State Revolving Fund Loan Programs

Drinking Water, Clean Water, Nonpoint Source

ENVIRONMENTAL ASSESSMENT
AND
FINDING OF NO SIGNIFICANT IMPACT

TOWN OF BRISTOL
Wastewater Utility Improvement Projects
SRF PROJECT WW 22 53 20 01

DATE: April 12, 2024

TARGET PROJECT APPROVAL DATE: May 13, 2024

I. INTRODUCTION

The above entity has applied to the Clean Water State Revolving Fund (SRF) Loan Program for a loan to finance all or part of the Clean Water project described in the accompanying Environmental Assessment (EA). As part of facilities planning requirements, an environmental review has been completed which addresses the project's impacts on the natural and human environment. This review is summarized in the attached EA, which can also be viewed in color at http://www.in.gov/ifa/srf/.

II. PRELIMINARY FINDING OF NO SIGNIFICANT IMPACT (FNSI)

The SRF Wastewater Program has evaluated all pertinent environmental information regarding the proposed project and determined that an Environmental Impact Statement is not necessary. Subject to responses received during the 30-day public comment period, and pursuant to Indiana Code 5-1.2-3, it is our preliminary finding that the construction and operation of the proposed facilities will result in no significant adverse environmental impact. In the absence of significant comments, the attached EA shall serve as the final environmental document.

III. COMMENTS

All interested parties may comment upon the EA/FNSI. Comments must be received at the address below by the target approval date above. Significant comments may prompt a reevaluation of the preliminary FNSI; if appropriate, a new FNSI will be issued for another 30-day public comment period. A final decision to proceed, or not to proceed, with the proposed project shall be affected by finalizing, or not finalizing, the FNSI as appropriate. Comments regarding this document should be sent within 30 days to:

April Douglas
Environmental Review Coordinator
State Revolving Fund
100 N. Senate Ave. IGCN 1275
Indianapolis, IN 46204
317-234-7294
adouglas@ifa.in.gov

ENVIRONMENTAL ASSESSMENT

I. PROJECT IDENTIFICATION

Project Name and Address:	Wastewater Utility Improvement Projects Town of Bristol 303 E Vistula Street Bristol, IN 46507
SRF Project Number:	**WW 22 53 20 01**
Authorized Representative:	Jeff Beachy, Town Council President

II. PROJECT LOCATION

The proposed project is located in Elkhart County, Washington township, Bristol 24K USGS Quadrangle, Township 38N, Range 6E and Sections 27 and 28. See **Figures 1 & 2**.

III. PROJECT NEED AND PURPOSE

The Town of Bristol provides wastewater collection and treatment for residents and businesses in the surrounding area. The current degradation of lift stations needs to be addressed to prevent the sudden failure of several lift stations. While currently operating below capacity, operational problems and aging equipment are leading to inefficiencies at the existing wastewater treatment plant (WWTP). These inefficiencies have caused issues consistently treating wastewater, leading to effluent wastewater characteristics that fall outside of the NPDES permitted limits. The Town is interested in proposed improvements as a means of replacing aging equipment, fixing systemic issues, and constructing additional treatment processes to improve wastewater treatment efficiency.

IV. PROJECT DESCRIPTION

The project includes:

Wastewater Treatment Plant Improvements

- Demolition of the existing influent pump station, headworks, bio-tower trickling filter, RAS pit, secondary clarifier structures, reed beds, and existing chemical and control buildings;
- Construction of new influent pump station, headworks with screen (expandible to include a grit system in the future), 3-basin Sequencing Batch Reactor (SBR) with blowers, ultra- violet disinfection system, Cascade Aeration, new outfall piping, and new multipurpose building;
- Conversion of the primary clarifier into a sludge holding tank;
- Installation of new electrical system, miscellaneous piping, including new water service line, onsite stormwater improvements, miscellaneous site work, and project -related appurtenances.

Wastewater Collection System Improvements

- Relocation of Lift Station No. 1, including the repurposing of the existing wet well to serve as a new flow-through structure to the new lift station; installation of new site piping and a new gravel access drive. The electronics and controls at Lift Station No. 1 will remain and be connected with the improved structures.

- Relocation of Lift Stations No. 3 and No. 8, including the repurposing of the existing wet well to serve as a new flow-through structure to the new lift station; installation of new site piping, a new gravel access drive, and new control panel.
- Lift Station No. 10: Installation of a corrosion control system, including bulk chemical tank, chemical pump, associated piping, and controls.

V. ESTIMATED PROJECT COSTS, AFFORDABILITY AND FUNDING

A. Selected Plan Estimated Cost Summary

Estimated Project Costs

Construction Cost, including 10% contingency	**$16,482,600**
Non-Construction Costs	**$2,714,600**
Selected Plan Total Estimated Project Cost	**$19,197,200**

B. Total cost of this project is estimated to be approximately $19,197,200. The Town of Bristol will finance the project with a loan from the Clean Water SRF Loan Program for a term and annual fixed interest rate to be determined at loan closing. Monthly user rates and charges may need to be analyzed to determine if adjustments are required for loan repayment.

VI. DESCRIPTION OF EVALUATED ALTERNATIVES

A. Wastewater Treatment Plant Improvements

The **"No Action"** alternative: If no action is taken, the facility will continue to have issues treating wastewater efficiently and effectively. Existing equipment that is out of service will continue to be inoperative and equipment that is outdated but operational will continue to age, causing a greater potential for failure. Additionally, the existing plant's primary and small secondary clarifier are not sized to current standards. Based on the existing WWTPs processes and expected flow and loadings, the "no action" alternative is not considered a feasible alternative.

