



FINDING OF NO SIGNIFICANT IMPACT
Approval of Facilities Plan
Hamilton County WWTa (Hamilton County), Tennessee
Loan Nos. SRF 2022-465 and SRF 2022-466

February 29, 2024

The National Environmental Policy Act requires federally designated agencies to determine whether a proposed major agency action will significantly affect the environment. One such major action, defined by Section 511(c)(1) of the Clean Water Act, is the approval of a planning document prepared pursuant to Title VI of the Clean Water Act. In making this determination, the State Revolving Fund (SRF) Loan Program assumes that all facilities and actions recommended by the plan will be implemented. The state's analysis concludes that implementing the plan will not significantly affect the environment; accordingly, the SRF Loan Program is issuing this Finding of No Significant Impact (FNSI) for public review.

The Hamilton County Water and Wastewater Treatment Authority (WWTa) has completed the planning document entitled "Preliminary Engineering Report, Signal Mountain Rehabilitation Alternatives Study & Wet Weather Relief Pump Station and Force Main" dated August 2022, along with an amendment to the plan dated September 2022. The planning document provides recommendations for improvements to the wastewater collection system serving the Town of Signal Mountain. This project is distributed amongst the referenced loan numbers above. Work associated with the Loan No. SRF 2022-465 includes the installation of a new low-pressure sewer system in Signal Mountain Sewer Basins 2 and 6. The proposed project will include the installation of approximately 45,000 linear feet (LF) of 1.25-inch through 8-inch diameter HDPE sewer force mains, 290 low pressure grinder pumps, and 250 LF of 8-inch and 10-inch diameter polyvinyl chloride gravity sewer lines. This project will also include the rehabilitation of 36,500 LF of 6-inch through 10-inch diameter gravity sewer lines by method of cured-in-place pipe, and the rehabilitation of 350 sewer lateral and manholes.

Work associated with the Loan No. SRF 2022-466 includes the construction of a 0.25 million gallon per day (MGD) pump station on Ravine Road and a 1.2 MGD pump station on Druid Drive in the Signal Mountain Sewer Basin 2.

Two CWSRF loans totaling \$500,000 have been awarded for the planning of these projects. The estimated cost associated with the design and construction portion of the project is \$20,000,000. The Hamilton County WWTa intends on applying for an SRF loan in the amount of \$13,000,000 for design and construction of the proposed project, with the remaining project costs being funded with American Rescue Plan (ARP) funds.

Attached is an Environmental Assessment containing detailed information supporting this proposed action. Comments supporting or disagreeing with this proposed action received within 30 days of the date of this FNSI will be evaluated before we make a final decision to proceed.

If you wish to comment or to challenge this FNSI, send your written or email comment(s) to:

Mr. Randy Anglin, P.E.
State Revolving Fund Loan Program

Tennessee Department of Environment and Conservation
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 12th Floor
Nashville, Tennessee 37243-1102
or call or e-mail (615) 961-5896 or randy.anglin@tn.gov

ENVIRONMENTAL ASSESSMENT

Hamilton County WWTa (Hamilton County), Tennessee Loan Nos. SRF 2022-465 and SRF 2022-466

February 29, 2024

A. PROPOSED FACILITIES AND ACTIONS; FUNDING STATUS

The Hamilton County Water and Wastewater Treatment Authority (WWTa) has completed the planning document entitled "Preliminary Engineering Report, Signal Mountain Rehabilitation Alternatives Study & Wet Weather Relief Pump Station and Force Main" dated August 2022, along with an amendment to the plan dated September 2022.

The planning document provides recommendations for improvements to the wastewater collection system serving the Town of Signal Mountain. This project is distributed amongst the referenced loan numbers above. Work associated with the Loan No. SRF 2022-465 includes the installation of a new low-pressure sewer system in Signal Mountain Sewer Basins 2 and 6. The proposed project will include the installation of approximately 45,000 linear feet (LF) of 1.25-inch through 8-inch diameter HDPE sewer force mains, 290 low pressure grinder pumps, and 250 LF of 8-inch and 10-inch diameter polyvinyl chloride gravity sewer lines. This project will also include the rehabilitation of 36,500 LF of 6-inch through 10-inch diameter gravity sewer lines by method of cured-in-place pipe, and the rehabilitation of 350 sewer lateral and manholes.

Work associated with the Loan No. SRF 2022-466 includes the construction of a 0.25 million gallon per day (MGD) pump station on Ravine Road and a 1.2 MGD pump station on Druid Drive in the Signal Mountain Sewer Basin 2.

