

MATTHEW G. BEVIN
GOVERNOR



CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

AARON B. KEATLEY
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

July 6, 2017

Plant Site Moved.

Mr. Randal Smith, Chairman
Augusta Regional Sewer Authority
PO Box 85
Augusta, KY 41002

RE: Regional Facilities Plan for
Augusta/Brooksville Regional Sewer Project
Proposed Augusta Brooksville Regional WWTP
site
Bracken County, Kentucky
AI ID: 117757; PLN20160001

Dear Mr. Smith:

The Department for Environmental Protection, Division of Water (DOW) has reviewed the facilities plan and environmental document entitled *Augusta/Brooksville Regional Sewer Project*, dated February 16, 2017, and found it to conform to 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 June 2, 2017, which has undergone review by the Kentucky State Clearinghouse State Application Identifier #KY20160706-0965. This approval is subject to any conditions and mitigative measures presented in Section F of the SPEAR or in the State Clearinghouse review comments.

Prior to commencement of construction, all crosscutter concerns and mitigative measures are to be addressed and documentation provided to DOW for final review.

Any questions may be directed to our office at (502) 782-7026 or by e-mail to russell.neal@ky.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Russell Neal". The signature is written in a cursive, somewhat stylized font.

Russell Neal, Supervisor
Wastewater Municipal Planning
Water Infrastructure Branch

RN/ld
Attachments

Cc: Mr. Ray Bascom, Hayworth, Meyer, & Boleyn, Inc.
Ms, Kristie Dodge, BTADD

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300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

FINDING OF NO SIGNIFICANT IMPACT (FONSI)
Augusta/Brooksville Regional Sewer Project
Augusta Regional Sewer Authority
Bracken County, Kentucky
AI ID: 117757; PLN20160001

The Department for Environmental Protection, Division of Water (DOW) has conducted a review of the above proposed project 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. Based on a review of the *Augusta/Brooksville Regional Sewer Project* submitted by the applicant and other supporting documents, the DOW has determined the above referenced proposed project will not have a significant impact on the environment and is issuing a Finding of No Significant Impact (FONSI).

The *Augusta/Brooksville Regional Sewer Project* proposes projects to include extending sewers to connect the Cities of Augusta and Brooksville and the addition of unsewered communities; and a new regional Wastewater Treatment Plant to meet more stringent permit limitations. This new regional wastewater treatment plant will replace both the existing Augusta and Brooksville wastewater treatment plants. Based on the evaluation of alternatives, the selected alternative is to construct a new regional wastewater treatment plant utilizing single stage activated sludge with biological nutrient removal. Projects will include: a new influent pump station for Augusta, gravity grit removal, mechanical screen with standby bar rack, two aeration tanks, two clarifiers, three RAS/WAS pumps, ultraviolet disinfection, and cascade aerator, aerobic digester/sludge holding tank, tanker truck loading pad, and a control building. Biosolids will be biologically treated by aerobic digestion and stored before trucked for offsite disposal. The selected alternative will proceed in phases with the first phase giving preliminary probable project costs of \$12,397,000.

These actions are a necessary step in improving water quality of local streams, as well as improving the ability of the system to meet permit limits due to aging and failing infrastructure. The proposed projects are located within the Bullskin Creek – Ohio River watershed, Hydrologic Unit Code 0509020111.

Attached is a State Planning and Environmental Assessment Report (SPEAR) containing detailed information supporting this proposed action. It includes the following sections: A) Summary, B) Existing Environment, C) Existing Facilities, D) Need for Project, E) Alternatives Analysis, F) Environmental Consequences, Mitigative Measures, G) Public Participation and User Rates, and H) Sources Consulted.

This FONSI and environmental assessment will be available for review and comment for thirty (30) calendar days. Interested persons are encouraged to submit comments within thirty days of the issue date. The DOW will take no action on this project until after the review and public comment period has

ended, and will evaluate all comments before a decision is made to proceed with approval of the wastewater facilities plan amendment or awarding of SRF funds for this project. Written comments supporting or disagreeing with the proposed action should be sent to Russell Neal, Supervisor, Wastewater Municipal Planning, Water Infrastructure Branch, Division of Water, 300 Sower Boulevard, Frankfort, Kentucky, 40601, or by e-mail to russell.neal@ky.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter T. Goodmann". The signature is stylized and cursive, with a large initial "P" and "G".

For
Peter T. Goodmann, Director
Division of Water

RN/d

Augusta Regional Sewer Authority, Inc.

Randal Smith
Chairman

P.O. Box 85
Augusta, Kentucky 41002

March 29, 2017

Lori Dials, Environmental Scientist
Waste Water Planning
Water Infrastructure Branch
Division of Water
300 Sower Boulevard, 3rd Floor
Frankfort, Kentucky 40601

RE: Augusta Regional Sewer Authority - Assurance Letter

To Whom It May Concern,

The Augusta Regional Sewer Authority has reviewed the KY State Clearinghouse comments, as well as mitigation recommendations and requirements of the US Army Corp of Engineers, Natural Resource Conservation Services, and Kentucky Heritage Council. The Augusta Regional Sewer Authority is committed to fulfilling all the requirements set forth by the crosscutter agencies.

If you have any further questions, please do not hesitate to contact me or Kristie Dodge at 606-564-6894 or kdodge@btadd.com.

Sincerely,



Randal Smith
Chairman, Augusta Regional Sewer Authority



MATTHEW G. BEVIN
GOVERNOR

DEPARTMENT FOR LOCAL GOVERNMENT
OFFICE OF THE GOVERNOR
1024 CAPITAL CENTER DRIVE, SUITE 340
FRANKFORT, KENTUCKY 40601-8204
PHONE (502) 573-2382 FAX (502) 573-2939
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WWW.kydlgweb.ky.gov

SANDRA K. DUNAHOO
COMMISSIONER

July 22, 2016

Ms. Laura Jefferson
Buffalo Trace ADD
201 Government Street
Maysville, KY 41056

RE: Augusta/Brooksville Regional Sewer Project
SX21023005
SAI# KY20160706-0965
CFDA# 14.228, 10.760, 66-458

Dear Ms. Jefferson:

The Kentucky State e-Clearinghouse is the official designated Single Point of Contact (SPOC) for the Commonwealth pursuant to Presidential Executive Order 12372, and supported by Kentucky Statutes KRS 45.03. The primary function of the SPOC is to streamline the review aforementioned process for the applicant and the funding agency. This process helps in vocalizing the statutory and regulatory requirements. Information in the form of comments, if any, will be attached to this correspondence.

This proposal has been reviewed by the appropriate state agencies in the e-Clearinghouse for conflicts with state or local plans, goals and objectives. After receiving this letter you should make it available to the funding agency and continue with the funding agencies application process. This e-clearinghouse SPOC letter signifies only that the project has followed the state reviewing requirements, and is neither a commitment of funds from this agency or any other state or federal agency. Please remember if any federal reviews are required the applicant must follow through with those federal agencies.

The results of this review are valid for one year from the date of this letter. If the project is not submitted to the funding agency or not approved within one year after the completion of this review, the applicant can request an extension by email to Lee.Nalley@ky.gov. If the project changes in any way after the review, the applicant must reapply through the eclearinghouse for a new review. There are no exceptions.

