

Steven L. Beshear
Governor



Leonard K. Peters
Secretary

Energy and Environment Cabinet
Department for Environmental Protection
Division of Water
200 Fair Oaks Lane, 4th Floor
Frankfort, Kentucky 40601
Phone: (502) 564-3410
www.water.ky.gov

December 16, 2009

Bobby Burgess, Chairman
Grant County Sanitary Sewer District
P.O. Box 460
Crittenden, Kentucky 41030

Re: Regional Facilities Plan for
Grant County Sanitary Sewer Extension Phase I
Grant County Sanitary Sewer District
Grant County, Kentucky
AI ID: 1480; PLN20100001

Dear Mr. Burgess:

The facilities plan and environmental document titled *Grant County Sanitary Sewer Extension Phase I* dated August 26, 2009, has been reviewed by this Division and found to conform with the requirements contained in administrative regulation 401 KAR 5:006.

Approval of the facilities plan is hereby given based on the attached State Planning and Environmental Assessment Report (SPEAR) issued by this Department on November 2, 2009, which has undergone review by the Kentucky State Clearinghouse (State Application Identifier #KY20091103-1853). This approval is subject to any conditions and mitigative measures in Section F of the SPEAR and in the State Clearinghouse review comments.

The Department for Environmental Protection offers free regulatory assistance through its Division of Compliance Assistance. If you have questions related to compliance with any environmental requirements, please contact the division by calling 1-800-926-8111.

If you have any questions, please contact me at (502) 564-3410, extension 4805.

Sincerely,

A handwritten signature in black ink that reads "Anshu Singh".

Anshu Singh, Ph.D., Supervisor
Wastewater Planning Section
Water Infrastructure Branch

AS
Attachments

cc: Obe Cox, Project Engineer, CMW, Inc. (by e-mail)

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MEMORANDUM

TO: R Bruce Scott, Commissioner
Department for Environmental Protection

FROM: Anshu Singh, Supervisor, Wastewater Planning Section
Water Infrastructure Branch, Division of Water

DATE: October 27, 2009

SUBJECT: State Planning and Environmental Assessment Report (SPEAR)
Grant County Sanitary Sewer District
Grant County, Kentucky
AI ID: 1480; PLN20100001

NOV - 2 2009

The justification for this project as prepared by the State (attached) has been reviewed and the project may proceed as proposed.

RECOMMEND: Anshu Singh Date: 10/27/09
Anshu Singh, Section Supervisor

CONCURRENCE: Shafiq S. Ajawi Date: 10/28/09
Shafiq S. Ajawi, Branch Manager

CONCURRENCE: Sandra L. Gruzsky Date: 10/30/2009
Sandra L. Gruzsky, Director

APPROVED: Valerie Hudson Date: 11/2/09
for R. Bruce Scott, Commissioner

AS
Attachments

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Secretary

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R. Bruce Scott
Commissioner

NOV - 2 2009

STATE PLANNING AND ENVIRONMENTAL ASSESSMENT REPORT (SPEAR)

Regional Facilities Plan

Grant County Sanitary Sewer District, Grant County, Kentucky
AI 1480; PLN20100001

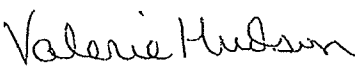
The Department for Environmental Protection (DEP) approved a facilities plan for the City of Crittenden on April 7, 1999 based on a State Planning and Environmental Assessment Report (SPEAR). Grant County Sanitary Sewer District (GCSSD) acquired the ownership of the City of Crittenden WWTP on June 22, 2004. The Grant County Sanitary Sewer District has submitted for approval by the Energy and Environment Cabinet (EEC) an update to the facility plan in the form of an environmental information document titled Grant County Sanitary Sewer District-Phase 1, dated September, 2009. In accordance with KRS Chapter 224 and 401 KAR 5:006, the Department for Environmental Protection (DEP) has prepared a State Planning and Environmental Assessment Report (SPEAR) that summarizes the regional facility plan.

