting 'Any Data' in each field): Surface-Water Sites, Groundwater Sites, Springs, Atmospheric Sites, Other Sites.

None of these sites were found in the proposed project area, so it is my determination that Waters of the U.S. will not be impacted by this projects activities.

# National Water Information System: Mapper





**CEDA**  
COMMUNITY & ECONOMIC  
DEVELOPMENT ASSOCIATES, INC.

P.O. Box 855  
Richmond, KY 40476

Phone: 859-624-3396

patrick@cedainc.net

November 5, 2019

Natural Resources Conservation Service  
c/o Perri Pedley  
Owensboro USDA Service Center  
3100 Alvey Park Drive W  
Owensboro, KY 42303

Re: Northern Madison County Sanitation District- Boone Village Wastewater Collection System

Dear Ms. Pedley:

The NMCSO is undertaking an environmental assessment for the proposed Project. The project proposes to install approximately 7,701 LF of gravity sewers, 35 manholes, two submersible pump stations and approximately 4,700 LF of 4" diameter force main.

As part of the process in preparing an Environmental Assessment for the proposed Boone Village Wastewater Collection System Project, we are asking for your comments regarding the following items:

- a. Presence of any wetland
- b. Project impact on farmland
- c. Soil suitability for project activities
- d. Comments on the slope of the land
- e. Erosion control measures

I have enclosed a project map to assist you in your review. The coordinates for the entrance to the neighborhood are: 37°51'25.8"N 84°18'23.3"W. Should you have any questions please do not hesitate to contact me.

Sincerely,

Patrick Kirby

Enclosures

Cc: EA File





United States Department of Agriculture

Natural Resources Conservation Service  
Owensboro USDA Service Center  
3100 Alvey Park Drive W  
Owensboro, KY 42303

---

July 14, 2020

Patrick Kirby  
Community & Economic Development Associates, Inc.  
P.O. Box 855  
Richmond, KY 40476

**RE: NORTHERN MADISON COUNTY SANITATION DISTRICT—BOONE VILLAGE WASTEWATER COLLECTION SYSTEM**

Dear Mr. Kirby:

In response to your request from 7/13/2020 regarding the above referenced project in Madison County, Kentucky, the Natural Resources Conservation Service (NRCS) has no congressional authority for conducting Environmental Assessments (EA).

NRCS is mandated to provide information on the soils and/or impact to farmland according to the Farmland Protection Policy Act (P.L. 97-98) for projects that will be utilizing federal funding.

Based on the information contained in your request and accompanying maps, no conversion of agricultural lands (*Prime or Statewide Important Farmland*) will occur or be negatively impacted by the proposed undertaking. Therefore, this office has no other concerns at this time.

If I may be of additional assistance, please do not hesitate to contact me.

Sincerely,

**Perri Pedley**  
Soil Scientist  
[Perri.Pedley@usda.gov](mailto:Perri.Pedley@usda.gov)



**CEDA**  
COMMUNITY & ECONOMIC  
DEVELOPMENT ASSOCIATES, INC.

P.O. Box 855  
Richmond, KY 40476

Phone: 859-624-3396

[www.cedainc.net](http://www.cedainc.net)

November 6, 2019

Doug Dawson, Wildlife Biologist  
Kentucky Department of Fish & Wildlife  
#1 Sportsman's Lane  
Frankfort, KY 40601

Re: Northern Madison County Sanitation District- Boone Village Wastewater Collection System

Mr. Dawson:

The Northern Madison County Sanitation District is undertaking an environmental assessment for a proposed project to install approximately 7,701 LF of gravity sewers, 35 manholes, two submersible pump stations and approximately 4,700 LF of 4" diameter force main.

All activities will occur in existing disturbed areas.

The District is preparing an Environmental Assessment of this project and we ask your assistance in identifying the potential impact on any threatened, rare or endangered species as well as the impact on any wetland resources in the area.

I have enclosed a set of project maps to assist you in your review. Should you have any questions please do not hesitate to call.

Sincerely

Patrick Kirby

Enclosures



**TOURISM, ARTS AND HERITAGE CABINET  
KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES**

**Matthew G. Bevin**  
Governor

**Don Parkinson**  
Secretary

#1 Sportsman's Lane  
Frankfort, Kentucky 40601  
Phone (502) 564-3400  
1-800-858-1549  
Fax (502) 564-0506  
[fw.ky.gov](http://fw.ky.gov)

**Regina Stivers**  
Deputy Secretary

**Rich Storm**  
Commissioner

November 13, 2019

Community & Economic Development Associates, Inc.  
Attn: Patrick Kirby  
P. O. Box 855  
Richmond, KY 40476

RE: Northern Madison County Sanitation District – Boone Village Wastewater Collection System

Dear Mr. Kirby:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received your request for information regarding the subject project. Due to the location and nature of the project, KDFWR does not believe the project will impact any federally or state-listed threatened/endangered species or any associated critical habitat. No critical areas, wildlife preserves, or other significant ecological areas will be impacted by the proposed project.

To minimize indirect impacts to the aquatic environment, the KDFWR recommends that erosion control measures be developed and implemented prior to construction to reduce siltation into waterways located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed.

I hope this information is helpful to you, if you have questions or require additional information, please call me at 502-892-4472.