If you have any questions regarding this letter or the review process please contact the e-Clearinghouse office at 502-573-2382, ext. 274.

Sincerely,

A handwritten signature in blue ink that reads "Lee Nalley".

Lee Nalley, SPOC
Kentucky State Clearinghouse

Attachment

KY Heritage Council/State Historical Preservation Office (SHPO)

To receive a review from the KY Heritage Council/State Historical Preservation Office (SHPO) you must follow the instructions located on their website at <http://www.heritage.ky.gov/siteprotect/> . There you will find the required documents for the Section 106 Review and Compliance for 36 CFR Part 800. This Section 106 submission process to SHPO will assist applicants and agencies in providing the appropriate level of information to receive comments from SHPO.

If you have any questions please contact Yvonne Sherrick, Administrative Specialist III, (502) 564-7005, Ext. 113, yvonne.sherrick@ky.gov

The Kentucky Infrastructure Agency has made the following advisory comment pertaining to State Application Identifier Number KY201607060965

Budget does not match WRIS Portal. Please review budget in WRIS Portal and revise as needed. This project was reviewed in the WRIS Portal by KIA Staff. Should you have any questions, please contact Jocelyn Gross at 502.573.0260 or email Jocelyn.gross@ky.gov.

The Labor Cabinet has made the following advisory comment pertaining to State Application Identifier Number KY201607060965

STATE PREVAILING WAGE RATES MAY APPLY TO PROJECTS EXCEEDING \$250,000.00. CONTACT KY LABOR CABINET AT 502 564 3534

The KY State Fish & Wildlife has made the following advisory comment pertaining to State Application Identifier Number KY201607060965

To minimize impacts to the aquatic environment the Kentucky Dept. of Fish & Wildlife Resources 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.

Additionally, KDFWR recommends the following for the portions of the project that crosses intermittent or perennial streams: Development/excavation in streams should be done during low flow periods to minimize disturbances. When crossing a stream, the pipe should be laid perpendicular to the stream bank to minimize the direct impacts to the streambed. We recommend that all instream disturbances be returned to a stable condition upon completion of stream pipeline crossing. Please contact Dan Stoelb @ 502-564-7109 ex. 4453 or Daniel.Stoelb@ky.gov if you have further questions or require additional information.

The Natural Resources has made the following advisory comment pertaining to State Application Identifier Number KY201607060965

This review is based upon the information that was provided by the applicant through the Clearinghouse for this project. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications, or approvals that may be required from this agency under Kentucky Revised Statutes or Kentucky Administrative Regulations. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented other than those stated as conditions or comments.

Locust Creek is listed as impaired on the 2012 303(d) list. Activities related to Locust Creek shall be conducted in a manner that will not cause further degradation to the watershed. Best management practices shall be utilized to reduce runoff from the project into all surface waters. John Brumley, Water Quality Branch, (502) 782-6905, John.Brumley@ky.gov.

The proposed project is subject to Division of Water (DOW) jurisdiction because the following are or appear to be involved: sewer lines and appurtenances and wastewater treatment plant construction. Prior approval must be obtained from the DOW before construction can begin. The applicant must cite the State Application Identifier (SAI #KY201607060965) when submitting plans and specifications.

The project will provide for the property acquisition, construction and related tasks for the regional Wastewater Treatment Plant (WWTP) and collection system to serve the Cities of Augusta and Brooksville and northern Bracken County, based upon the recommendations of the approved Facilities Plan. The existing WWTPs for Augusta and Brooksville will be eliminated, as will the existing outfalls. The package treatment plant and outfall at the Nursing Home will also be eliminated. A new outfall will be constructed. Five lift stations will be constructed in the project. This project will serve 775 existing residential and 102 other (business, churches, schools). In addition, service will be provided to 74 new residences and 7 other (businesses, churches, schools). As a green component, trees will be planted at the new plant and landscaped to allow the greatest environmental impact. Water efficiency will be addressed utilizing water efficient fixtures and appliances in the new plant. Energy efficiency will be achieved through the utilization of Variable Frequency Drive controllers at the WWTP. 8-inch, 10-inch, and 12-inch interceptor lines and 8-inch collector lines will be constructed to access the new WWTP.

This project is consistent with the approved facilities plan. Lori Dials, Water Infrastructure Branch, (502) 782-6937, Lori.Dials@ky.gov.

Plans and specifications signed stamped and dated by a professional engineer licensed in Kentucky along with closure plans shall be submitted to the DOW for review and approval prior to the start of construction. As State Revolving Fund A has been identified as a funding source, a completed Plans and Specs Checklist shall be submitted with a complete copy of the specifications for review and approval prior to bidding. Terry Humphries, Water Infrastructure Branch, (502) 782-7086, Terry.Humphries@ky.gov.

No comment. Melissa Baughn, Compliance and Technical Assistance Branch, (502) 782-6885, Melissa.Baughn@ky.gov.

The proposed work is endorsed by the Groundwater Section of the Watershed Management Branch. However, it is our recommendation that site be made aware of the requirements of 401 KAR 5:037 and the need to develop a Groundwater Protection Plan (GPP) for the protection of groundwater resources within that area during construction and other project activities. Sean Vanderhoff, Watershed Management Branch, (502) 782-7119, Sean.Vanderhoff@ky.gov.

The Division of Enforcement does not object to the project proposed by the applicant. Tim Harrod, Division of Enforcement, (502) 782-6858, Timothy.Harrod@ky.gov.

From the application data, DOW ascertains that the proposed project is located in a floodplain area. Therefore, a floodplain construction permit is required for this project. Julia Harrod, Watershed Management Branch, (502) 782-6967, Julia.Harrod@ky.gov.

If the construction area disturbed is equal to or greater than 1 acre, the applicant will need to apply for a Kentucky Pollutant Discharge Elimination System (KPDES) storm water discharge permit.

Utility line projects that cross a stream will require a Section 404 permit from the US Army Corps of Engineers and a 401 Water Quality Certification from DOW.

The Kentucky Division of Water supports the goals of EPA's Sustainable Infrastructure Initiative. This Initiative seeks to promote sustainable practices that will help to reduce the potential gap between funding needs and spending at the local and national level. The Sustainable Infrastructure Initiative will guide our efforts in changing how Kentucky views, values, manages, and invests in its water infrastructure. This website, www.epa.gov/waterinfrastructure/, contains information that will help you ensure your facility and operations are consistent with and can benefit from the aims of the Sustainable Infrastructure Initiative.

The KY Dept. of Transportation has made the following advisory comment pertaining to State Application Identifier Number KY201607060965

Callan-Ramler (D 6), Carol: Should any work necessitate activities within the limits of KY highway right-of-way a permit from the KY Transportation Cabinet is required. Please contact Matt Bogen, Permits Supervisor, 859-341-2700.