Alternative 4 Sequencing Batch Reactor was selected to be included in Bristol's Selected Plan, as the best means of replacing aging equipment, fixing systemic issues, and constructing additional treatment processes to improve wastewater treatment efficiency, after evaluating the following alternatives:

Alternative 1 Extended Aeration – This alternative involves the addition of multiple aeration tanks. A new headworks building with new pumping equipment and screen will be installed, in addition to blowers for the aeration and one new secondary clarifier.

Alternative 2 Oxidation Ditch – This alternative involves the addition of an oxidation ditch. A new headworks building with new pumping equipment and screen will be installed, in addition to one new secondary clarifier.

Alternative 3 Vertical Loop Reactor (VLR) – This alternative involves the addition of a VLR. A new headworks building with new pumping equipment and screen will be installed, in addition to one new secondary clarifier.

Alternative 4 Sequencing Batch Reactor (SBR) - This alternative involves the addition of a SBR. A

new headworks building with new pumping equipment and screen will be installed, in addition to blowers for the SBR and no clarifier. Some of the benefits of the SBR system include flexibility to treat variable flows, resistance to freezing, and expandability.

Alternative 5 Regionalization – Neighboring communities in Elkhart and Middlebury were considered for providing wastewater treatment services for Bristol. Due to the feasibility of necessary plant expansion, and the construction of a new 9-mile-long sewer and significant pumping required, this alternative was not considered further.

Alternative 6 Relocation – The site of the Bristol WWTP is limited in its constructability. There is not a lot of space on site to construct and arrange the new systems as needed, so relocation out of the floodplain is not feasible. Additionally, the WWTP site was surveyed and compared to the 100-year flood elevation, generated by the INDNR Floodplain Information Portal. It was concluded that the 100-year flood plain is located farther from the site than is shown in INDNR's GIS. Therefore, construction is not taking place in the floodplain and the relocation alternative was not considered further.

B. Wastewater Collection System Improvements

The **"No Action"** alternative is not recommended due to the potential of failure and the unsafe nature of the stations if there was any failure. In addition, these lift stations have the potential to pose a risk to human health and the environment.

Repair and Rehabilitation: This is the selected alternative to repair and rehabilitate selected existing lift stations to prevent sudden failure.

VII. Environmental Impacts of the Feasible Alternatives

A. Direct Impacts of Construction and Operation

Disturbed/Undisturbed Land: Work related to the storm water improvements, lift station rehabilitation, and work at the wastewater treatment plant will occur in areas that have been previously disturbed by previous construction activity.

Structural Resources (Figure 3): Construction and operation of the project will not alter, demolish or remove historic properties. If any visual or audible impacts to historic properties occur, they will be temporary and will not alter the characteristics that qualify such properties for inclusion in or eligibility for the National Register of Historic Places. The SRF's finding pursuant to Section 106 of the National Historic Preservation Act is: "*no historic properties affected.*"

Surface Waters (Figure 4): The project may adversely affect outstanding state resource waters listed in 327 IAC 2-1.3-3(d), exceptional use streams listed in 327 IAC 2-1-11(b), Natural, Scenic and Recreational Rivers and Streams listed in 312 IAC 7-(2), or Salmonid Streams listed in (327 IAC 2-1.5-5(a)(3) or streams on the Outstanding River List for Indiana. The project will install a new outfall into the St Joseph River.

Wetlands (Figure 5): Wetlands will be impacted by the construction at the wastewater treatment plant and installing a new outfall. Mitigation measures will be taken to minimize impacts to wetlands.

Floodplain (Figure 6): Portions of the project are anticipated to be in the floodplain. Impacts to the floodplain will be minimized to the greatest extent possible. Design of the project will comply with Federal Flood Risk Management Standards (FFRMS) requirements as necessary.

Groundwater: The project will not impact a drinking water supply or sole source aquifer.

Plants and Animals: The Preliminary Engineering Report (PER) states: The U.S. Fish & Wildlife Service Information for Planning and Conservation (IPAC) report for the project planning area was reviewed to identify endangered, threatened, and rare species in the area. Included in the list of endangered and threatened species is the Indiana Bat (myotis sodalist) and the Northern Longeared Bat (myotis septentrionalis). However, there are no critical habitats within the project area.

All construction activity performed as a result of recommendations of this PER will be completed on property presently owned by the Town, on easements, or on property purchased by the Town. Endangered and threatened species habitats are not anticipated to be affected by construction of the proposed project.

Prime Farmland: The project will not convert prime farmland.

Air Quality: Construction activities may generate some noise, fumes and dust, but should not significantly affect air quality.

Open Space and Recreational Opportunities: The project will neither create nor destroy open space or recreational opportunities.

Lake Michigan Coastal Program: The project will not affect the Lake Michigan Coastal Zone.

National Natural Landmarks: Construction and operation of the proposed project will not affect National Natural Landmarks.

B. Indirect Impacts

The town's Preliminary Engineering Report (PER) states: *The Town of Bristol, through local zoning laws, the authority of its council or planning commission, or other means, will ensure that future development and utility projects connecting to SRF-funded facilities will not adversely affect wetlands, wooded areas, steep slopes, archaeological/historical/structural resources, or other sensitive environmental resources. The Town of Bristol will require new development and utility projects to be constructed within the guidelines of the US Fish and Wildlife Service, Indiana Department of Natural Resources, Indiana.*

C. Comments from Environmental Review Authorities

In correspondence dated February 15, 2024, the Indiana Department of Natural Resources Division of Historic Preservation and Archaeology stated:

> *Pursuant to Indiana Code 5-1.2-10, Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), and 36 C.F.R. Part 800, the Indiana State Historic Preservation Officer ("Indiana SHPO") is conducting an analysis of the materials dated and received by the Indiana SHPO on January 25, 2024 for the above indicated project in Bristol, Elkhart County, Indiana.*

Thank you for providing information regarding the change of the scope of work at the wastewater treatment plant. Based on our analysis, it has been determined that no historic properties will be altered, demolished, or removed by the proposed project. This identification is subject to the following condition:

• The project activities remain within previously disturbed areas.