Sincerely,

*Doug Dawson*

Doug Dawson  
Environmental Section Chief

Cc: Environmental Section File



**SECTION 10-7**

**STATEMENT OF NMCSO COMPLIANCE  
WITH ALL ENVIRONMENTAL MITIGATIONS REQUIRED BY CROSS-  
CUTTER LETTERS**

for

**Northern Madison County Sanitation District  
Regional Facilities Plan**

NORTHERN MADISON COUNTY SANITATION DISTRICT

P.O. Box 674, Richmond, KY 40476-0067

Phone (859) 626-0431

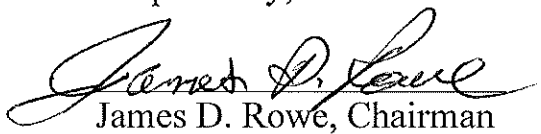
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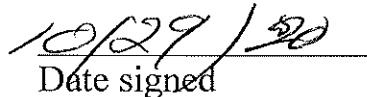
October 28, 2020

To Whom it May Concern

The NMCSD commits to all environmental mitigation required by the Federal cross-cutter agencies as it relates to implementing future projects.

Respectfully,

  
James D. Rowe, Chairman

  
Date signed

**SECTION 11-1**

ARCHAEOLOGICAL SURVEY FOR BOONE VILLAGE PUMP STATION

MADISON COUNTY, KENTUCKY

for

Northern Madison County Sanitation District

Regional Facilities Plan



# AN ARCHAEOLOGICAL SURVEY FOR THE PROPOSED BOONE VILLAGE PUMP STATION PROJECT IN MADISON COUNTY, KENTUCKY



by  
*Avia Gene Brock, Jr.*

---

*Prepared for*



**nesbitt engineering, inc.**

---

*Prepared by*



**cra**  
cultural resource analysts, inc

Kentucky | West Virginia | Wyoming  
Indiana | Louisiana | Tennessee | Virginia



# **AN ARCHAEOLOGICAL SURVEY FOR THE PROPOSED BOONE VILLAGE PUMP STATION PROJECT IN MADISON COUNTY, KENTUCKY**

by

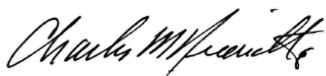
Avia Gene Brock, Jr.  
With a contribution by Julia K.C. Gruhot

*Prepared for:*

Bill McGregor, P.E.  
Nesbitt Engineering, Inc.  
227 North Upper Street  
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main: (859) 233-3111  
bmcmgregor@nei-ky.com

*Prepared by:*

Cultural Resource Analysts, Inc.  
151 Walton Avenue  
Lexington, Kentucky 40508  
Phone: (859) 252-4737  
Fax: (859) 254-3747  
E-mail: cmniquette@crai-ky.com  
CRA Project No.: K20N001



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Charles M. Niquette, RPA 10710  
Co-Principal Investigator



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Tanya Faberson, PhD, RPA 15693  
Co-Principal Investigator

March 19, 2020

Lead Agency: Kentucky Infrastructure Authority  
OSA Project Registration No.: FY20-10661





# **ABSTRACT**

On March 13, 2020, Cultural Resource Analysts, Inc., personnel completed an archaeological survey for the proposed Boone Village Pump Station project north of Richmond, Madison County, Kentucky. The survey was conducted at the request of Bill McGregor of Nesbitt Engineering, Inc., on behalf of the Northern Madison County Sanitation District. The proposed project involves the construction of a new sewer pump station to service the Boone Village area. The project consisted of an archaeological survey of approximately 276 sq m (2,970 sq ft) of land.

Prior to initiating field investigations, a records review was requested from the Office of State Archaeology. Office of State Archaeology records revealed that one previous professional archaeological survey has been conducted within a 2.0 km radius of the project area, but the survey did not intersect with the current project area. No archaeological sites have been recorded in this area.

The project area was subjected to intensive pedestrian survey supplemented by systematic screened shovel testing. No bucket augering was conducted due to the mapped soil having low potential for containing deeply buried archaeological deposits. No archaeological sites were recorded as a result of this survey. No archaeological sites listed in, or eligible for listing in, the National Register of Historic Places will be affected by the proposed pump station project. Therefore, archaeological clearance is recommended for the project as planned.



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# I. INTRODUCTION

On March 13, 2020, Cultural Resource Analysts, Inc., (CRA) personnel completed an archaeological survey for the proposed Boone Village Pump Station project north of Richmond, Madison County, Kentucky (Figure 1). The survey was conducted at the request of Bill McGregor of Nesbitt Engineering, Inc., on behalf of the Northern Madison County Sanitation District. The proposed development involves the construction of a new sewer pump station to service the Boone Village area. The project consisted of an archaeological survey of approximately 276 sq m (2,970 sq ft) of land.

The fieldwork was completed by Avia Gene Brock, Jr. in 4 work hours. Office of State Archaeology (OSA) Geographic Information Systems (GIS) data requested by CRA on March 11, 2020, was returned on March 17, 2020. The results were researched by Julia K.C. Gruhot of CRA at the OSA on March 17, 2020. The OSA project registration number is FY20-10661.

OSA records revealed that one previous professional archaeological survey has been conducted within a 2.0 km (1.2 mi) radius of the project area. No archaeological sites have been recorded in this area.

## Purpose of the Study

This study was conducted to comply with Section 106 of the National Historic Preservation Act. This project is funded by the Kentucky Infrastructure Authority Clean Water State Revolving Fund, and is therefore considered an undertaking subject to Section 106 review. The purpose of this assessment was to 1) locate, describe, evaluate, and make appropriate recommendations for the future treatment of any historic properties or prehistoric archaeological sites which may have been threatened by proposed construction activities, and 2) to assess the potential for cultural resources requiring preservation in place. This included an archaeological assessment of the project area.

For the purposes of this assessment, a site was defined as “any location where human behavior has resulted in the deposition of artifacts, or other evidence of purposive behavior at least 50 years of age” (Sanders 2017). Cultural deposits less than 50 years of age were not considered to be sites.

A description of the project area, the field methods used, and the results of this investigation follow. The report is intended to conform to the *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports* (Sanders 2017).