The Buffalo Trace ADD has made the following advisory comment pertaining to State Application Identifier Number KY201607060965
No comments

The Housing, Building, Construction has made the following advisory comment pertaining to State Application Identifier Number KY201607060965
No comments

STATE PLANNING AND ENVIRONMENTAL ASSESMENT REPORT (SPEAR)
Augusta/ Brooksville Regional Sewer Project Facilities Plan Amendment
Augusta Regional Sewer Authority,
Bracken County, Kentucky
AI#117757; PLN20160001

A. Summary

Project Summary

The Augusta Regional Sewer Authority (ARSA) was created to construct and run the new regional wastewater treatment plant. The Augusta/Brooksville Regional Wastewater Treatment Plant will serve the Cities of Augusta and Brooksville and part of northern Bracken County. Currently each City has its own plant and collection system. This project proposes to replace the Augusta and Brooksville plants with one regional plant which is the chosen alternative from the approved 2010 facilities plan but the location for the plant and the outfall has changed so this SPEAR is written for a facilities plan amendment. Both the Augusta (35 years old) and Brooksville (45 years old) plants are at the end of their useful life and have had several notices of violations in the past 5 years for permit exceedances and improper maintenance. The Augusta wastewater treatment plant (WWTP) is a package treatment plant with a design capacity of 0.33 million gallons per day (MGD). The treatment consists of screening, comminutor, contact stabilization activated sludge aeration basin, final clarifier, effluent chlorination, and dechlorination, effluent flow measurement and the biosolids are handled through an aerobic digester. In addition, two sand drying beds are located at the facility. The WWTP discharge point is at river mile (RM) 427.2 of the Ohio River. The Brooksville WWTP is also package treatment plant constructed in 1969 with a design capacity of 0.20 MGD and the treatment consists of screening, comminutor, contact stabilization, activated sludge aeration tanks, final clarifier, chlorination/dechlorination, post aeration. Biosolids are treated by aerobic digestion and then trucked to another WWTP for disposal. Much of the planning area is agricultural and is, therefore, unsewered. However, pockets of populated areas exist within the planning area; these remain unsewered relying primarily on private septic systems. One privately owned package treatment plant located at the Bracken County Nursing and Rehab Center will also be eliminated by this regionalization project. The densest populated area is along KY HWY 19 between Brooksville and Augusta and with this regionalization project these residences will be added to the System.

Based on flow data presented in the *City of Augusta & City of Brooksville and Northern Bracken County Regional Facility Plan, 2010* the volume of flow to the Augusta plant was averaging 0.148 MGD, approximately 44.8% of its design capacity and the maximum monthly flow was 0.310 MGD, a 93.9% of the design capacity. The Brooksville WWTP is also treating flows at close to the plant's design capacity at 84% with a peak daily at 94.7%. Over the next 20 years, the Bracken County population is projected to decrease within the current service area by approximately 15%. The proposed regionalization project will add new customers along KY HWY 19 between the two Cities plus the Bracken Co Nursing and Rehab Center. Considering the I/I issues with both plants and the addition of customers with room to expand at a later date, the proposed capacity is 0.69 MGD. The Plan estimates approximately 9,800 persons being served by the end of the planning period.

The original collection system for Augusta constructed early in the 1950s largely of vitreous clay pipe. The Brooksville collection system was in place in the 1930s and over the years of service there has been several extensions as the town grew. All extensions for both Systems were constructed out of PVC. Wet weather problems such as I/I have been noted as far back as the original 1979 201 Facilities Plan for the City of Augusta.

The Augusta - Brooksville Regional Facilities Plan Amendment proposes a project to regionalize the wastewater system for the communities of Augusta, Brooksville, and parts of Northern Bracken County with a new treatment plant and new sewers. The project includes the construction of the new regional WWTP and new outfall located off of KY 19 just north of Brooksville. The outfall will discharge to Locust Creek at RM 9.96. New pump stations will replace the WWTPs at Augusta, Brooksville, and the Bracken County Nursing & Rehabilitation Center plus two additional pump stations along KY HWY 19 are also proposed. Rehabilitation of the collection system will continue to remove sources of excessive I/I. The total estimated project cost is \$12,397,000.

These actions are necessary steps in improving water quality of local streams impacted by failing on-site systems and ineffective wastewater treatment. This will also better serve the existing customers of the Cities of Augusta and Brooksville as well as add an additional 74 customers and 7 businesses in northern Bracken County.

The project is located within the Buffalo Trace Area Development District (BTADD) and the area covered by the Florence Regional Office of the Division of Water (DOW). The environmental information document for the *Augusta/Brooksville Regional Sewer Project* prepared by Hayworth, Meyer, & Boleyn, Inc. (HMB) and the Buffalo Trace Area Development District (BTADD).

Funding Status

The regionalization project has applied for grants and loans from HUD Community Development Block Grant (CDBG), USDA Rural Development, and Kentucky Infrastructure Authority (KIA) State Revolving Fund to fund this project.

B. Existing Environment

Topography and Geology

The Planning Area (PA) is located in Northern Bracken County and includes the cities of Augusta and Brooksville. The PA extends south from the Ohio River, the northern boundary, and follows the western boundary of the County line to just south of Brooksville and follows KY HWY 10 north east to the eastern County line. Northern Bracken County is located within the Bluegrass Physiographic Region and is characterized by long, narrow ridgetops and short, moderately steep to very steep sides slopes that are separated by long, narrow floodplains. The topography of the area varies from gently rolling uplands to fairly steep slopes along some stream beds.

Groundwater in the county is obtained from consolidated sedimentary rocks of Ordovician age and from unconsolidated sediments of Quaternary age. The oldest rocks are found at the surface in the Lexington limestone.

Soils

Soils in the planning area are part of three associations: *Wheeling-Nolin-Otwell*, *Lowell-Nicholson*, and *Eden*.

- *Wheeling-Nolin-Otwell*: These soils are deep to very deep and located on slopes that are nearly level to gently sloping. They are also well drained soils to moderately well drained soils that have a loamy subsoil. They occur on stream terraces and flood plains and they are located along the Ohio River Valley and the valleys of streams that flow into the Ohio River in Northern Bracken County. *Wheeling-Nolin-Otwell* soils only make up about 2% of the County because they are only located along the Ohio River. Wheeling soils are very deep and well drained on side slopes and stream terraces and they are composed from mixed loamy alluvium with some glacial drift of the Quaternary System. Nolin soils are very deep, well drained located on floodplains. They are composed from loamy alluvium of the Quaternary System. Otwell soils are very deep, moderately well drained located on stream terraces. They are composed of mixed silty alluvium of the Quaternary System. These soils are suited to hayland pasture if protected from flooding. These soils are severely limited for septic tank absorption fields due to flooding, slow percolation, slope, and wetness. Limitations for urban development include flooding, seasonal high water table, slow permeability, and slope.
- *Lowell-Nicholson*: These soils are typically found on ridgetops and upper side slopes and are deep to very deep, moderately well drained to well drained and moderately sloping too steep with a clayey or loamy subsoil. These soils make up about 10% of the County and they are located in the areas of Brooksville, Locust Creek valley, and intermittently along KY HWY 19 between Brooksville and Augusta. Lowell soils are very deep and well drained and they occur on gently sloping to moderately steep soils on upper side slopes and ridgetops. Lowell soils are composed of clayey residuum derived from limestone and shale of the Ordovician Age and they are severely limited for septic tank absorption fields because of slope and a slow percolation rate. Nicholson soils are also located on ridgetops and they are deep, moderately well drained soils that are composed of silty material over clayey residuum derived from limestone of the Ordovician Age. Nicholson soils are also severely limited for septic tank absorption fields because of wetness and slow percolation rate with a high seasonal high water table. In most areas, these soils are poorly suited to urban uses due to slope, depth to bedrock, and moderately slow or slow permeability.
- *Eden*: Eden soils are characterized by moderately deep, well drained soils that are sloping to very steep and occur on ridgetops and side slopes. These soils make up approximately 80% of the soils in the County. These soils are composed of clayey residuum derived from shale and limestone of the Ordovician Age. They are severely limited for septic tank absorption fields due to depth to bedrock, slope, and slow permeability.