The facilities planning area and project locations are indicated on Figure Nos. 1, 2, 3 and 4 of this Environmental Assessment. Descriptions of the proposed facilities and actions included in this project are listed below:

PUMP STATION/COLLECTION SYSTEM

The existing sanitary sewer system in parts of the Signal Mountain Basins 2 and 6 will be converted from gravity sewer lines to a low-pressure sewer system. The conversion will consist of installation of approximately 45,000 LF of 1.25-inch through 8-inch diameter high-density polyethylene (HDPE) low-pressure sewer force mains, 290 low pressure grinder pumps, and 250 LF of 8-inch and 10-inch diameter polyvinyl chloride gravity sewer lines. A new 0.25 MGD duplex submersible pump station will be constructed on Ravine Road, and a new 1.2 MGD duplex submersible pump station will be constructed on Druid Drive in the Signal Mountain Sewer Basin 2. The remaining portions of the existing gravity sanitary sewer system in the Signal Mountain Basins 2 and 6 will be rehabilitated by method of cured-in-place pipe and include manhole rehabilitation.

FUNDING STATUS

The facilities described above comprise the scope of Loan Nos. SRF 2022-465 and SRF 2022-466 awarded during fiscal year 2022. The project costs are summarized in the following tabulation:

<u>PROJECT CLASSIFICATIONS</u>	<u>COSTS (\$)</u>
Planning Fees	\$500,000
TOTAL	\$500,000
CWSRF Loan No. SRF 2022-465	\$350,000
CWSRF Loan No. SRF 2022-466	\$150,000

The Hamilton County WWTa was awarded two Clean Water State Revolving Fund loans totaling \$500,000 for the planning of these projects. The estimated cost associated with the design and

ENVIRONMENTAL ASSESSMENT

Hamilton County WWTa (Hamilton County), Tennessee Loan Nos. SRF 2022-465 and SRF 2022-466

February 29, 2024

construction portion of the project is \$20,000,000. The Hamilton County WWTa intends on applying for an SRF loan in the amount of \$13,000,000 for design and construction of the proposed project, with the remaining project costs being funded with American Rescue Plan (ARP) funds.

B. EXISTING ENVIRONMENT

The Signal Mountain service area is located in Hamilton County in middle Tennessee. A discussion of existing environmental features in the area includes the following:

SURFACE WATERS

Surface waters within the proposed service area include the Tennessee River, Bee Branch, Middle Creek, Shoal Creek, and their tributaries. Designated uses for the Lower Tennessee River include industrial and drinking water supply, fish and aquatic life, recreation, irrigation, livestock watering and wildlife, and navigation. The Tennessee American Water Company supplies drinking water for the Town of Signal Mountain. Raw water is obtained from a surface water intake on the Tennessee River, upstream from the Signal Mountain Sewage Treatment Plant (STP).

GROUNDWATER

Groundwater in the Signal Mountain service area occurs under shallow unconfined conditions in soil and in fracture and solution cavities in the underlying calcareous rock formations. Wells in the planning area range in depth from 50 to 170 feet and generally provide good quality water with yields up to 50 gallons per minute.

SOILS

Soil associations occurring in Signal Mountain service area include the Fullerton-Bodine and Talbot-Rock Outcrop-Etowah Soil Associations. The Fullerton Bodine Association is characterized by hilly and steep, deep, well-drained, cherty and clayey residuum produced from the weathering of dolomitic limestone. The Talbot-Rock Outcrop-Etowah Association is characterized by outcrops of limestone and undulating to hilly, deep to shallow, well-drained, clayey and loamy soils.

TOPOGRAPHY

The Signal Mountain service area is located in the Valley and Ridge Physiographic Province. The province is approximately 40-miles wide and is characterized by a succession of folded and faulted ridges that are predominately calcareous Paleozoic-age rocks trending northeast to southwest. Relatively flat valleys of varying width surround the Tennessee River and numerous tributaries and surface streams. The topography of the proposed project area ranges from approximately 600 feet to 2,000 feet above mean sea level.

OTHER ENVIRONMENTAL FEATURES

No wild or scenic rivers or unique agricultural, scientific, cultural, ecological, or natural areas were identified in the Signal Mountain service area. Numerous unique environmental and archaeological areas exist within the Signal Mountain service area. However, none are known to exist in the project area, and the proposed project will not affect the above mentioned environmental and archaeological sites.