## Project Description

The proposed project involves the construction of a new sewer pump station to service the Boone Village area. The project area is located adjacent to Lost Fork Road off of Boonesborough Road (KY 627) (Figures 2 and 3).

## Summary of Findings

Prior to initiating field investigations, a records review was requested from the OSA. The records search revealed that one previous professional archaeological survey has been conducted within a 2.0 km radius of the project area. No archaeological sites have been recorded in this area. The survey did not intersect with the current project area.

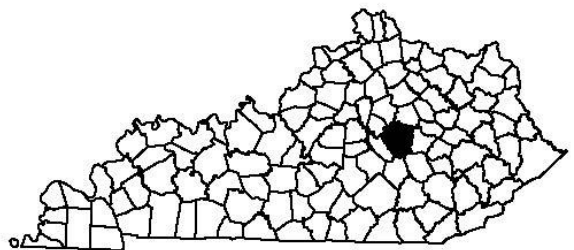


Figure 1. Map of Kentucky showing the location of Madison County.



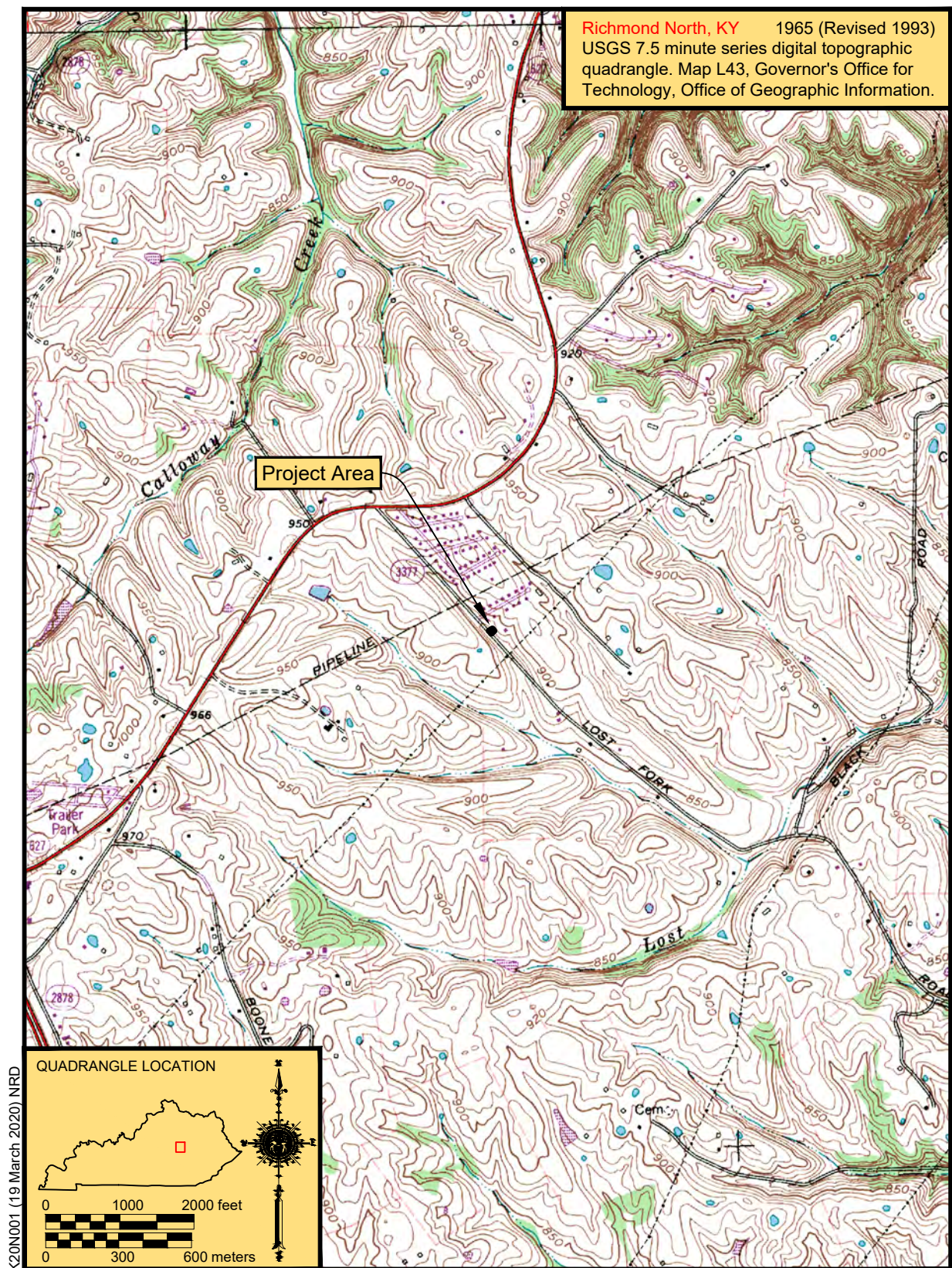


Figure 2. Location of project area on topographic quadrangle.





Figure 3. Project area plan map.

The entire project area was subjected to intensive pedestrian survey supplemented by systematic screened shovel testing. No sites were discovered during the current archaeological survey. No sites listed in, or eligible for listing in, the National Register of Historic Places (NRHP) will be affected by the proposed project. Archaeological clearance is therefore recommended for the project as planned.

## II. DESCRIPTION OF THE PROJECT AREA

The entirety of the project area is contained within the front lawn of an occupied modern home. The northeast and southeast ends of the project area are in the maintained section of the lawn, while the northwest and southwest ends are located in a drainage ditch. The total size of the project area was 276 sq m (see Figures 2 and 3). Elevations in the project area ranged from 269 to 271 m (884 to 889 ft) above mean sea level (AMSL). The Kentucky River and its tributaries drain the project area.