Surface Waters

The planning area is located entirely within the Bullskin Creek – Ohio River watershed within the Salt/Licking River Basin Management Unit. There are several streams within the Planning Area that are listed in the *Integrated Report to Congress of Water Resources in Kentucky, 2014*, and they are presented in Table 1. The proposed discharge point is located within the impaired segment of Locust Creek.

Table 1
List of Impaired Streams
Bullskin Creek – Ohio River Watershed
Bracken County, Kentucky

Water Body & Segment	Support Status*	Designated Use**	Causes	Sources
Bracken Creek RM 2.8-11.0	PS	WAH	Nutrient/Eutrophication Biological Indicators	Animal Feeding Operations (NPS), Crop Production (Crop Land or Dry Land); Grazing in Riparian or Shoreline Zones
Goose Creek RM 0.0-1.9	PS	WAH	Unknown	Natural Sources, Surface Mining
Locust Creek RM 0.0-4.1	NS	PCR	Fecal Coliform	Unknown
Locust Creek RM 4.2-12.2	NS	WAH	Unknown	Unknown
Ohio River RM 437.2-388.0	PS	FC	Dioxin (including 2,3,7,8- TCDD)	Unknown
	PS	FC	PCB in Water Column	Unknown
Ohio River RM 464.5-437.2	PS	FC	Dioxin (including 2,3,7,8- TCDD)	Unknown
	PS	FC	PCB in Water Column	Unknown

Source: *Integrated Report to Congress on the Condition of Water Resources in Kentucky, 2012* (305(b) and 303(d))

*NS = Non-Support, PS = Partial Support, FS = Full Support **WAH = Warmwater Aquatic Habitat, CAH = Coldwater Aquatic Habitat, PCR = Primary Contact Recreation, SCR = Secondary Contact Recreation, FC = Fish Consumption

Groundwater

The City of Augusta provides drinking water to the area from groundwater wells situated in the Ohio River Alluvium located along the Ohio River between RM 428.8 to 427.4. This public water system provides water to approximately 13,400 persons in Bracken County. It is estimated another 4,400 private wells provide drinking water in the area. In the northern third of the county, most drilled wells are adequate for a domestic supply. However, wells in the remaining portions of the county do not yield enough water for a domestic supply, except those along streams. The Ohio River Alluvium is listed as a wellhead protection area (WHPA) by the Division. The elimination of the Augusta WWTP (located at 38.773410, -84.014135) and the outfall located at (38.773563, -84.014045) will eliminate potential sources of contamination in Zone 2 of the wellhead protection area.

The quality of the groundwater in the Bluegrass Physiographic region varies. Generally, deeper wells produce more mineralized water, but are less likely to become polluted. In Bracken County, groundwater obtained from most drilled wells in limestone aquifers is considered hard. Salt and Hydrogen sulfide are two naturally occurring constituents encountered in objectionable amounts.

Water obtained from wells and springs in many limestone aquifers is subject to pollution and, at a minimum, should be treated to eliminate bacterial contamination.

C. Existing Wastewater Facilities

There are two wastewater treatment plants and their respective collection systems located in the Planning Area: Augusta WWTP (KPDES# KY0021261) and Brooksville WWTP (KPDES# KY0025232).

Augusta

Collection System

The City of Augusta owns and operates a single sewerage system consisting of gravity sewers and one wastewater treatment facility providing secondary treatment for domestic and commercial wastewater. The original collection system is over 80 years old and consists of approximately 6.8 miles of gravity sewers and 0.56 miles of force main with eleven lift stations. A sanitary sewer evaluation survey shows that the collection system has excessive Infiltration/Inflow rates during high rain events per the 2010 facilities plan.

Wastewater Treatment

The wastewater treatment facility constructed in 1978 as a round, package treatment plant located on the west end of the City and placed above grade to prevent flooding. The outfall is located on the Ohio River at RM 427.2, permit limits listed in Table 2. It has now surpassed its useful life and has had several Notices of Violations in the last 5 years for permit exceedances, unpermitted discharges and improper maintenance and upkeep. The current plant's design capacity is 0.33 MGD with a peak flow is 0.72 MGD and the plant is operating at approximately 44% capacity but the monthly maximum is close to 100% capacity at approximately 94%. During high rainfall events the peak flow reaches 125% presented in the 2010 facilities plan. The selected alternative is regionalization so this plant will be eliminated and replaced with a new lift station because this plant cannot meet the new permit requirements and the redundancy requirement. The existing plant consists of the following process units:

- Screening,
- Comminution,
- Aeration Contact Chamber
- Final clarification,
- Chlorination/dechlorination,
- Sludge Aerobic Digestion

Table 2
Existing KPDES Permit Limits
Wastewater Treatment Plant
Augusta, Kentucky
#KY0021261

Parameter	Limitations
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	30 mg/l*
Total Suspended Solids (TSS)	30 mg/l*
Ammonia-nitrogen (NH ₃ -N)	20 mg/l
Dissolved Oxygen (DO)	2.0 mg/l (min.)**
Escherichia coli	130 Col./100 mls†
Total Phosphorus	Report
Total Nitrogen	Report
Total Residual Chlorine	0.011 mg/l
*Monthly Average	**Daily Minimum
†Monthly Geometric Mean	††Daily Maximum

Brooksville

Collection System

The Brooksville sewers were originally constructed in the 1960s and 1970s and have only had minor extensions since that time. The collection system consists of approximately 1.4 miles of gravity sewer lines, approximately 1.2 miles of force mains that serve nine lift stations serving the City. Much of the collection system is constructed of vitrified clay and can be expected to be a major source of infiltration and inflow problems (I/I).