C. EXISTING WASTEWATER FACILITIES

The Signal Mountain STP was constructed in 1969 and was acquired by the Hamilton County WWTa from the Town of Signal Mountain in 2002. The STP is permitted to treat 0.4 MGD but has a treatment

ENVIRONMENTAL ASSESSMENT

Hamilton County WWTA (Hamilton County), Tennessee Loan Nos. SRF 2022-465 and SRF 2022-466

February 29, 2024

capacity of 0.8 MGD. The STP includes a headworks chamber, a primary contact stabilization basin, a secondary clarifier, and a chlorine contact chamber before discharging treated effluent into the Tennessee River at River Mile 453.7. Sludge is hauled offsite to the City of Chattanooga's Moccasin Bend Wastewater Treatment Plant for treatment.

The STP currently operates under the National Pollutant Discharge Elimination System (NPDES) Permit No. TN0021211 that includes the following parameters and effluent limitations:

<u>PARAMETER</u>	<u>EFFLUENT LIMITATIONS</u>
BOD ₅	30 milligrams per liter (mg/l)
Suspended Solids	30 mg/l
Fecal Coliform	126 colonies per milliliter
Dissolved Oxygen	1.0 instantaneous minimum
Chlorine Residual, Total	2.0 instantaneous maximum
Settleable Solids	1.0 daily maximum (milliliter/liter)
pH	6.0-9.0 (Standard Units)

The Signal Mountain collection system was constructed in the 1970s and was acquired by the Hamilton County WWTP from the Town of Signal Mountain in 1993. The collection system is comprised of approximately 154,000 LF of 6-inch to 12-inch diameter polyvinyl chloride, cast iron, ductile iron, concrete, and vitrified clay gravity sewer lines, 62,000 LF of force main connected to several pump stations, and 932 manholes. All of the collected wastewater flow from the Signal Mountain service area is conveyed via gravity to the Signal Mountain STP. The Signal Mountain collection system is divided into 9 sewer basins and 22 sub-basins. Approximately 60% of the Signal Mountain population is served by the collection system with the remainder of the population on septic tank systems. The aging collection system experiences excessive I/I during wet weather events.

D. NEED FOR PROPOSED FACILITIES AND ACTIONS

The Signal Mountain Sewer Basins 2 and 6 has experienced SSOs during wet weather events due to excessive I/I received by the aging sanitary sewer system. SSOs present an inherent hazard to public health and safety as well as contamination to the surrounding environment including groundwater and surface waters. Data from a previously conducted Sanitary Sewer Evaluation Survey (SSES) and additional field inspections were used to assess the condition of the existing sanitary sewer system. Several sections of the sewer lines were identified as major sources of I/I including 14 manholes and the section of sewer line currently flowing along Shoal Creek.

The Signal Mountain STP has also received multiple Notice of Violations from the Tennessee Department of Environment and Conservation resulting in a Consent Order issued in 2018 by the Environmental Protection Agency for the bypassing of biological treatment experienced at the STP during wet weather events due to the excessive inflow and infiltration (I/I) received within the collection system. Under the Consent Order, the Hamilton County WWTA must implement a program to achieve permanent and consistent compliance with all terms and conditions of its NPDES permit, the Clean Water Act, the Tennessee Water Quality Control Act, and the regulations enforced for its sanitary sewer system. Not addressing the aging system will lead to continued excessive flows from I/I resulting in sanitary sewer overflows (SSOs) and ultimately bypassing of treatment at the STP and violation of the Consent Order. Implementation of the proposed project will aid in reducing or removing excessive I/I entering the sewer system and STP and eliminating the chances of SSOs during wet weather events.

ENVIRONMENTAL ASSESSMENT

Hamilton County WWTA (Hamilton County), Tennessee Loan Nos. SRF 2022-465 and SRF 2022-466

February 29, 2024

Existing and projected facility conditions are shown in the following table:

EXISTING AND PROJECTED FACILITY CONDITIONS

<u>POPULATION</u>	<u>EXISTING 2024</u>	<u>PROJECTED 2044</u>
Hamilton County WWTA Excluding Signal Mountain	8,770	8,918
% Sewered	60%	60%
Service Area Excluding Signal Mountain	0	0
% Sewered	0%	0%
Total Service Area	8,770	8,918
% Sewered	60%	60%
<u>Signal Mountain WWTP FLOWS (MGD)</u>	<u>EXISTING 2024</u>	<u>PROJECTED 2044</u>
Domestic/Commercial	0.31	0.32
Industrial	0.09	0.09
Infiltration/Inflow (during rainfall events)	0.47	0.42
TOTAL	0.87	0.83

E. ALTERNATIVES ANALYSIS

Several alternatives, including a “No-action” alternative, were evaluated in the August 2022 planning document. A summary discussion of the evaluation of each alternative and the selection of the recommended plan follows:

NO ACTION

The “No-action” approach was not a viable alternative. The aging collection system components allowing excessive I/I have resulted in SSOs throughout Signal Mountain Sewer Basins 2 and 6, presenting a public health hazard and sources of groundwater and surface water contamination. The Hamilton County WWTA must take action to protect public health and the environment and prevent public exposure to contaminants and pathogens.