The majority of the vegetation within the project area consisted of various lawn grasses and one willow tree in the center. The steep drainage bank was covered with tall grasses and weeds. The ground surface was not visible due to the presence of grass (Figure 4 and 5).

One soil series has been defined in the project area. The soil series is classified by the amount of time it has taken the soils to form and the landscape position on which they are found (Birkeland 1984; Soil Survey Staff 1999). This information can provide a relative age of the soils and can express the potential for buried archaeological deposits within them (Stafford 2004). The soil order and group classifications for each soil series are used to assist with determining this potential.

The mapped soil is Lowell-Faywood silt loam, which is a combination of the two soils and is classified as an Alfisol. Alfisols are found on landforms that formed during the late Pleistocene or earlier (Soil Survey Staff 1999:163–165). Archaeological deposits would only be found on or very near the ground surface on landforms mapped with Alfisols.



Figure 4. Overview of project area, facing northeast.





**Figure 5. Overview of project area, facing southwest.**

Lowell series soils are deep and well drained, formed in limestone residuum interbedded with thin layers of limestone, shale, and siltstone, and they are on upland ridgetops and sideslopes or footslopes and benches. Slopes range from 2 to 65 percent. The typical soil profile consists of an Ap horizon of brown (10YR 4/3) silt loam to 20 cm (8 in) below ground surface (bgs), followed by Bt and BC horizons of strong brown (7.5YR 5/6) silty clay and yellowish brown (10YR 5/6) silty clay to 104 and 135 cm (41 and 53 in) bgs, respectively. These are underlain by an R horizon of hard light gray limestone and interbedded thin layers of shale.

Faywood series soils are moderately deep, well drained, formed in limestone residuum interbedded with thin layers of shale, and they are located on uplands, ridgetops, and sideslopes of dissected uplands with exposed rock outcrops and karst areas. Slopes range from 2 to 60 percent. The typical soil profile consists of an Ap horizon of dark grayish brown (10YR 4/2) silt loam to 15 cm (6 in) bgs, followed by Bt1 and Bt2 horizons of yellowish

brown (10YR 5/4) silty clay loam and yellowish brown (10YR 5/6) silty clay to 46 and 76 cm (18 and 30 in) bgs, respectively. These are underlain by an R horizon of hard, light gray limestone and interbedded thin layers of shale.

Shovel tests in the project area displayed a profile of a brown (10YR 4/3) silt loam to 21 cm (8 in) bgs (Zone I). This was underlain by a profile of yellowish brown (10YR 5/6) silty clay subsoil to 50 cm (20 in) bgs (Zone II). The typical soil profile recorded for this project is consistent with those mapped for the area.

### **III. RESULTS OF THE FILE AND RECORDS SEARCH AND SURVEY PREDICTIONS**

#### **Previous Research in Madison County**

Prior to initiating fieldwork, a search of records maintained by the NRHP (available online at: <http://nrhp.focus.nps.gov/natreghome.do?searchtype=natreghome>) and the OSA (FY20-10661) was conducted to: 1) determine if the project area had been previously surveyed for archaeological resources; 2) identify any previously recorded archaeological sites that were situated within the project area; 3) provide information concerning what archaeological resources could be expected within the project area; and 4) provide a context for any archaeological resources recovered within the project area. A search of the NRHP records indicated that no archaeological sites listed in the NRHP were situated within the current project area or within a 2.0 km radius of the project area. The OSA file search was conducted between March 11, 2020, and March 17, 2020. The work at the OSA consisted of a review of professional survey reports and records of archaeological sites for an area encompassing a 2.0 km radius of the project footprint. To further characterize the archaeological resources in the general area, the OSA archaeological site database for the county was reviewed and synthesized. The review of professional survey reports and archaeological site data in the county provided basic information on the types of archaeological resources that were likely to occur within the project area and the landforms that were most likely to contain these resources. The results are discussed below.

#### **Previous Archaeological Investigations**

*Julia K.C. Gruhot*

OSA records revealed that one previous professional archaeological survey has been conducted within a 2.0 km radius of the project area. No archaeological sites have been recorded in this area. It should be noted that the GIS records returned from the OSA database may include discrepancies, and these discrepancies are often identified and documented during research visits to the OSA library. The 2.0 km radius included areas within the Richmond North, Kentucky quadrangle (United States Geological Survey [USGS] 1965 [revised 1993]).

Between March 12 and 14, May 19 and 23, and on June 6 and October 21, 2003, CRA personnel completed an archaeological survey of the proposed Northern Madison County Wastewater Treatment and Collection System Project in Madison County, Kentucky (Crider et al 2003). The survey was conducted at the request of Bryan Kirby of Community and Economic Development Associates, Inc. Field investigations included both pedestrian survey and screened shovel testing. The entire project area, which measured roughly 67 ha (167 acres), was surveyed. The survey resulted in the discovery of two previously unrecorded historic farm/residence archaeological sites (15Ma356 and 15Ma357) and one modern cemetery. None of these are within the 2.0 km radius of the current project area.

#### **Archaeological Site Data**

According to available data, 373 archaeological sites have been recorded in Madison County, Kentucky (Table 1). The most common site type is prehistoric open habitations without mounds (n = 240; 64.34 percent). Other site types include historic farms/residences (n = 57; 15.28 percent), earth mounds (n = 22; 5.9 percent), cemeteries (n = 7; 1.88 percent), non-mound earthworks (n = 4; 1.07 percent), open habitations with mounds (n = 4; 1.07 percent), industrial (n = 3; 0.8

percent), other special activity areas (n = 3; 0.8 percent), rockshelters (n = 3; 0.8 percent), mound complexes (n = 2; 0.54 percent), workshops (n = 2; 0.54 percent), an isolated find (n = 1; 0.27 percent), military (n = 1; 0.27 percent), a petroglyph/pictograph (n = 1; 0.27 percent), and a stone mound (n = 1; 0.27 percent). Sites of other (n = 9; 2.41 percent) and undetermined (n = 13; 3.49 percent) have also been recorded.