The DEP is required to conduct reviews of the potential environmental impacts of projects applying for funding by the Clean Water State Revolving Fund in accordance with the procedures contained in the State Revolving Fund Operating Agreement between the Environmental Protection Agency Region IV and the Commonwealth of Kentucky. The DEP has included this required review in the attached SPEAR. The DEP has determined that the projects in the SPEAR will not have a significant effect on the environment when all mitigative measures in Section F of the SPEAR are implemented.

The SPEAR contains information supporting this determination in the following sections: A) Project Summary; B) Existing Environment; C) Existing Wastewater Facilities; D) Need for Project; E) Alternatives Analysis; F) Environmental Consequences, Mitigative Measures; G) Public Participation and User Rates; and H) Sources Consulted.

Interested persons are encouraged to submit comments on this SPEAR within 40 days of the above date. The EEC will take no action on this project until after the State Clearinghouse review and public comment period has ended, and will evaluate all comments before a decision is made to proceed with approval of the Regional Facilities Plan or awarding of SRF funds for this project. Send comments to Ms. Anshu Singh, Supervisor, Wastewater Planning Section, Water Infrastructure Branch, Division of Water, 200 Fair Oaks 4th Floor, Frankfort, Kentucky 40601, or by e-mail to anshu.singh@ky.gov, or call her at (502) 564-3410, extension 4805.

Sincerely,


for R. Bruce Scott, Commissioner
Department for Environmental Protection

RBS/AS

STATE PLANNING AND ENVIRONMENTAL ASSESMENT REPORT (SPEAR)
Grant County Sanitary Sewer District, Grant County, Kentucky
AI # 1480 PLN 20100001

A. Project Summary and Funding Status

NOV. - 2, 2009

Project Summary: The Department for Environmental Protection (DEP) approved a facilities plan for the City of Crittenden on April 7, 1999. It was based on a State Planning and Environmental Assessment Report (SPEAR) for expanding the existing wastewater treatment plant (WWTP) and relocating it from downtown Crittenden to southwest of the city. Grant County Sanitary Sewer District (GCSSD) acquired the wastewater system of the City of Crittenden on June 22, 2004.

Grant County Sanitary Sewer District submitted a facilities plan update in the form of an environmental information document in September 2009 that included expansion of the collection system and elimination of three package treatment plants. This will include construction of 8,940 feet of 8" gravity sewer, 20,450 feet of force main, 7,880 feet of small diameter force main, 43 manholes, four submersible pump stations, two submersible grinder pump stations, 22 individual grinder pumps to serve customers from south of Crittenden to Sherman (Figure 1). This project will eliminate County Mobile Home Park, KOA Campground and Blackwell Mobile Home Park package treatment plants. The estimated cost of the project is \$1,940,000.

CWM, Inc. prepared the facilities plan update. The project is located in the Northern Kentucky Area Development District (NKADD) and within the area covered by the Florence Regional Office of the Division of Water (DOW).

Funding Status: Grant County intends to fund the project using different funding sources. These include Kentucky Infrastructure Authority (KIA) loan (American Recovery and Reinvestment Act (ARRA)), Kentucky Infrastructure Authority grant, Mobile Home Park (MHP) Grant and Tap on fees. The total estimated cost of the project is \$1,940,000.

Funding Source	Amount (\$)
KIA 2005 Grant	900,000
KIA 2008 Grant	650,000
Grant MHP	45,000
KIA Loan (ARRA)	300,000
Total	1,940,000

B. Existing Environment

Topography, Geology and Soil: The area has a topography that ranges from nearly level to steep with elevation ranging from 960 feet along the highest ridge tops to 640 feet along the major streams. A chain of ridges running north and south along U.S. 25 forms a natural boundary between the Eagle Creek watershed and the Licking River watershed. The Eagle

Creek watershed drains all of the Crittenden area west of U.S. 25, and the eastern portion of the Crittenden area drains to the Licking River.

The project area is part of the outer bluegrass physiographic region of Kentucky. The outer Bluegrass Region is underlain by inter-bedded limestone, calcareous shale, and siltstone-sedimentary rocks of the Ordovician Geologic age.

The U.S. Soil Conservation Service indicates that the Crittenden planning area is made up of two major soils associations, the Eden association and Lowell-Nicholson associations. Both soil types are slowly permeable and thus not suitable for septic tanks and leach fields.