If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and 29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. 800.

In correspondence dated March 20, 2024, the United States Fish and Wildlife Service stated:

This responds to your email and attached information dated March 12, 2024, requesting our comments on the aforementioned project. We previously commented on this project on March 27, 2023, and the aspects of the project discussed in that letter remain as stated. We understand that it is now proposed to fund the project through the State Revolving Fund Loan Program rather than the Rural Utilities Service and that there are several changes since 2023.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (l6 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of l969, the Endangered Species Act of l973, and the U. S. Fish and Wildlife Service's Mitigation Policy.

The project continues to include the rehabilitation of lift stations, 1, 3, and 8, as discussed in our previous letter. It now also includes rehabilitation of lift station 10, which is on upland along Commerce Drive within an industrial area. We have no concerns about this addition. The other proposed changes are associated with the wastewater treatment plant, including two new outfalls to the St. Joseph River. As long as the outfalls avoid important wetlands and riparian woodlands, we do not expect significant adverse impacts to natural resources due to this project.

The proposed project is within the range of the Federally endangered Indiana bat (Myotis sodalis) and northern long-eared bat (Myotis septentrionalis) and the threatened northern copperbelly water snake (Nerodia erythrogaster neglecta). There is no habitat for these specieswithin the proposed project area. Therefore, we agree with the determination that the proposed project is not likely to adversely affect these endangered and threatened species.

This precludes the need for further consultation on these projects as required under Section 7 of the Endangered Species Act of 1973, as amended. However, should new information arise pertaining to project plans or a revised species list be published, it will be necessary for the Federal agency to reinitiate consultation.

In correspondence dated April 10, 2024, the Department of Natural Resources Environmental Unit stated:

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

If our agency has regulatory jurisdiction over the project, the recommendations contained in this letter may become requirements of any permit issued. If we do not have permitting authority, all recommendations are voluntary.

Regulatory Assessment:
This proposal may require the formal approval of our agency pursuant to the Flood Control Act (IC 14-28-1) for any proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing waterbody which has a drainage area greater than one square mile. To determine if a permit will be required, the Indiana Floodplain Information Portal (INFIP) is a mapping application developed by the DNR, Division of Water to generate a Floodplain Analysis and Regulatory Assessment (FARA) that provides floodplain information. The portal is on the Division of Water's webpage at infip.dnr.in.gov.

Natural Heritage Database:
The Natural Heritage Program's data have been checked. The Division of Nature Preserves does not anticipate any significant impacts to the below-listed flora and community. The following have been documented within .5 mile of the project area:
Flora
Red Baneberry (Actaea rubra ssp. rubra), State endangered
Bog Rosemary (Andromeda glaucophylla), State threatened
Green-keeled Cotton-grass (Eriophorum viridicarinatum), State threatened
Communities
Fen/Wetland
Fauna
Spotted Turtle (Clemmys guttata), State endangered
Blanding's Turtle (Emydoidea blandingii), State endangered
Greater Redhorse (Moxostoma valenciennesi), State endangered

Fish and Wildlife Comments:
Avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts. The following are recommendations that address potential impacts identified in the proposed project area:

A) *Heritage Species*
The Division of Fish and Wildlife does not anticipate any significant impacts to the above-listed species due to this project.

B) *Wetlands*
Due to the presence or potential presence of wetland habitat on site, we recommend contacting and coordinating with the Indiana Department of Environmental Management (IDEM) 401 program and the US Army Corps of Engineers (USACE) 404 program.

C) *Lighting*
Lighting should only be used when absolutely necessary. Lighting in forested areas and along creeks, streams, and rivers should be the lowest intensity feasible and shielded to cast light downwards, not up- or outwards into the surroundings to avoid disturbing wildlife circadian rhythms and disorienting night-migrating birds.
Certain types of LED lighting can have negative impacts on both human and wildlife health and safety. The International Dark-Sky Association has developed a set of recommendations for those choosing LED lighting systems. These suggestions will aid in the selection of lighting that is energy and cost efficient, yet ensures safety and security, protects wildlife, and promotes the goal of reducing light pollution:
• Always choose fully shielded fixtures that emit no light upward.
• Use "warm-white" or filtered LEDs (CCT < 3,000 K; S/P ratio < 1.2) to minimize harmful blue light emission.
• Look for products with adaptive controls like dimmers, timers, and motion sensors.

• Consider dimming or turning off lights during non-peak overnight hours.
• Avoid the temptation to over-light because of the higher luminous efficiency of LEDs.
• Only light the exact space and in the amount required for particular tasks.

The Division of Fish and Wildlife strongly encourages visiting the following link to learn more about the potential negative impacts of improperly selected LED lighting systems: http://darksky.org/light-pollution/light-pollution-solutions/.