LOW-PRESSURE SYSTEM CONVERSION AND TRENCHLESS REHABILITATION

This alternative consists of converting the existing gravity sewer system in Signal Mountain Sewer Basin 6 (SM06) and part of Signal Mountain Sewer Basin 2 (SM02) into a low-pressure system with 715 LF of the existing 8-inch diameter gravity sewer lines rerouted to Texas Avenue. The low-pressure system would require rerouting of service laterals to new individual grinder pump stations, installation of approximately 50,250 LF of 2-inch to 6-inch diameter high-density polyethylene (HDPE) low-pressure force mains, and abandonment of the gravity sewer lines and 85 manholes. The remainder of the gravity sewer lines in SM02 not being converted into a low-pressure system will be rehabilitated with 5,515 LF of cured-in-place pipe (CIPP) and include manhole rehabilitation. Due to the need for a

ENVIRONMENTAL ASSESSMENT

Hamilton County WWTa (Hamilton County), Tennessee Loan Nos. SRF 2022-465 and SRF 2022-466

February 29, 2024

high degree of public engagement, difficulty in accessing the Green Gorge Area for rehabilitation, and leaving the existing sewer in Shoal Creek, this alternative was rejected.

LOW-PRESSURE SYSTEM CONVERSION, TRENCHLESS REHABILITATION, AND GREEN GORGE GRAVITY SEWER RELOCATION

This alternative consists of CCTV inspection and trenchless rehabilitation of the existing gravity sewer system in SM02 and SM06. Approximately 42,000 LF of 6-inch through 15-inch diameter sanitary sewer mainlines and 430 service laterals will be rehabilitated by method of cured-in-place pipe (CIPP). Rehabilitation will be required for the 318 manholes connected to the sewer mainlines receiving CIPP lining. Part of the gravity sewer system in the Green Gorge Road Area SM02 will be converted into a low-pressure system, and the existing sewer line will be repurposed. The low-pressure system will include installation of 1,300 LF of 8-inch diameter HDPE low-pressure force mains, construction of a new 1.2 MGD pump station, and abandonment of the existing gravity sewer lines including removal of the existing gravity sewer line in Shoal Creek. The gravity sewer lines along Whippoorwill Drive, Ravine Road, and Pipers Path will be rerouted with 5,700 LF of new 8-inch and 10-inch diameter polyvinyl chloride (PVC) sewer lines. Due to accessibility and permits required to work in the Bee Branch Area of SM06, the amount of disturbance required on the golf course, and necessary rock removal for the new pump station and gravity sewer lines, this alternative was rejected.

LOW-PRESSURE SYSTEM CONVERSION, TRENCHLESS REHABILITATION, AND GREEN GORGE PUMP STATIONS

This alternative consists of converting the existing gravity sewer system in SM02 and SM06 into a low-pressure system, adding 30 new customers. The low-pressure system will include installation of approximately 36,050 LF of 2-inch through 8-inch diameter HDPE sewer force mains, 290 low pressure grinder pumps, and 250 LF of 8-inch and 10-inch diameter PVC gravity sewer lines. The existing gravity sewer lines being converted will be abandoned. Additionally, the project will include rehabilitation of approximately 36,500 LF of 6-inch through 12-inch diameter gravity sewer lines by CIPP; 350 sewer laterals, and rehabilitation of 250 manholes. A new 0.25 MGD and 1.2 MGD duplex submersible pump station on Ravine Road and Druid Drive, respectively, will be constructed in SM02. The Ravine Road pump station will receive flows from the Whippoorwill Drive and Ravine Road interceptors via 200 LF of new 8-inch PVC gravity lines, and the existing gravity sewer line in Shoal Creek will be removed. Based on the improved water quality to Bee Branch and Shoal Creek, minimized disturbance to the golf course, the addition of 30 new customers, and the removal of the existing gravity sewer line in Shoal Creek, this alternative was selected.

F. ENVIRONMENTAL CONSEQUENCES: MITIGATIVE MEASURES

The environmental benefits of this project will be the improvement of water quality conditions in the Signal Mountain service area, protection of public health, and protection of the environment.