Wastewater Treatment

The Brooksville WWTP is also a round package treatment plant with a design capacity of 0.125 MGD with the outfall located in an unnamed tributary of Locust Creek, the permit limits listed in Table 3. This facility treats an average daily flow of 0.068 mgd, resulting in treating 54% of the design hydraulic capacity but the monthly maximum flow is 0.105 MGD, runs at 84% capacity. During high rain events, the peak flow is at 95% capacity due to I/I. The WWTP has no room for expansion so it cannot meet future permit requirements. There has also been several Notices of Violation in the last 5 years for permit exceedances and improper maintenance. The selected alternative will also eliminate the Brooksville WWTP and replace it with a new lift station. The existing plant consists of the following process units:

- Screening,
- Comminution,
- Aeration Contact Chamber,
- Final clarification,

- Chlorination/dechlorination,
- Sludge Aerobic Digestion

Table 3
Existing KPDES Permit Limits
Wastewater Treatment Plant
Brooksville, Kentucky
#KY0025232

Parameter	Limitations
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	10 mg/l*
Total Suspended Solids (TSS)	30 mg/l*
Ammonia-nitrogen (NH ₃ -N): Summer	4.0 mg/l
Winter	10 mg/l
Dissolved Oxygen (DO)	7.0 mg/l (min.)**
Escherichia coli	130 Col./100 mls [†]
Total Phosphorus	Report
*Monthly Average	**Daily Minimum
††Daily Maximum	†Monthly Geometric Mean

Septic and On-site Systems

Many of the residents in the planning area, outside of the ARSA service area, rely on septic systems for the disposal of sanitary wastewater. On-site systems have the potential to pollute area streams and groundwater when not properly maintained. Seventy-four unsewered residences proposed to be added to the new collection system along KY HWY 19.

Due to the topography and limited collection system, there are two privately owned package treatment plants (PTP) located in the planning area as listed in the Table 4. Currently, there are no notices of violations or other enforcement actions related to these facilities. The Bracken Co. Nursing & Rehab Center will be eliminated when the service is expanded along KY HWY 19 and in the future the Bracken Co. Industrial Park PTP will be eliminated.

Table 4
Existing Private Package Plants
In the Augusta Regional Sewer Authority Planning Area
Bracken County, Kentucky

Package Plant	KPDES Permit #	Capacity
Bracken Co. Industrial Park	KY0103187	0.01 MGD
Bracken Co. Nursing & Rehab Center	KY0042170	0.01 MGD

D. Need for Project

As mentioned previously, both the Augusta and Brooksville WWTP are old and in need of much repair. Neither WWTP can expand or upgrade to meet future permit requirements nor can they meet current redundancy requirements. The one private package treatment plant that will be decommissioned is also in poor condition. The planning area outside the corporate limits remains unsewered with the potential to contribute to the impairment of streams in the region. By extending sewers into these areas, this potential is reduced. The improved infrastructure may help to improve the economic outlook for the area. Additionally, the projects proposed in the Facilities Plan Amendment has the potential to improve water quality in the area by providing collection and treatment facilities and constructing one discharge point to eliminate three separate discharge points to Locust Creek, Little Bracken Creek, and the Ohio River. By improving existing systems potential sources of water pollution will be eliminated.

E. Alternatives Analysis

Collection System Extension

To better serve the planning area and improve water quality, extension of sewers along KY HWY 19 to connect the Cities of Augusta and Brooksville and the Bracken County Nursing and Rehabilitation Center to the new regional WWTP is proposed. Approximately 90 residential and 10 commercial unsewered customers will be added to the System by this extension. Five new lift stations are also proposed. A lift station is proposed at the decommissioned Augusta WWTP, the decommissioned Brooksville WWTP, and the eliminated package treatment plant located at the Bracken Co. Nursing and Rehabilitation Center. Two additional lift stations are proposed along KY HWY 19. One will be located just south of the intersection with KY HWY 8 and the second one is located further south along KY HWY 19 just north of the intersection with KY HWY 9.

Wastewater Treatment Alternatives

The ARSA evaluated alternatives that would provide the best service to the customers of northern Bracken County and they are:

No Action: Both WWTPs, Augusta and Brooksville, are at the end of their useful life and they have received several NOV's for permit exceedances. These WWTPs cannot meet more stringent KPDES requirements so allowing these plants to continue as they are is not an option and was not considered further.

Optimization of Existing Facilities: This alternative would upgrade the existing plants in Augusta and Brooksville. But this option was not considered further because it was not cost effective.

Regionalization: A regional WWTP constructed on a site north of Brooksville off of KY HWY 19 with the outfall located on Locust Creek. This new plant will serve the Cities of Augusta and Brooksville, and the Bracken Co. Nursing and Rehabilitation Center in Chatham. Additional

customers along KY HWY 19 will also be served by the regional system. The two existing WWTPs and the one privately owned package treatment plant will all be decommissioned and replaced with new lift stations. This is the selected alternative because this is the most cost effective plan to serve the customers of northern Bracken County and protect the water quality in the planning area.

Treatment Alternatives:

Below is the treatment alternatives considered for the Regional Augusta-Brooksville WWTP. All treatment alternatives considered were based on the criteria and wasteload allocations presented in Table 5.

Table 5		
Design Criteria for the Regional Wastewater Treatment Plant Bracken County, Kentucky		
Parameter	Design Criteria	
	Influent	Effluent
Average Design Flow	0.690 MGD	--
CBOD ₅	806 lbs/day	10 mg/l
TSS	1,007 lbs/day	30 mg/l
Ammonia-Nitrogen May 1 – Oct 31	202 lbs/day	3 mg/l
Ammonia-Nitrogen Nov. 1 – April 30		10 mg/l
Total Phosphorus	--	monitor
Total Nitrogen		monitor
Total Residual Chlorine	--	0.011 mg/l
Dissolved Oxygen	--	7 mg/l (min.)
E. coli	--	130 col./100 ml

Alternative No. 1 –Single Stage Activated Sludge Plant with Biological Nitrogen Removal

Alternative No. 1 would include installing gravity grit removal, mechanical screen with standby rack, two aeration tanks each with an anoxic and aerobic zone, two final clarifiers, three RAS/WAS pumps, ultraviolet disinfection, cascade aerator, aerobic digester/sludge holding tank, loading pad, and a control building. This system can remove approximately 80% of the nutrient load and is more energy efficient due to lower energy consumption. The project costs associated with this alternative are estimated to be \$7,200,000. The 20-year present worth cost of this alternative is estimated at \$8,262,138.

Alternative No. 2 – Poured in Place Activated Sludge Plant with Package Equipment

Alternative No. 2 includes installing a pre-cast package plant with the treatment equipment already included: activated sludge, final clarifiers, activated sludge pumping and digester equipment. Additional functional equipment includes grit removal, mechanical bar screen, ultraviolet disinfection, cascade aerator, tanker truck loading pad, and a control building. The project costs associated with this alternative are estimated to be \$8,265,900. The 20-year present worth cost of this alternative is estimated at \$9,233,909.

Alternative No. 3 – Oxidation Ditch Activated Sludge Treatment Plant

Alternative No. 3 includes constructing new grit removal headworks, two oxidation ditches, two clarifiers, three RAS/WAS pumps, ultraviolet disinfection, and cascade aerator. Biosolids will be handled through an aerobic sludge digester/ holding tank and then hauled away by truck for disposal. A new control building is also part of the project. The oxidation ditch technology is economical to run and it does require a large footprint and it is more costly to build compared to the selected alternative. The project costs associated with this alternative are estimated to be \$7,588,300. The 20-year present worth cost of this alternative is estimated at \$8,930,491.

Based on monetary and non-monetary evaluation of the technologies, Alternative No. 1 (new single stage activated sludge with nitrogen removal) was considered the best alternative particularly considering project cost, present worth costs, and public support.