D) Riparian Habitat
We recommend a mitigation plan be developed (and submitted with the permit application, if required) for any unavoidable habitat impacts that will occur. The DNR's Habitat Mitigation Guidelines (and plant lists) can be found online at: https://www.in.gov/nrc/files/IB-17.pdf. Impacts to non-wetland forest of one (1) acre or more in a rural or urban area should be mitigated at a minimum 2:1 ratio based on area of impact. Impacts to non-wetland forest under one (1) acre but at least 0.10 acre in a rural or urban area should be mitigated at a minimum 1:1 ratio based on area of impact. Impacts under 0.10 acre in a rural area typically do not require mitigation or additional plantings beyond seeding and stabilizing disturbed areas, though there are exceptions for high quality habitat sites. Impacts under 0.10 acre in an urban area should be mitigated by replacing trees that are 10" diameter-at-breast height (dbh) or greater by planting five trees, 1" to 2" in dbh, for each tree which is removed that is 10" dbh or greater. Seeding and stabilizing disturbed areas is required regardless of the impact amount and location. If floodway impacts to forested wetland and non-wetland habitat areas combine to be 0.10 acres or more, mitigation should be done and coordinated with the biologist, as needed.

The mitigation site should be located in the floodway, downstream of the one (1) square mile drainage area of that stream (or another stream within the 8-digit HUC, preferably as close to the impact site as possible) and adjacent to existing forested riparian habitat.

The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:
1. Revegetate all bare and disturbed areas that are not currently mowed and maintained with a mixture of grasses, sedges, and wildflowers native to Northern Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion; turf-type grasses (including low-endophyte, friendly endophyte, and endophyte free tall fescue but excluding all other varieties of tall fescue) may be used in currently mowed areas only. A native herbaceous seed mixture must include at least 5 species of grasses and sedges and 5 species of wildflowers.
2. Minimize and contain within the project limits in-channel disturbance and the clearing of trees and brush.
3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.
4. Do not cut any trees suitable for Indiana Bat or Northern Long-eared Bat roosting (3 inches or greater diameter-at-breast height, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30.
5. Use minimum average 6-inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.
6. Do not use broken concrete as riprap.
7. Underlay the riprap with a bedding layer of well graded aggregate or a geotextile to prevent piping of soil underneath the riprap.
8. All excavated material must be properly spread or completely removed from the project site such that erosion and off-site sedimentation of the material is prevented.
9. Minimize the movement of resuspended bottom sediment from the immediate project area.

10. Do not deposit or allow construction/demolition materials or debris to fall or otherwise enter the waterway. Any incidental fallen material or debris in the waterway must be removed within 24 hours using best management practices, particularly lifting material out of the waterway and not dragging it across the streambed whenever possible.
11. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the waterbody or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
12. Seed and protect all disturbed streambanks and slopes not protected by other methods that are 3:1 or steeper with erosion control blankets that are heavy-duty, biodegradable, and net free or that use loose-woven / Leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas.
13. Protect the area around and below any concentrated discharge points, down to the waterway's normal flow level, with an appropriate structural armament such as riprap.
14. Do not excavate or place fill in any riparian wetland.

In correspondence dated April 20, 2023, the Natural Resources Conservation Service stated:

The proposed wastewater utility improvements to its wastewater utility system in the Town of Bristol, Elkhart County, Indiana as referred to in your letter received January 7, 2023, will not cause a conversion of prime farmland.

VIII. MITIGATION MEASURES

The town of Bristol's PER states:

The majority of the environmental impacts will occur during construction of the proposed improvements. These issues are classified as temporary, since no significant, permanent impacts to environmental, historical, or other regulated resources are involved. These temporary construction impacts include the potential for noise, dust, and construction site erosion. Provisions will be included in the construction specifications to limit such problems and to provide erosion control in accordance with current state standards. The work is expected to be completed during normal working hours, restricting any work-related nuisances to those hours. All construction equipment will be required to have mufflers to reduce Commonwealth Engineers, Inc. Town of Bristol, Indiana Wastewater Utility Improvements February 2022 Preliminary Engineering Report 1-23 noise pollution. Additionally, reasonable and proper construction techniques and clean up practices will be required by the contractor to reduce dust emissions. Proper surface wetting practices will be required.

IX. PUBLIC PARTICIPATION

A properly noticed public hearing was held on April 19, 2022 at 6:45 pm at the Bristol Town Hall, 303 East Vistula Street, Bristol, IN 46507. Questions on this project were answered during the hearing. No written comments were received in the 5-day period following the hearing for this project.