Temporal periods represented by sites in Madison County include Paleoindian (n = 10; 2.28 percent), Archaic (n = 42; 9.57 percent), Woodland (n = 52; 11.85 percent), Late Prehistoric (n = 44; 10.02 percent), Indeterminate Prehistoric (n = 148; 33.71 percent), and Historic (n = 117; 26.65 percent).

**Table 1. Summary of Selected Information for Previously Recorded Archaeological Sites in Madison County, Kentucky. Data Obtained from OSA and May Contain Coding Errors.**

Site Type:	N	%
Cemetery	7	1.88
Earth Mound	22	5.9
Historic Farm/Residence	57	15.28
Industrial	3	0.8
Isolated Find	1	0.27
Military	1	0.27
Mound Complex	2	0.54
Non-mound Earthwork	4	1.07
Open Habitation With Mounds	4	1.07
Open Habitation Without Mounds	240	64.34
Other	9	2.41
Other Special Activity Area	3	0.8
Petroglyph/Pictograph	1	0.27
Rockshelter	3	0.8
Stone Mound	1	0.27
Undetermined	13	3.49
Workshop	2	0.54
<b>Total</b>	<b>373</b>	<b>100</b>
Time Periods Represented:	N	%
Paleoindian	10	2.28
Archaic	42	9.57
Woodland	52	11.85
Late Prehistoric	44	10.02
Indeterminate Prehistoric	148	33.71
Historic	117	26.65
Unspecified	26	5.92
<b>Total</b>	<b>439*</b>	<b>100</b>
Landform:	N	%
Dissected Uplands	259	69.44
Floodplain	29	7.77
Hillside	14	3.75
Other	1	0.27
Terrace	36	9.65
Undissected Uplands	26	6.97
Unspecified	8	2.14
<b>Total</b>	<b>373</b>	<b>100</b>

\* One site may represent more than one time period.

Landforms on which sites have been located consist primarily of dissected uplands (n = 259; 69.44 percent), followed by terraces (n = 36; 9.65 percent), floodplains (n = 29; 7.77 percent), undissected uplands (n = 26; 6.97 percent), hillsides (n = 14; 3.75 percent), unspecified (n = 8; 2.14 percent), and other (n = 1; 0.27 percent).

## Map Data

In addition to the file search, a review of available maps from the private collection at CRA was initiated to help identify any historic structures that may have been located within the project area. The following maps were reviewed.

1955 General Highway Map of Madison County, Kentucky (Kentucky State Highway Department)

1952 Richmond North, Kentucky, 7.5-minute series topographic quadrangle (USGS)

The review of the map data returned no historic structures.

## Survey Predictions

Considering the known distribution of sites in the county, the available information on site types recorded, and the nature of the present project area, certain predictions were possible regarding the kinds of sites that might be encountered within the project area. Prehistoric open habitation sites were the primary site types expected, but historic residences and cemeteries were also considered a possibility.

## IV. FIELD METHODS

The project area was located on private land. The entire project area was subjected to intensive pedestrian survey supplemented by screened shovel tests. The boundaries of the project area were determined in the field using a handheld user interface equipped with Collector for ArcGIS software. The locations of shovel tests were drawn on maps based on pacing, and these points also were mapped with ArcGIS.

In all cases, shovel tests measured not less than 35.0 cm (13.8 in) in diameter, and the soil was screened through 0.64 cm (0.25 inch) mesh hardware cloth. All exposed areas were walked and visually examined for indications of cultural material and features. No archaeological materials or features were discovered.

No bucket augers were excavated due to the mapped soil series being Alfisols and not likely to have deeply buried archaeological deposits.

## V. RESULTS AND CONCLUSIONS

Note that a principal investigator or field archaeologist cannot grant clearance to a project. Although the decision to grant or withhold clearance is based, at least in part, on the recommendations made by the field investigator, clearance may be obtained only through an administrative decision made by the lead federal agency in consultation with the State Historic Preservation Office (the Kentucky Heritage Council [KHC]).

Prior to the field survey, a records review was conducted at the OSA. The records search revealed that one previous professional archaeological survey has been conducted within a 2.0 km radius of the project area. No archaeological sites have been recorded in this area. No sites were discovered during the current archaeological survey. No sites listed in, or eligible for listing in, the NRHP will be affected by the proposed project. Archaeological clearance is therefore recommended for the project as planned.

If any previously unrecorded archaeological materials are encountered during construction activities, the KHC should be notified immediately at (502) 564-6662. If human skeletal material is discovered, construction activities should cease, and the KHC, the local coroner, and the local law enforcement agency must be notified, as described in KRS 72.020.

## REFERENCES CITED

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2003 *An Archaeological Survey of the Proposed Northern Madison County Wastewater Treatment and Collection System Project in Madison County, Kentucky, Revised*. Contract Publication Series 03-63. Cultural Resource Analysts, Inc., Lexington, Kentucky.
- Kentucky State Highway Department  
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- Sanders, Thomas N. (editor)  
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2004 Modeling Soil-Geomorphic Associations and Archaic Stratigraphic Sequences in the Lower Ohio River Valley. *Journal of Archaeological Science* 31:1053–1067.
- United States Geological Survey  
1952 Richmond North, Kentucky, 7.5-minute series topographic quadrangle. United States Department of the Interior, Washington, DC.