Surface Waters: The planning area is located primarily within the Kentucky River Basin Unit and the Ten Mile Creek Watershed. None of the surface waters segments in the area have been assessed. In 2005, the Kentucky Division of Water awarded funds to the Northern Kentucky Independent District Health Department to develop a Watershed Plan for the Ten Mile Creek Watershed and to initiate straight pipe abatement. Also within the vicinity of the project area is Bullock Pen Lake, which was assessed as partially supporting warm water aquatic habitat.

The project area is not within a designated SWAPP zone, however just north of the city is designated as SWAPP Zone 1. The area is not within a designated DOW priority watershed or a Wellhead Protection Area. The project area is rated as having moderate groundwater sensitivity.

Drinking water service in the project area is provided by Bullock Pen Water District.

Groundwater: There are limited groundwater supplies available for domestic or other uses due to the soils and topography of the Crittenden area. Most drilled wells do not produce enough water for a dependable domestic supply of about 100 gallons per day and almost all residents in the Crittenden area depend on the Bullock Pen Water District.

C. Existing Wastewater Facilities

Wastewater Treatment Plants: The Grant County Sanitary Sewer District owns and operates a 0.3 mgd WWTP. The original plant (0.15 mgd) was constructed in 1988 and was located in downtown Crittenden. This Crittenden WWTP was relocated to its current location in 2003 and GCSSD acquired the ownership in 2004. It is an extended aeration plant with sludge holding tanks, clarifiers, centrifugal blowers, hypochlorite disinfection, dechlorination system, metering and post aeration facilities. Sludge is transported to Dry Creek Wastewater Treatment Plant for disposal. The plant discharges to Ten Mile Creek at mile point 14.4 pursuant to Kentucky Pollutant Discharge Elimination (KPDES) Permit No. KY0091634. The annual average flow rate for July 2008 to June 2009 was 0.176 mgd.

Monthly average effluent limits that must be met by the existing WWTP are as follows:

Parameters	Limits
CBOD ₅	20 mg/l
Ammonia Nitrogen	4 mg/l (summer)/10 mg/l (winter)
DO	Not less than 7mg/l
TSS	30 mg/l
Chlorine Residual	0.011 mg/l
E. Coli	130/100 ml
Total Nitrogen	Report
Total Phosphorus	Report

There are three package treatment plants in the planning area. These include: Blackwell Estates Mobile Home Park (KPDES #KY0091031); Cincinnati South Campground (KPDES #KY0080080); and Gant Mobile Home Park (KPDES #KY0083631). All of them are in good operating conditions.

Collection system: GCSSD's collection system consists of 113,136 linear feet gravity lines, 52,014 linear feet force main and 536 manholes. The sewer system maintenance was neglected prior to GCSSD acquisition. A Vactor (sewer cleaner) truck was purchased in order to clean all the stations. A large amount of grit and debris was removed from each of the stations. GCSSD maintenance crew has been busy reconfiguring lift stations in an effort to improve pump performance and reduce the overall cost of maintaining the collection system.

D. Need for Project

The project is needed to extend services to unserved areas. This project will eliminate approximately 76 septic tank systems which are a potential source of water pollution. The proposed project is expected to maintain the water quality of local streams.

E. Alternatives Analysis

Alternative No.1- No Action: This alternative involves no expansion or modification of the existing facilities. This alternative was rejected from consideration because it does not meet the current needs of the planning area. The system has 76 septic systems some of which are failing and polluting the water resources. This alternative was not considered environmentally feasible and was eliminated from further consideration.

Alternative No. 2 - All Gravity System: This alternative will involve digging deep trenches and deep manhole structures resulting in higher maintenance/repair cost. The estimated cost of the project is \$1,636,502 with a 20 year present worth of \$ 1,683,692. This alternative was not selected because it is not cost effective.

Alternative No. 3 - All Pressurized Small Line System: This option was considered but eventually denied due to the long term maintenance cost. The wear and tear of each grinder pump over time and the overall cost of operation and maintenance resulted in removing this alternative from further consideration. The estimated cost of the project is \$1,576,590 with a 20 year present worth of \$ 2,141,616.