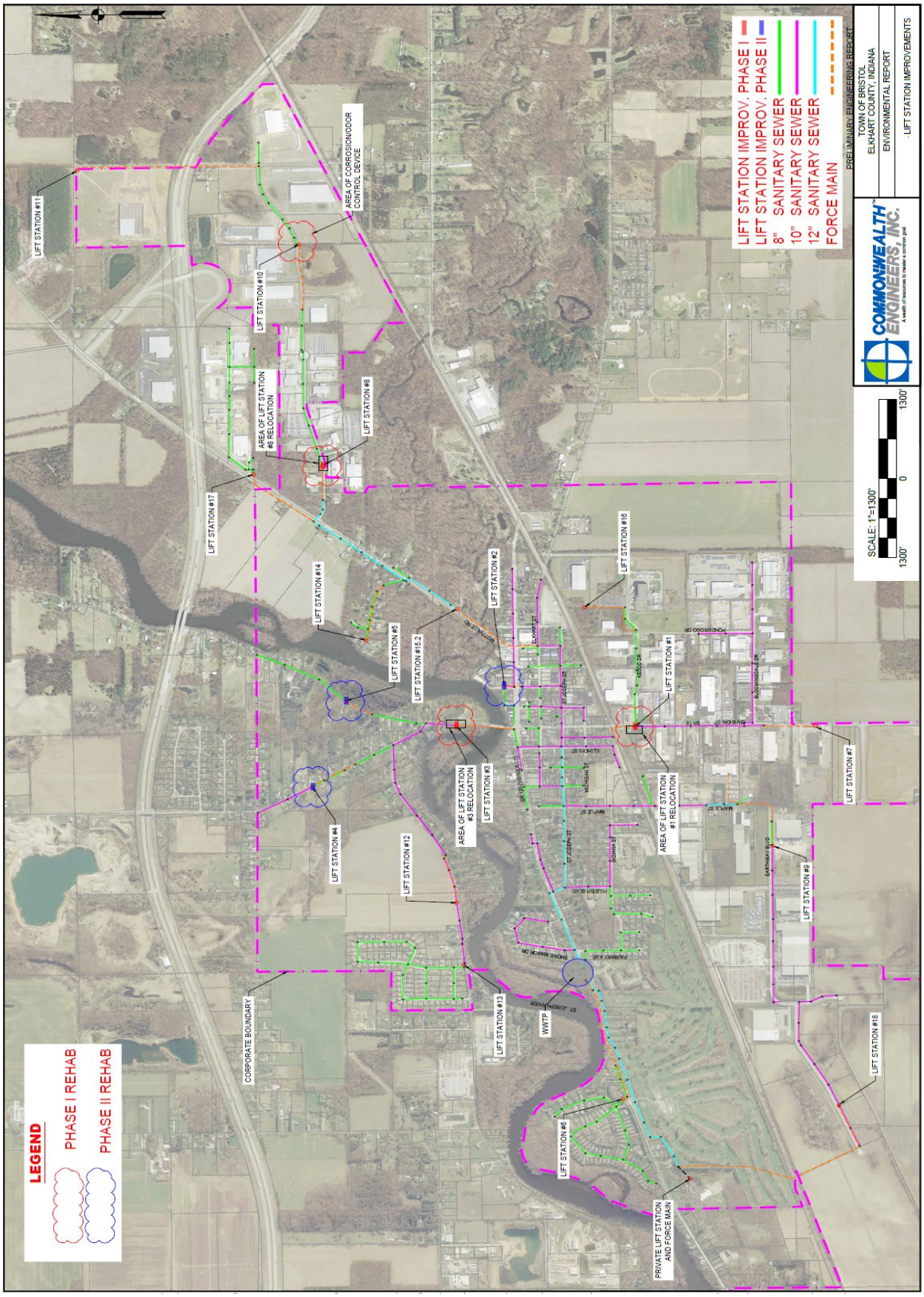
LIFT STATION IMPROV. PHASE I
LIFT STATION IMPROV. PHASE II
8" SANITARY SEWER
10" SANITARY SEWER
12" SANITARY SEWER
FORCE MAIN
PRELIMINARY ENGINEERING REPORT
TOWN OF BRISTOL
ELKHART COUNTY, INDIANA
ENVIRONMENTAL REPORT
LIFT STATION IMPROVEMENTS
COMMONWEALTH ENGINEERS, INC.
SCALE: 1"=1300'
1300'
0
1300'
LEGEND
PHASE I REHAB
PHASE II REHAB
LIFT STATION #11
AREA OF CORROSION/ODOR CONTROL DEVICE
LIFT STATION #10
AREA OF LIFT STATION #8 RELOCATION
LIFT STATION #8
LIFT STATION #17
LIFT STATION #14
LIFT STATION #5
LIFT STATION #15.2
LIFT STATION #2
LIFT STATION #16
LIFT STATION #1
LIFT STATION #7
AREA OF LIFT STATION #3 RELOCATION
LIFT STATION #3
AREA OF LIFT STATION #1 RELOCATION
LIFT STATION #4
LIFT STATION #12
LIFT STATION #9
CORPORATE BOUNDARY
LIFT STATION #13
WWTP
LIFT STATION #18
LIFT STATION #6
PRIVATE LIFT STATION AND FORCE MAIN