1965 (revised 1993) Richmond North,  
Kentucky, 7.5-minute series topographic  
quadrangle. United States Department  
of the Interior, Washington, DC.

## **SECTION 11-2**

### **FINANCIAL ANALYSIS OF BOONE VILLAGE SEWER PROJECT**

#### **KENTUCKY INFRASTRUCTURE AUTHORITY**

for

Northern Madison County Sanitation District

Regional Facilities Plan

EXECUTIVE SUMMARY		Reviewer		Meili Sun	
KENTUCKY INFRASTRUCTURE AUTHORITY		Date		December 5, 2019	
FUND A, FEDERALLY ASSISTED WASTEWATER		KIA Loan Number		A20-049	
REVOLVING LOAN FUND		WRIS Number		SX21151022	
BORROWER		NORTHERN MADISON COUNTY SANITATION DISTRICT MADISON COUNTY			
BRIEF DESCRIPTION					
This project proposes to install approximately 7,701 LF of gravity sewers, thirty-five manholes, two submersible pump stations, and approximately 4,700 LF of 4" diameter force main to collect and transport wastewater from seventy residential customers and one commercial establishment to the existing Northern Madison County Sanitation District system. The flow will ultimately be treated at the District's regional wastewater treatment plant.					
PROJECT FINANCING		PROJECT BUDGET		RD Fee %	Actual %
Fund A Loan	\$730,000	Administrative Expenses			\$20,000
Local Fund	198,000	Legal Expenses			5,000
		Planning			5,000
		Eng - Design / Const	9.3%	9.2%	68,000
		Eng - Insp	6.2%	6.1%	45,000
		Construction			675,000
		Contingency			67,500
		Other			42,500
TOTAL	\$928,000	TOTAL			\$928,000
REPAYMENT	Rate	2.50%	Est. Annual Payment		\$48,065
	Term	20 Years	1st Payment	6 Mo. after first draw	
PROFESSIONAL SERVICES	Engineer	Nesbitt Engineering, Inc			
	Bond Counsel	Rubin & Hays			
PROJECT SCHEDULE	Bid Opening	Mar-20			
	Construction Start	Apr-20			
	Construction Stop	Nov-20			
DEBT PER CUSTOMER	Existing	\$6,629			
	Proposed	\$5,481			
OTHER DEBT		See Attached			
RESIDENTIAL RATES		Users	Avg. Bill		
	Current	993	\$61.03 (for 4,000 gallons)		
	Additional	71	\$61.03 (for 4,000 gallons)		
REGIONAL COORDINATION This project is consistent with regional planning recommendations.					
CASHFLOW	Cash Flow Before Debt Service	Debt Service	Cash Flow After Debt Service		Coverage Ratio
Audited 2016	557,038	519,168	37,870		1.1
Audited 2017	624,032	541,680	82,352		1.2
Audited 2018	755,995	569,042	186,953		1.3
Projected 2019	751,436	593,888	157,548		1.3
Projected 2020	746,670	603,527	143,143		1.2
Projected 2021	739,893	607,187	132,707		1.2
Projected 2022	734,700	630,831	103,869		1.2
Projected 2023	729,286	630,430	98,856		1.2

Reviewer: Meili Sun  
Date: December 5, 2019  
Loan Number: A20-049

**KENTUCKY INFRASTRUCTURE AUTHORITY  
WASTEWATER REVOLVING LOAN FUND (FUND A)  
NORTHERN MADISON COUNTY SANITATION DISTRICT, MADISON COUNTY  
PROJECT REVIEW  
SX21151022**

**I. PROJECT DESCRIPTION**

The Northern Madison County Sanitation District ("District") is requesting a Fund A loan in the amount of \$730,000 for the Boone Village Wastewater Collection System project. The project proposes to install approximately 7,701 LF of gravity sewers, thirty-five manholes, two submersible pump stations, and approximately 4,700 LF of 4" diameter force main to collect and transport wastewater from 70 residential customers and 1 commercial establishment to the existing District system. The flow will ultimately be treated at the District's regional wastewater treatment plant. The purpose of this project is to eliminate sewage overflow caused by septic tanks and improve public health.

Upon completion of this project, the District will add 71 new customers to the 1,000 existing customers in Madison County.

**II. PROJECT BUDGET**

	Total
Administrative Expenses	\$ 20,000
Legal Expenses	5,000
Planning	5,000
Engineering Fees – Design	55,000
Engineering Fees – Construction	13,000
Engineering Fees – Inspection	45,000
Construction	675,000
Contingency	67,500
Other	42,500
<b>Total</b>	<b>\$ 928,000</b>

**III. PROJECT FUNDING**

	Amount	%
KIA Fund A Loan	\$ 730,000	79%
Local Fund	198,000	21%
<b>Total</b>	<b>\$ 928,000</b>	<b>100%</b>



#### IV. KIA DEBT SERVICE

Construction Loan	\$ 730,000
Principal Forgiveness	0
Amortized Loan Amount	\$ 730,000
Interest Rate	2.50%
Loan Term (Year)	20
Estimated Annual Debt Service	\$ 46,605
Administrative Fee (0.20%)	1,460
<b>Annual Debt Service</b>	<b>\$ 48,605</b>

#### V. PROJECT SCHEDULE

Bid Opening	March 2020
Construction Start	April 2020
Construction Stop	November 2020

#### VI. CUSTOMER COMPOSITION AND RATE STRUCTURE

##### A) Customers

	Current	Proposed	Total
Residential	957	70	1,027
Commercial	36	1	37
Total	993	71	1,064

##### B) Rates

	Sewer	
	Current	Prior
Date of Last Rate Increase	01/01/19	01/01/18
First 280 Cubic Feet	\$41.75	\$41.75
Per 100 Cubic Feet	7.57	7.43
Cost for 5,453 gallons	\$61.03	\$60.68
Increase %	0.6%	
Affordability Index (Rate/MHI)	1.2%	1.2%

Beginning in January, 2014, all rates shall be adjusted annually to reflect the District's increase in cost for operations. This annual adjustment shall be equal to average percentage change in the Consumer Price Index for all urban consumers (U.S. City Average) published by the U.S. Department of Labor, Bureau of Labor Statistics.