Selected Alternative

Based on the evaluation of transportation and treatment alternatives, the selected alternative is to construct a regional WWTP located north of Brooksville off of KY HWY 19 and construct a new outfall in Locust Creek at RM 9.96. The two existing plants and one privately owned package treatment plant will be eliminated and replaced with new lift stations. The regional WWTP will utilize activated sludge with biological nitrogen removal treatment, Alternate 1. Five new lift stations will be constructed with respective force mains. A sewer extension along KY HWY 19 is needed to bring flow from the Cities of Augusta and Brooksville to the new WWTP and approximately 100 new residential and commercial customers will be added. The figures at the end of this document shows the regional WWTP proposed location, (Figure 1), the new lift stations proposed locations, (Figure 2), and the regional WWTP process flow schematic, (Figure 3). The selected alternative would occur in the next two years and the project cost is estimated at \$12,397,000 which includes the costs associated with the new WWTP plus the new collection system.

Overall this plan is a necessary step in meeting the water quality goals as required by in the KPDES permitting program and improving water quality with the removal of pollutant discharges to local streams.

F. Environmental Consequences, Mitigative Measures

Impacts on Historic Properties and Archeological Sites

The Kentucky Heritage Council (KHC) indicated, in its July 27, 2016 letter, that a Phase I Archaeological Survey has been completed for the WWTP site. KHC commented that they agree with the determination that a “historic archaeological site that is potentially eligible for listing on the National Register of Historic Places was found and this site will be avoided”. KHC also stated “We concur that this plan will avoid any impacts to the site and further investigations will not be necessary at this time.” Also, KHC has made additional comments concerning the installation of the sewer line that will not occur in the right-of-ways of KY HWY 8 and KY HWY 19. The letter went further to request a Phase I archaeological survey be conducted on the portion of the sewer line that will follow KY HWY 8 and KY HWY 19 that occur outside the right-of-ways. Also, the area from KY HWY 8 that runs north to Augusta should also be surveyed. The survey should include a modified Phase 1 approach. The survey plan should be submitted to KHC for review and approval.

“Based on our understanding of the project we conditionally concur that this project will not have an adverse effect on historic properties as long as:

- The potentially eligible historic archaeological site is fenced and avoided.
- Three copies of the archaeological report detailing the investigation of the new WWTP site are reviewed and accepted by our office.
- A Phase I Survey of the portions of the line installation is completed and three copies of the report detailing those excavations is submitted to our office for review and comment. As this is all part of the same undertaking, this survey and the one completed for the new WWTP site can be combined.
- There may be an additional need for monitoring or additional work based on what is found during this survey.”

The Augusta Regional Sewer Authority has committed to completing all tasks as required by the KHC per their letter dated March 29, 2017 for all construction activities within undisturbed areas.

Impacts on Threatened and Endangered Species

The United States Department of the Interior, Fish and Wildlife Service (USFWS) (FWS 2015-B-0553), in their June 8, 2016 correspondence, indicated several federally-listed species having the potential to occur within the project vicinity:

- Indiana bat (*Myotis sodalis*)
- Northern Long-eared bat (*Myotis septentrionalis*)
- Gray bat (*Myotis grisescens*)
- Clubshell mussel (*Pleurobema clava*)
- Fanshell mussel (*Cyprogenia stegaria*)
- Orogenfoot pimpleback mussel (*Plethobasus cooperianus*)
- Sheepnose mussel (*Plethobasus cyphus*)
- Rough pignose mussel (*Pleurobema plenum*)

- Northern riffleshell mussel (*Epioblasma torulosa rangiana*)
- Pink mucket mussel (*Lampsilis abrupta*)
- Ring pink mussel (*Obovaria retusa*)
- Running buffalo clover (*Trifolium stoloniferum*)

Indiana Bat: Because of concerns relating to the Indiana Bat, considering the project area is located within “potential habitat” USFWS makes the following recommendations, “relative to potential direct and/or indirect effects as a result of impacts to the habitats.”

- “Based on the presence of numerous cave, rock shelters, and underground mines in Kentucky, we believe that it is reasonable to assume that other caves, rock shelters, and/or abandoned underground mines may occur within the project area and, if they occur, they could provide winter habitat for Indiana bats. Therefore, we recommend that the project proponent survey the project area for caves, rock shelters, and underground mines, identify any such habitats that may exist on-site, and avoid impacts to those sites pending an analysis of their suitability as Indian bat habitat by this office.”
- Indiana bats utilize a wide array of forested habitats, including riparian forests, bottomlands, and uplands for both summer foraging and roosting habitat. Suitable roost trees for the Indiana bat are greater than 5 inches diameter at breast height (DBH), can be living or dead, and exhibit any of the following characteristics: exfoliating bark, cavities of dead and live trees, broken limbs, broken tops, cracks, and crevices.

“To address potential impacts to Indiana bat summer roosting and foraging habitat, the following options are available:

- “The project proponent can modify the proposed project to eliminate or reduce impacts to suitable habitat, thus avoiding impacts. A habitat assessment may be useful in determining if suitable summer roosting or foraging habitat is present in the action area of the proposed project”.
- “The project proponent can survey portions of the project area to determine the presence or likely absence of the species within the project area in an effort to determine if potential effects are likely. A qualified biologist who holds the appropriate collection permits must undertake such surveys in accordance with our most current survey guidance, which is available at the following link:

https://www.fws.gov/Frankfort/Indiana_bat_procedures.html

If any Indiana bats are captured, we request written notifications of such occurrence(s) and further coordination and consultation. Survey results are not recommended to support probable absence of a bat species in an area and during a time frame in which presence of the species has already been documented.”

- “The project proponent can request formal section 7 consultation through the lead federal action agency associated with the proposed project.

- “The project proponent may provide the service with additional information through the informal consultation process, prepared by a qualified biologist, that includes site-specific habitat information and a thorough effects analysis (direct, indirect, and cumulative) to support a “not likely to adversely affect” determination.”
- “The project proponent may choose to assume presence of the species in the project area and mitigate for any habitat removal in accordance with the Service’s 2016 Forest-Dwelling Bats Conservation Strategy in the Commonwealth of Kentucky (Conservation Strategy) in doing so, the project proponent accounts for the incidental take of Indiana bats and/or northern long-eared bats. By utilizing this process, cooperators gain flexibility with regard to the removal of suitable habitat and provide recovery-focused conservation benefits to the species through the implementation of minimization and mitigation measures that are described in the Conservation Strategy. This process does not cover tree removal during the months of June and July without additional evaluation.”

Northern Long-eared Bat: “The proposed project is located in “potential” habitat for the northern long-eared bat.

“Projects involving the removal of trees that could provide roosting and foraging habitat for the northern long-eared bat have the potential to result in incidental take of the species, as defined in the ESA. The Service published a final 4(d) Rule for the northern long-eared bat on January 14, 2016. This 4(d) Rule identifies certain types of take that are prohibited and establishes specific conservation measures for tree removal activities, if adhered to, would not result in prohibited incidental take.”

“Based on the information provided in your correspondence, it appears that the project would be in compliance with the final 4(d) rule and the Service’s January 5, 2016, intra-Service Programmatic Biological Opinion (BO) on the final 4(d) rule. Applicants that choose to address potential impacts to the northern long-eared bat by utilizing the 4(d) rule should follow the stream lined consultation framework form. This form can be found at:

<http://www.fws.gov/midwest/endangered/mammals/nleb/S7.html>”

Gray Bat: “Because we have concerns relating to the Gray bat on this project and due to the lack of occurrence information available on this species relative to the proposed project area, we have the following recommendation relative to gray bats.”