Figure 1

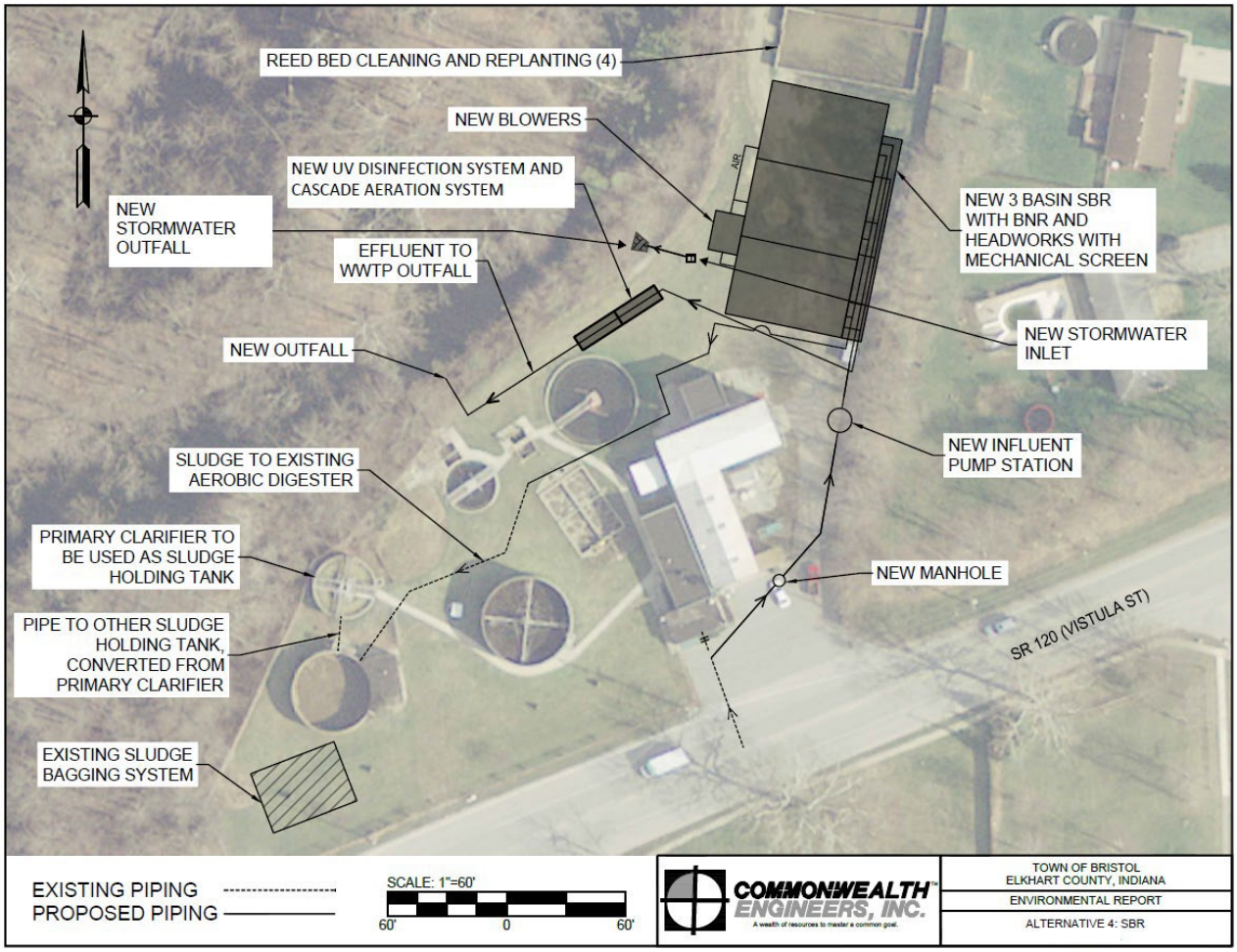
REED BED CLEANING AND REPLANTING (4)
NEW BLOWERS
NEW UV DISINFECTION SYSTEM AND CASCADE AERATION SYSTEM
NEW STORMWATER OUTFALL
EFFLUENT TO WWTP OUTFALL
NEW OUTFALL
SLUDGE TO EXISTING AEROBIC DIGESTER
PRIMARY CLARIFIER TO BE USED AS SLUDGE HOLDING TANK
PIPE TO OTHER SLUDGE HOLDING TANK, CONVERTED FROM PRIMARY CLARIFIER
EXISTING SLUDGE BAGGING SYSTEM
NEW 3 BASIN SBR WITH BNR AND HEADWORKS WITH MECHANICAL SCREEN
NEW STORMWATER INLET
NEW INFLUENT PUMP STATION
NEW MANHOLE
SR 120 (VISTULA ST)
AIR
EXISTING PIPING
PROPOSED PIPING
SCALE: 1"=60'
60' 0 60'
COMMONWEALTH ENGINEERS, INC.
A wealth of resources to master a common goal.
TOWN OF BRISTOL
ELKHART COUNTY, INDIANA
ENVIRONMENTAL REPORT
ALTERNATIVE 4: SBR