## **VII. DEMOGRAPHICS**

Based on current Census data from the American Community Survey 5-Year Estimate 2013-2017, the Utility's service area population was 4,958 with a Median Household Income (MHI) of \$61,653. The median household income for the Commonwealth is \$46,535. A 20 year loan term at 2.50% interest rate will be applied to this loan as the project's MHI does not qualify for the non-standard rate.

Population			County Unemployment	
Year	County	% Change	Date	Rate
1980	53,352		June 2005	5.6%
1990	57,508	7.8%	June 2010	8.6%
2000	70,872	23.2%	June 2015	4.9%
2010	82,916	17.0%	June 2019	4.7%
Current	88,376	6.6%		
Cumulative %		65.6%		

## **VIII. 2019 CAPITALIZATION GRANT EQUIVALENCIES**

Additional Subsidization – This project does not qualify for additional subsidization.

## **IX. FINANCIAL ANALYSIS**

Financial information was obtained from the audited financial statements for the years ended June 30, 2016 through June 30, 2018. The non-cash element of GASB 68, Accounting and Financial Reporting for Pensions and GASB 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions is not applicable as the District does not participate in the County Employees Retirement System (CERS). Percentage references in the History section below are based on whole dollar amounts and not the rounded amounts presented.

### **HISTORY**

Total sewer revenues went up 5.3% from \$1.32 million in 2016 to \$1.39 million in 2018 due to population growth and annual CPI rate adjustments. Operating expenses decreased 16.6% as a result of high utilities cost and non-recurring repair, maintenance, and equipment expenses reported in 2016. Prior to 2017, the District paid the Richmond Utilities \$15,000 annually to treat sewage from the Greens Crossing. The utilities cost had been cut in half after the District's Muddy Creek Wastewater Treatment Plant assumed the treatment services since 2017. The debt coverage ratio was 1.1, 1.2, and 1.3 for 2016, 2017, and 2018 respectively.

The balance sheet reflected a current ratio of 1.0, debt to equity ratio of 0.5, 75.2 days sales in accounts receivable, and 4.4 months of operating expenses in unrestricted cash.

## PROJECTIONS

Projections are based on the following assumptions:

- 1) Sewer revenue will fluctuate based on the Consumer Price Index.
- 2) When the project is completed in FY 2021, the District will add 71 new customers to the sewer services.
- 3) Expenses will go up 2% each year for inflation.
- 4) Debt service coverage is 1.2 in 2021 when principal and interest repayments begin.

Based on the pro forma assumptions, the utility shows adequate cash flow to repay the KIA Fund A loan.

## REPLACEMENT RESERVE

The replacement reserve will be 5% (\$36,000 total) of the final amount borrowed to be funded annually (\$1,800 yearly) each December 1 for 20 years and maintained for the life of the loan.

## X. DEBT OBLIGATIONS

	Outstanding	Maturity
KIA Loan A06-03	\$ 161,649	2028
KIA Loan A06-05	5,055,356	2030
KIA Loan A209-15 (ARRA)	158,051	2030
KIA Loan C15-001	\$ 1,177,887	2037
City of Richmond Loan	30,000	2020
<b>Total</b>	<b>\$ 6,582,943</b>	

## XI. CONTACTS

<b>Legal Applicant</b>	
Name	Northern Madison County Sanitation District
Address	201 Aqueduct Dr, Suite B-9, PO Box 674 Richmond, KY 40475
County	Madison
Authorized Official	James D Rowe, Chairman
Phone	(859) 623-0736
Email	jrowe@roadrunner.com

**Project Contact - Applicant**

Name	Elliott Turner
Organization	Northern Madison County Sanitation District
Address	201 Aqueduct Dr, Suite B-9, PO Box 674 Richmond, KY 40475
Phone	(859) 626-7888
Email	nmcsdelliott@bellsouth.net

**Project Administrator**

Name	Patrick Kirby
Organization	Ceda, Inc
Address	PO Box 855 Richmond, KY 40476
Phone	(859) 624-3396
Email	patrick@cedainc.net

**Consulting Engineer**

Name	Paul D Nesbitt
Firm	Nesbitt Engineering, Inc
Address	227 North Upper Street Lexington, KY 40507
Phone	(859) 233-3111
Email	pnesbitt@nei-ky.com

**XII. RECOMMENDATIONS**

KIA staff recommends approval of the loan with the standard conditions.