- “Based on the presence of numerous caves, rock shelters, and underground mines in Kentucky, we believe that it is reasonable to assume that other caves, rock shelters, and/or abandoned underground mines may occur within the project area, and, if they occur, they could provide winter/summer habitat for gray bats. Therefore, we would recommend that the project proponent survey the project area for caves, rock shelters, and underground mines, identify any such habitats that may exist on-site, and avoid impacts to those sites pending an analysis of their suitability as gray bat habitat by this office.”

- “Sediment Best Management Practices (BMPs) should be utilized and maintained to minimize siltation of the streams located within and in the vicinity of the project area, as these streams represent potential foraging for the gray bat.”

Running Buffalo Clover: “Running buffalo clover is known to occur in habitats like stream banks and low mesic (moderately moist) forests. A search of our records revealed that several running buffalo clover locations are present within 6 miles of the project site. If the proposed project requires alteration of habitat that coincides with the habitat required for this species, an on-site inspection or survey of the area should be conducted to determine if the listed species is present. A survey for running buffalo clover would not be necessary if sufficient site-specific information was available that showed that: (1) there is no potentially suitable habitat within the project area or its vicinity or (2) the species would not be present within the project area or its vicinity due to site-specific information.”

Federally-listed Mussels: “Freshwater mussels are one of the most imperiled groups of animals in North America. Reservoir construction, siltation, channelization, and water pollution area all factors that have contributed to the decline of our native mussel populations. The potential of the proposed project to impact federally-listed mussel species, either directly or indirectly, as a result of siltation/sedimentation and contamination, should be addressed when evaluating the effects the proposed project.”

The Kentucky Department of Fish and Wildlife Resources (KDFWR) was contacted for information regarding potential impacts to federally listed or state listed species through the Clearinghouse process. A Clearinghouse response (SAI#KY20160706-0965) has been received by correspondence dated July 22, 2016, with comments regarding erosion control measures and work conducted in the stream should be completed during “low flow periods to minimize the direct impacts to the streambed”. The Clearinghouse response will be included in the mitigation requirements for these projects.

The City has committed to completing all required tasks to assure no threatened or endangered species are adversely impacted as indicated in their March 29, 2017 letter.

Impacts on Wetland and Streams

By letter dated October 20, 2015, the United States Department of the Army, Corps of Engineers (USACE) indicated a permit may be required for the proposed regional wastewater treatment plant if “waters of the U.S.”, including wetlands, are impacted. “These “waters” may include unnamed tributaries to Bracken Creek and unnamed tributaries to Locust Creek, and Sunny Fork.” All applicable permits will be obtained prior to construction of any of the proposed projects. The ARSA is committed to fulfilling any mitigation requirements and/or permit requirements as required by the USACE per correspondence dated March 29, 2017.

Impacts on Prime Farmland or Statewide Important Farmland

A request letter concerning possible impacts to Prime Farmlands and Farmlands of Statewide Importance was sent to the he USDA Natural Resources Conservation Service (NRCS) on May

27, 2016 and comments were received by email dated June 10, 2016. NRCS stated “Attached is the soils report showing the soils and/or farmland being impacted, not what the impact will be.”

The City is committed to follow any mitigation requirements set forth by the NRCS concerning impacts to Prime Farmlands and Farmlands of Statewide Importance per letter dated March 29, 2017.

Impacts on Floodplains

A floodplain construction permit is required from the DOW’s Watershed Management Branch, Floodplain Management Section, because the project is located within the 100-year floodplain.

Impacts to Groundwater

The Watershed Management Branch made the comment that the addition of the lift station in Zone 2 of the WHPA will need to be added to the Contaminant Source Inventory of Augusta’s Wellhead Protection Plan.

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://air.ky.gov/SiteCollectionDocuments/Fugitive%20Dust%20Sheet.pdf>.

Kentucky Division of Air Quality Regulation 401 KAR 63:005 states that open burning shall be prohibited except as specifically provided. 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 Brochure located at <http://air.ky.gov/Pages/OpenBurning.aspx>. The Open Burning hotline is 1-502-782-6592.

The Kentucky Division of Air Quality also recommends the following strategies for protecting the state’s air quality and staying in compliance with NAAQS.:

- Utilize alternatively fueled equipment.
- Utilize other emission controls as applicable to the equipment used.
- Reduce idling time on equipment.
- Investigation into compliance with applicable local government regulations.

Miscellaneous Impacts

The environmental impact of constructing the proposed facilities includes only those temporary impacts of noise, dust, and service and traffic disruption in the construction area. The proposed project is expected to result in improvements to the surface water and groundwater quality in the planning area over the next 20 years.

G. Public Participation and User Rates

The ARSA Regional Wastewater Treatment Plant project was made available for inspection at the Augusta Regional Sewer Authority offices. Several public meetings were held over the course of five years with the latest meeting held on July 8, 2016 presenting the findings and recommendations of the new plant location for the regional WWTP to stakeholders and customers of the Augusta, Brooksville, and northern Bracken County wastewater systems. The meeting was advertised through official public notice in The Bracken County-News as required. The public comments received during the public comment period or at the public meeting were concerning the funding source and how to repay the loans. DOW is not aware of any unresolved comments related to the Augusta Regional Sewer Authority Regional WWTP project located on Locust Creek off of KY HWY 19. The Augusta Regional Sewer Authority has the legal authority for submitting and implementing this proposal.

The projected user charge presented for 4000 gallons usage is \$55.00 per month based the proposed funding structure. The City intends to seek funding through a variety of sources including HUD Community Development Block Grants, USDA Rural Development loans and grants, and State Revolving Fund loans.