During the construction phase, short-term environmental impacts due to noise, dust, mud, disruption of traffic, runoff of silt with rainfall, etc., are unavoidable. Minimization of these impacts will be required; however, many of these minimization measures will be temporary and only necessary during construction. Using the following measures to prevent erosion will minimize impacts on the environment:

1. Specifications will include temporary and permanent measures to be used for controlling erosion and sediment.

ENVIRONMENTAL ASSESSMENT

Hamilton County WWTa (Hamilton County), Tennessee Loan Nos. SRF 2022-465 and SRF 2022-466

February 29, 2024

2. Soil or landscaping maintenance procedures will be included in the specifications.
3. The contractor will develop an Erosion Control Plan. It will contain a construction schedule for each temporary and permanent measure controlling erosion and sediment. It will include the location, type, and purpose for each measure and the times when temporary measures will be removed or replaced.

These measures, along with requiring the contractor to return the construction site to as-good-as or better-than its original condition, will prevent any adverse impacts due to erosion.

The state's Historic Preservation Officer has reviewed the project and has determined that the project will not impact known significant cultural resources.

Aside from the temporary effects of construction, the project will be beneficial.

No prime or unique agricultural lands or wetlands were identified and therefore will not be adversely affected.

Since portions of the proposed project are located in a floodplain, an assessment of the impact of this project on the floodplain has been performed. All construction in the flood hazard area will be in compliance with the Federal Emergency Management Agency National Flood Insurance Program.

No endangered species of flora or fauna were identified within the proposed construction corridor.

A stormwater construction general permit (CGP) should be obtained from the Division of Water Resources (DWR) because the area of disturbance for construction activities will be greater than one acre.

A hydrological determination of the project area shall be conducted to identify any aquatic resources that may be impacted during construction activities. Any findings that must be preserved shall be removed/protected/preserved in accordance with state and federal laws, regulations, and/or policies.

Acquisition of applicable United States Army, Corps of Engineers, permits may be required prior to the approval of construction plans and specifications. Any findings that must be preserved shall be removed/protected/preserved in accordance with state and federal laws, regulations, and/or policies.

G. PUBLIC PARTICIPATION; SOURCES CONSULTED

A Public Meeting was held on January 13, 2022, at 6:00 p.m., local time. The selected plan for the collection system rehabilitation project was described to the public, and no public comments were received. This agency is not aware of any unresolved public objections that may have been voiced before or after the public meeting regarding this project.

At the projected time of the initiation of the loan repayment, sewer rates for the typical residential user (1,000 gallons per month) will be \$17.50. The existing user charges were sufficient to repay the SRF loan. Therefore, no incremental increase in user charges were required.

ENVIRONMENTAL ASSESSMENT

Hamilton County WWTA (Hamilton County), Tennessee Loan Nos. SRF 2022-465 and SRF 2022-466

February 29, 2024

Sources consulted about this project for information or concurrence were:

1. Tennessee Department of Agriculture
2. Tennessee Department of Economic and Community Development (ECD)
3. Tennessee Department of Environment and Conservation (TDEC), Division of Air Pollution Control (DAPC)
4. Tennessee Department of Transportation (TDOT)
5. Tennessee Historical Commission
6. TDEC, Division of Archaeology (DA)
7. Tennessee Geological Survey
8. TDEC, Division of Solid Waste Management (DSWM)
9. TDEC, Division of Water Resources (DWR)
10. Tennessee Wildlife Resources Agency (TWRA)
11. United States Army Corps of Engineers (USACE)
12. United States Fish and Wildlife Service (USF&W)
13. Hamilton County WWTA
14. Hamilton County
15. Jacobs Engineering Group

H. SPECIAL CONDITIONS

The State Revolving Fund loan agreement will have the following special conditions:

1. The Hamilton County WWTA shall obtain applicable Section 10/404 Permits from the U.S. Army Corps of Engineers to meet the requirements of wetlands protection and stream-crossing statutes. Please contact , U.S. Army Corps of Engineers at for further information. A copy of the permit shall be submitted to the SRF Loan Program through the TNCloud Portal at <https://tncloud.tn.gov/owncloud/index.php/s/ed2EXvg1O08XICP/authenticate>. A letter or e-mail from the Corps stating that a permit is not required will satisfy this requirement.
2. A Qualified Hydrologic Professional shall conduct a hydrologic determination to identify any aquatic resources that may be impacted during construction activities and the necessity of an Aquatic Resource Alteration Permit (ARAP). A report must be submitted to Tom Moss, Division of Water Resources, DWR.EnvironmentalReview@tn.gov, and to the SRF Loan Program through the TNCloud at <https://tncloud.tn.gov/owncloud/index.php/s/ed2EXvg1O08XICP/authenticate> prior to approval of the plans and specifications.