Alternative No. 4 - Combination of Gravity and Pressurized System: This alternative will involve a combination of gravity lines and pressurized system. This option will be easier to maintain both in short and long term and also allow the system to budget for future repair costs and allow future growth to be connected to this section of extension. The total project cost is \$1,372, 018 with a 20 year present worth of \$ 1,488,813. **This is the selected alternative as it is the most cost effective.**

F. Environmental Consequences, Mitigative Measures

Impact on Historic Properties and Archeological Sites:

A Phase I archeological survey was conducted and a report entitled *A Phase I Archeological Survey of Proposed 8 Km Long Sewer Line Extensions in Sherman and South of Crittenden, Grant County, Kentucky*, by Great Rivers Archeological Services was submitted to the Kentucky Heritage Council (KHC) for review and approval. The survey documented one previously unrecorded archeological resource, Site 15GR57 and one isolated find. In a letter dated August 19, 2009, the KHC stated that they concur with the survey findings and the recommendation that the isolated find is not considered eligible for listing in the National Register of Historic Places. They also concurred that the Site 15GR57 is not eligible for listing in the National Register of Historic places since the artifacts found there are located in disturbed contexts and no structural remains or intact cultural features were identified and no further work is necessary.

Impact on Threatened and Endangered Species:

A biological survey was conducted and a report titled *Field Survey/Habitat Assessment for Running Buffalo Clover (*Trifolium stoloniferum*) and Indiana Bat (*Myotis sodalis*) for The Proposed Grant County Sewer Extension-Phase I, Grant County*, by Skybax Ecological Services was submitted to US Fish and Wildlife Service (USFWS) for review and comments. The report indicated that neither the Running Buffalo Clover nor suitable Indiana Bat hibernacula were found within the project area. However, a total of 26 potential Indiana Bat roost trees were identified. Of these 26 trees, 10 would be removed between October 15 and March 31; thus avoiding potential direct impacts to Indiana Bat. Provided that the seasonal clearing is adhered to, USFWS in a letter dated September 1, 2009, concurred that the proposed project will not likely adversely affect the Indiana Bat.

Kentucky Fish and Wildlife resources in a letter dated July 16, 2009, stated that the project will not significantly affect fish and wildlife. However, Best Management Practices should be followed during construction to reduce siltation and erosion and sowing ground cover on construction sites as soon as possible after completion of work.

Impacts on Air Quality:

Kentucky Division for Air Quality Regulation 401 KAR 63:010 Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the Fugitive Emissions Fact Sheet located at http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm.

Kentucky Division for Air Quality Regulation 401 KAR 63:005 states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the Open Burning Fact Sheet located at http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm.

Impacts on Floodplains:

A floodplain construction permit may be required from the Surface Water Permits Branch, Floodplain Management Section, if there are any disturbances in or along a stream or within the 100-year floodplain.

Miscellaneous Impacts:

The environmental impact of constructing the proposed facilities includes those temporary impacts of noise, dust, and traffic disruption in the construction area. The proposed project will improve the surface water and groundwater quality over the next 20 years. This action will also provide a planned development for economic growth in the planning area.