H. Sources Consulted

2010 Facilities Plan: *City of Augusta & City of Brooksville and Northern Bracken County, Bracken County, Kentucky*

Kentucky Department of Fish & Wildlife Resources

Kentucky Division for Air Quality

Kentucky Division of Water

Kentucky Heritage Council

Kentucky State Clearinghouse

Natural Resources Conservation Service

U.S. Fish & Wildlife Service

USDA Soil Conservation Service

U.S. Army Corps of Engineer

U.S. Geological

Figure 1: Augusta Regional Sewer Authority Proposed Regional WWTP Location Map

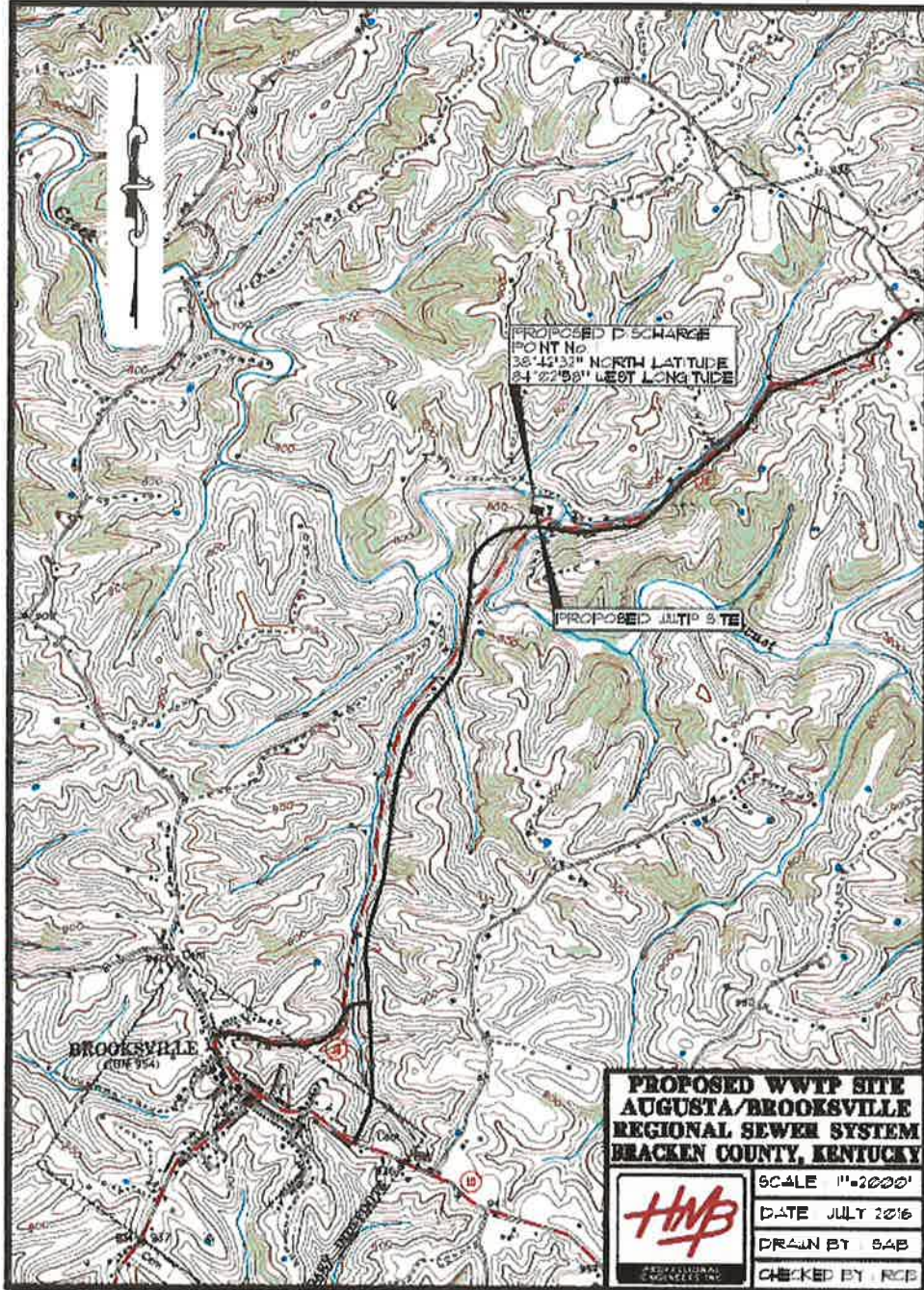


Figure 2: Augusta Regional Sewer Authority Proposed Lift Stations Location Map

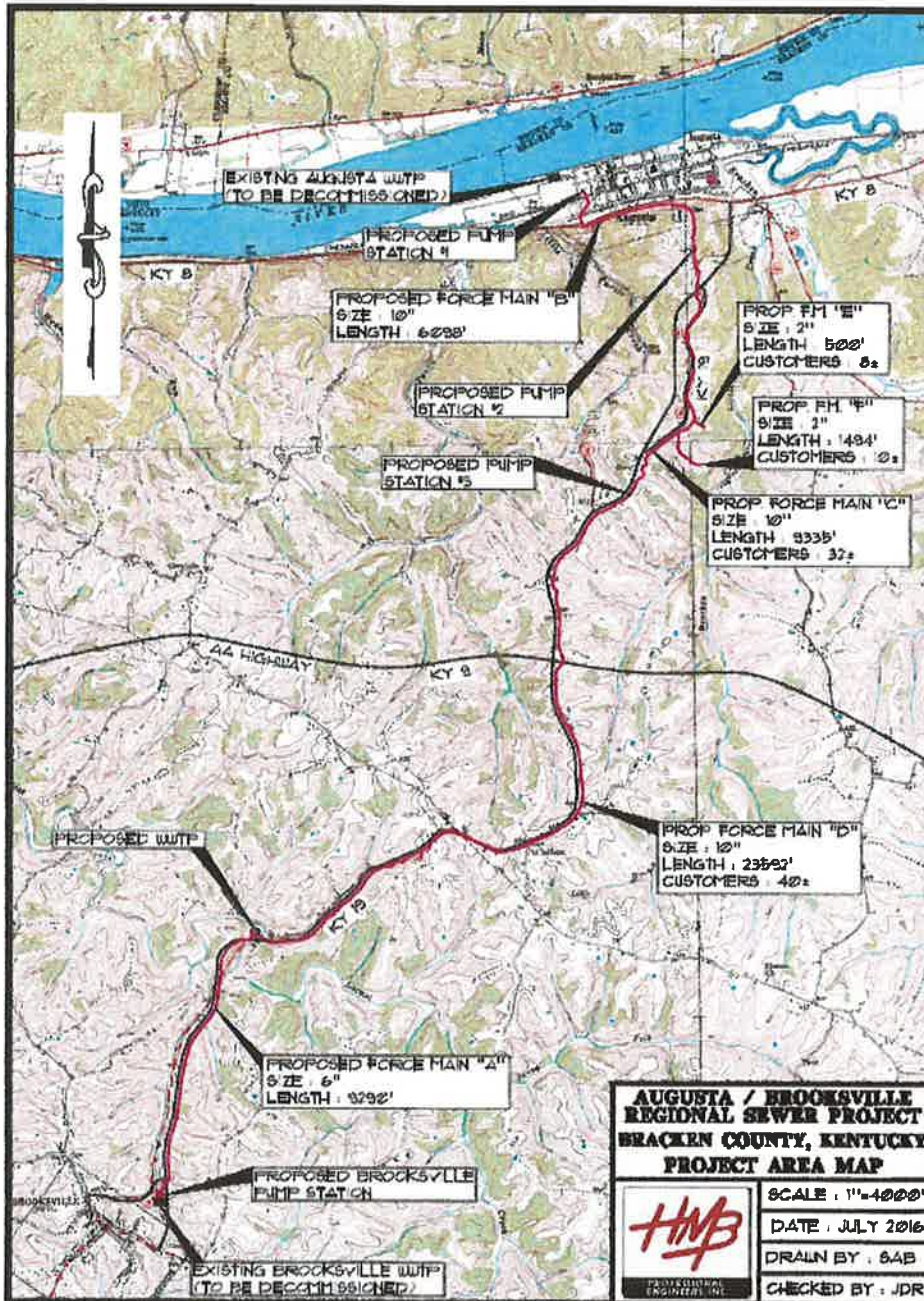


Figure 3: Single Stage Activated Sludge Plant with Biological Nitrogen Removal Process Schematic