NORTHERN MADISON COUNTY SANITATION DISTRICT  
FINANCIAL SUMMARY (JUNE YEAR END)

	Audited <u>2016</u>	Audited <u>2017</u>	Audited <u>2018</u>	Projected <u>2019</u>	Projected <u>2020</u>	Projected <u>2021</u>	Projected <u>2022</u>	Projected <u>2023</u>
<b>Balance Sheet</b>								
<b>Assets</b>								
Current Assets	431,646	395,759	522,900	556,111	586,439	614,681	637,154	658,626
Other Assets	19,315,861	18,678,443	18,694,000	18,244,174	17,782,825	18,219,726	17,705,557	17,187,378
Total	19,747,507	19,274,202	19,216,900	18,800,285	18,369,264	18,834,407	18,342,712	17,846,004
<b>Liabilities &amp; Equity</b>								
Current Liabilities	496,393	546,386	537,189	569,437	592,879	599,910	607,033	613,578
Long Term Liabilities	6,819,879	6,327,906	6,124,543	5,627,784	5,108,683	5,313,651	4,782,596	4,246,095
Total Liabilities	7,316,272	6,874,292	6,661,732	6,197,221	5,701,562	5,913,561	5,389,629	4,859,674
Net Assets	12,431,235	12,399,910	12,555,168	12,603,064	12,667,702	12,920,846	12,953,083	12,986,330
<b>Cash Flow</b>								
Revenues	1,322,929	1,341,794	1,394,211	1,402,443	1,410,724	1,419,055	1,427,436	1,435,867
Operating Expenses	767,197	719,043	639,540	652,331	665,378	680,486	694,060	707,905
Other Income	1,306	1,281	1,324	1,324	1,324	1,324	1,324	1,324
Cash Flow Before Debt Service	557,038	624,032	755,995	751,436	746,670	739,893	734,700	729,286
<b>Debt Service</b>								
Existing Debt Service	519,168	541,680	569,042	593,888	603,527	583,154	582,766	582,365
Proposed KIA Loan	0	0	0	0	0	24,033	48,065	48,065
Total Debt Service	519,168	541,680	569,042	593,888	603,527	607,187	630,831	630,430
Cash Flow After Debt Service	37,870	82,352	186,953	157,548	143,143	132,707	103,869	98,856
<b>Ratios</b>								
Current Ratio	0.9	0.7	1.0	1.0	1.0	1.0	1.0	1.1
Debt to Equity	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4
Days Sales in Accounts Receivable	86.9	70.9	75.2	75.2	75.2	75.2	75.2	75.2
Months Operating Expenses in Unrestricted Cash	1.4	2.2	4.4	4.9	5.3	5.7	5.9	6.2
Debt Coverage Ratio	1.1	1.2	1.3	1.3	1.2	1.2	1.2	1.2



**SECTION 11-3**

NMCSD BOARD RESOLUTION 10-11

RATES AND BASIS FOR ANNUAL INCREASE

for

Northern Madison County Sanitation District

Regional Facilities Plan

**RESOLUTION NO . 11-10**

**RESOLUTION BY THE BOARD OF COMMISSIONERS OF THE  
NORTHERN MADISON COUNTY SANITATION DISTRICT  
REVISING THE SEWER SERVICE RATES**

**WHEREAS**, the Northern Madison County Sanitation District is mandated by different funding agencies to establish a sewer rate that is adequate to meet the cost of operations, maintenance and loan re- payment of the system; and

**WHEREAS**, the Northern Madison County Sanitation District has determined, with assistance from the Bluegrass ADD and the Nesbitt Engineering, Inc, the needed revenue to meet the funding requirements; and

**WHEREAS**, the sewage rate needed will be fair and equal to all residential customers and commercial customers within the Northern Madison County Sanitation District; and

**WHEREAS**, the Board of Commissioners of the Northern Madison County Sanitation District have reviewed current rates and have by passage of this resolution agreed to establish this needed rate structure:

**NOW, THEREFORE**, be it duly **RESOLVED** as follow:

To recommend to the Madison County Fiscal Court that all customers served by Northern Madison County Sanitation District have the following rate structure:

Rate beginning January 1, 2011:

**Residential Customers:**

First 280 Cubic Feet	\$34.50
All over 281 Cubic Feet	\$5.75 per 100 Cubic Feet
Maximum Bill	\$57.50

**Commercial Customers**

First 280 Cubic Feet	\$34.50
All over 281 Cubic Feet	\$16.75 per 100 Cubic Feet

Rate beginning January 2012

**Residential Customers**

First 280 Cubic Feet	\$37.95
All over 281 Cubic Feet	\$6.33 per 100 Cubic Feet
Maximum Bill	\$63.25

**Commercial Customers**

First 280 Cubic Feet \$37.95  
All over 281 Cubic Feet \$16.75 per 100 Cubic Feet

Rate beginning January 2013

**Residential Customers**

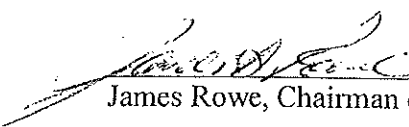
First 280 Cubic Feet \$41.75  
All over 281 Cubic Feet \$6.96 per 100 Cubic Feet  
Maximum Bill \$69.58

**Commercial Customers**

First 280 Cubic Feet \$41.75  
All over 281 Cubic Feet \$16.75 per 100 Cubic Feet

Beginning in January 2014 all rates shall be adjusted annually to reflect Northern Madison County Sanitation District's increase in cost for operations. This annual adjustment shall be equal to average percentage change in the Consumer Price Index for all Urban Consumers (U.S. City Average) published by the U.S. Department of Labor, Bureau of Labor Statistics, however the annual adjustment shall never be less than zero.

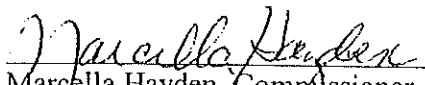
**SO, RESOLVED** by the Board of Commissioners of the Northern Madison County Sanitation District on this the 3<sup>rd</sup> day of November, 2010.

  
James Rowe, Chairman of Board

Vote

Yes ✓

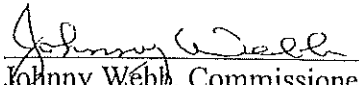
No       

  
Marcella Hayden, Commissioner

Vote

Yes ✓

No       

  
Johnny Webb, Commissioner

Vote

Yes ✓

No