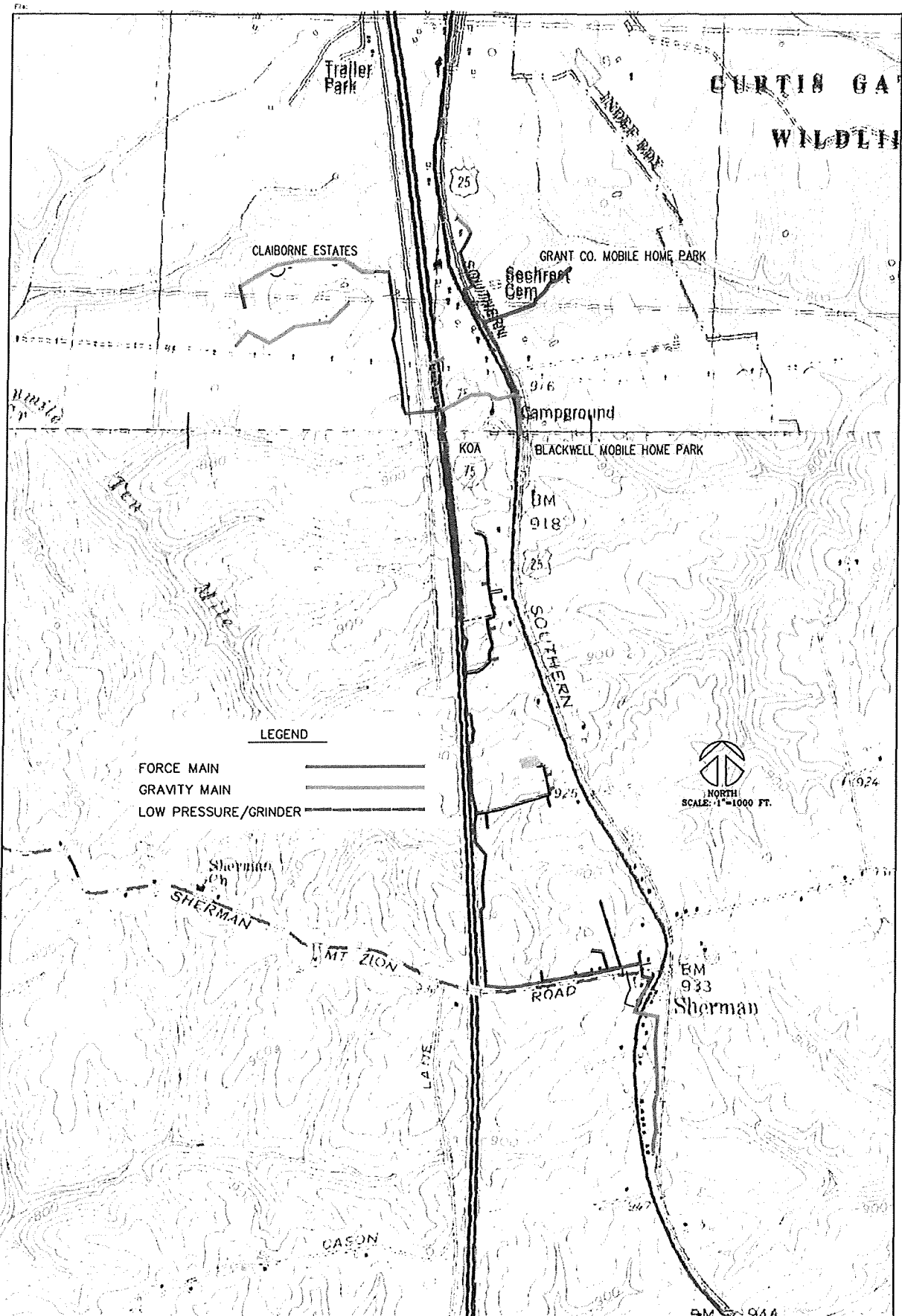
G. Public Participation and User Rates

There were three public meetings held to discuss this project. The two meetings held on January 15 and February 25, 2009, were not advertised in the newspaper whereas the meeting held on July 7 was advertised in "The Enquirer" on June 29, 2009. The Division of Water is not aware of any unresolved public objections that may have been voiced before or after the public meeting in relation to the proposed project. The current monthly sewer rate based on 4,000 gallons of usage is \$37.56. This project will not result in monthly sewer rate increment.

H. Sources Consulted

Kentucky Department of Fish & Wildlife Resources
Kentucky Division for Air Quality
Kentucky Division of Forestry
Kentucky Division of Waste Management

Kentucky Division of Water
Kentucky Heritage Council
Kentucky State Clearinghouse
Natural Resources Conservation Service Web Soil Survey
U.S. Fish & Wildlife Service
CMW, Inc. Consulting Engineer
Grant County Judge-Executive
Northern Kentucky Area Development District



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USGS TOPOGRAPHIC MAP
 GRANT COUNTY SEWER DISTRICT
 PHASE 1 SEWER EXTENSION
 GRANT COUNTY KENTUCKY

PLEASE TO CHECK BY
 EPOCH SOFTWARE, INC.
 131 N. KENNEDY DR. SUITE E. ROSSAND KY 40473
 VOICE 606 623 2566 FAX 606 623 6666

CMW inc.
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FIGURE 1