Figure 2

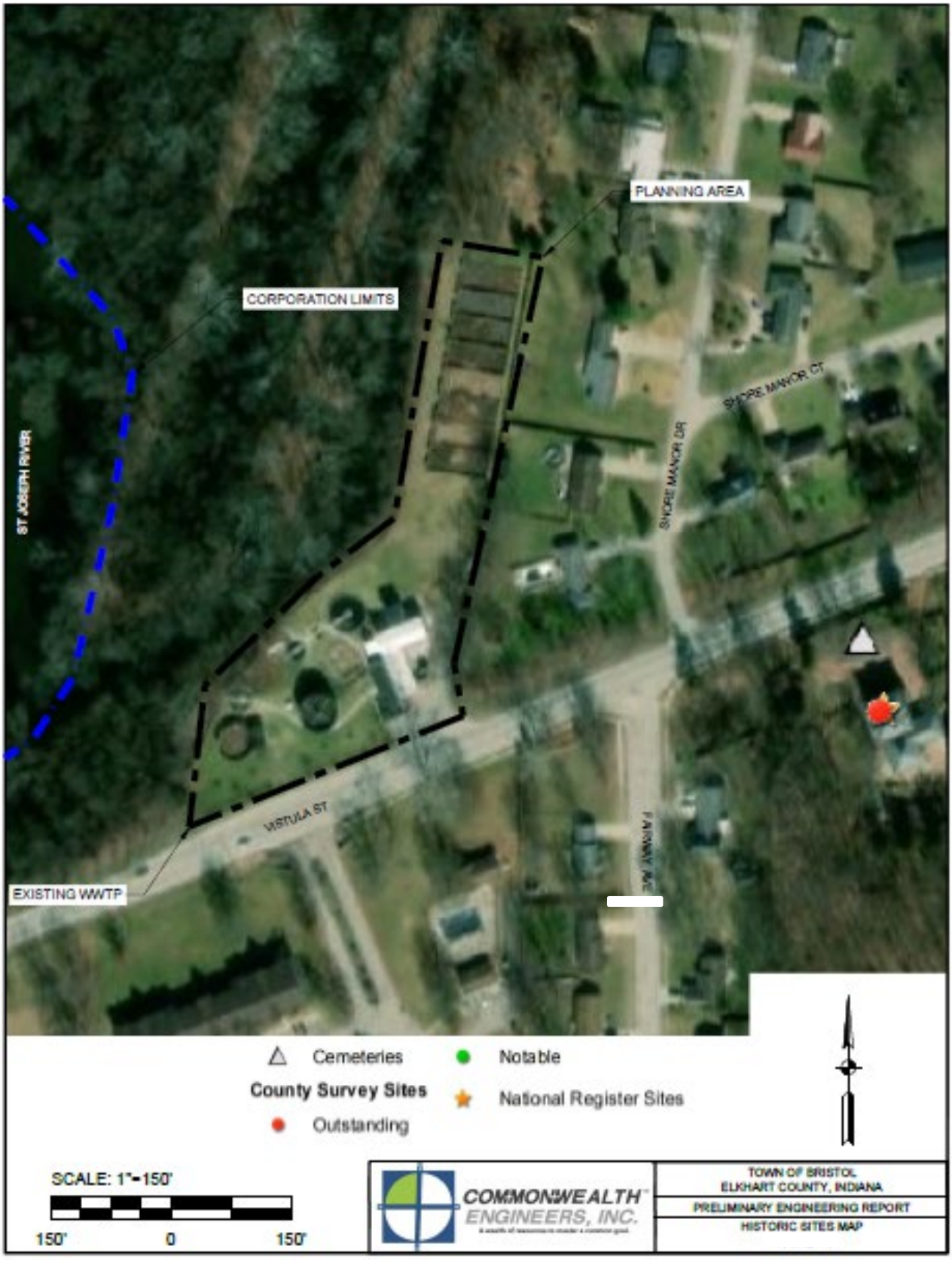
PLANNING AREA
CORPORATION LIMITS
ST JOSEPH RIVER
SHORE MANOR CT
SHORE MANOR DR
VISTULA ST
EXISTING WWTP
Cemeteries
Notable
County Survey Sites
National Register Sites
Outstanding
SCALE: 1"=150'
150'
0
150'
COMMONWEALTH ENGINEERS, INC.
TOWN OF BRISTOL
ELKHART COUNTY, INDIANA
PRELIMINARY ENGINEERING REPORT
HISTORIC SITES MAP

Figure 3

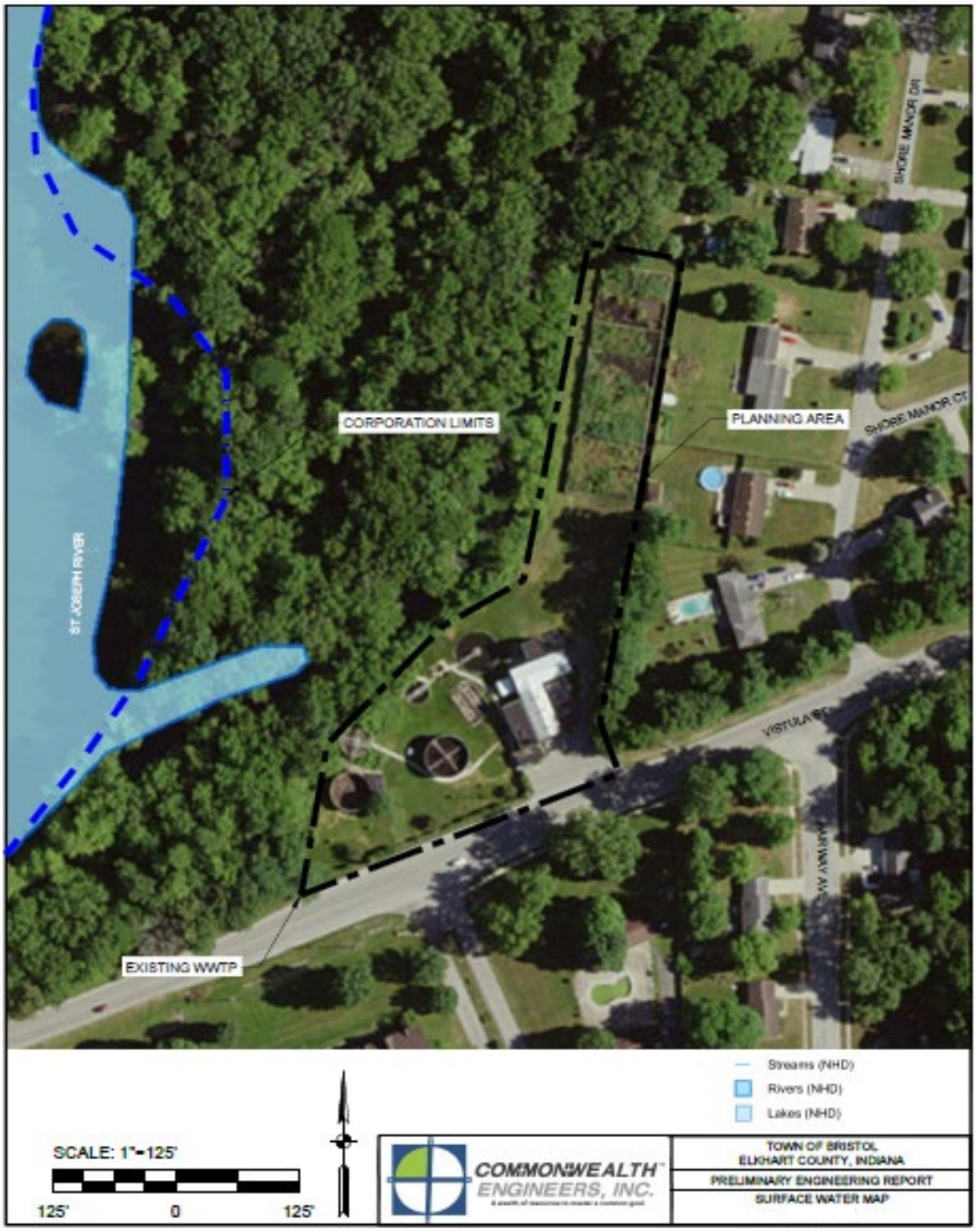
CORPORATION LIMITS
PLANNING AREA
EXISTING WWTP
ST JOSEPH RIVER
SHORE MANOR DR
SHORE MANOR CT
VISTULA ST
Streams (NHD)
Rivers (NHD)
Lakes (NHD)
SCALE: 1"=125'
125'
0
125'
COMMONWEALTH ENGINEERS, INC.
TOWN OF BRISTOL
ELKHART COUNTY, INDIANA
PRELIMINARY ENGINEERING REPORT
SURFACE WATER MAP

Figure 4

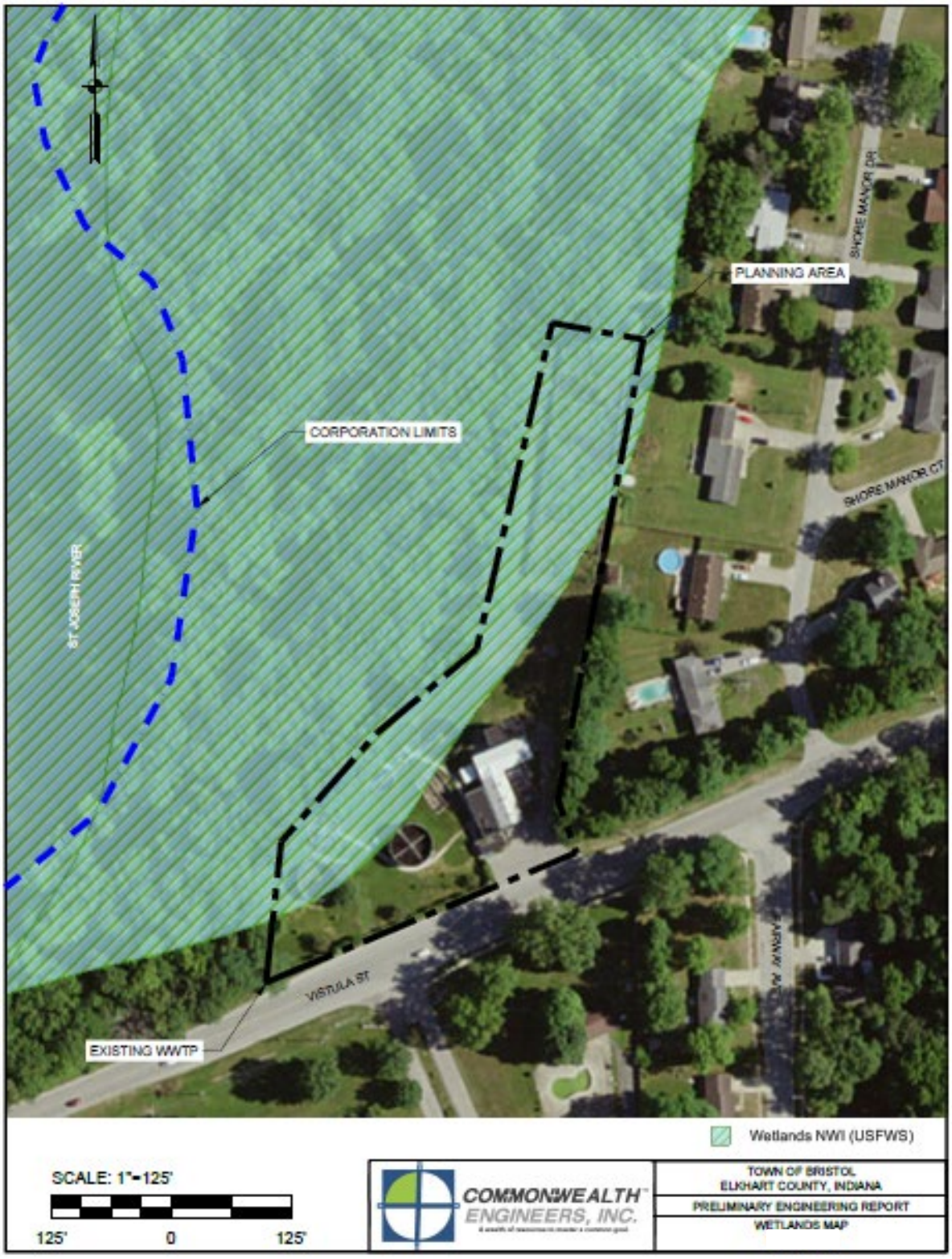
PLANNING AREA
CORPORATION LIMITS
EXISTING WWTP
ST JOSEPH RIVER
VISTULA ST
SHORE MANOR DR
SHORE MANOR CT
Wetlands NWI (USFWS)
SCALE: 1"=125'
125'
0
125'
COMMONWEALTH ENGINEERS, INC.
TOWN OF BRISTOL
ELKHART COUNTY, INDIANA
PRELIMINARY ENGINEERING REPORT
WETLANDS MAP

Figure 5

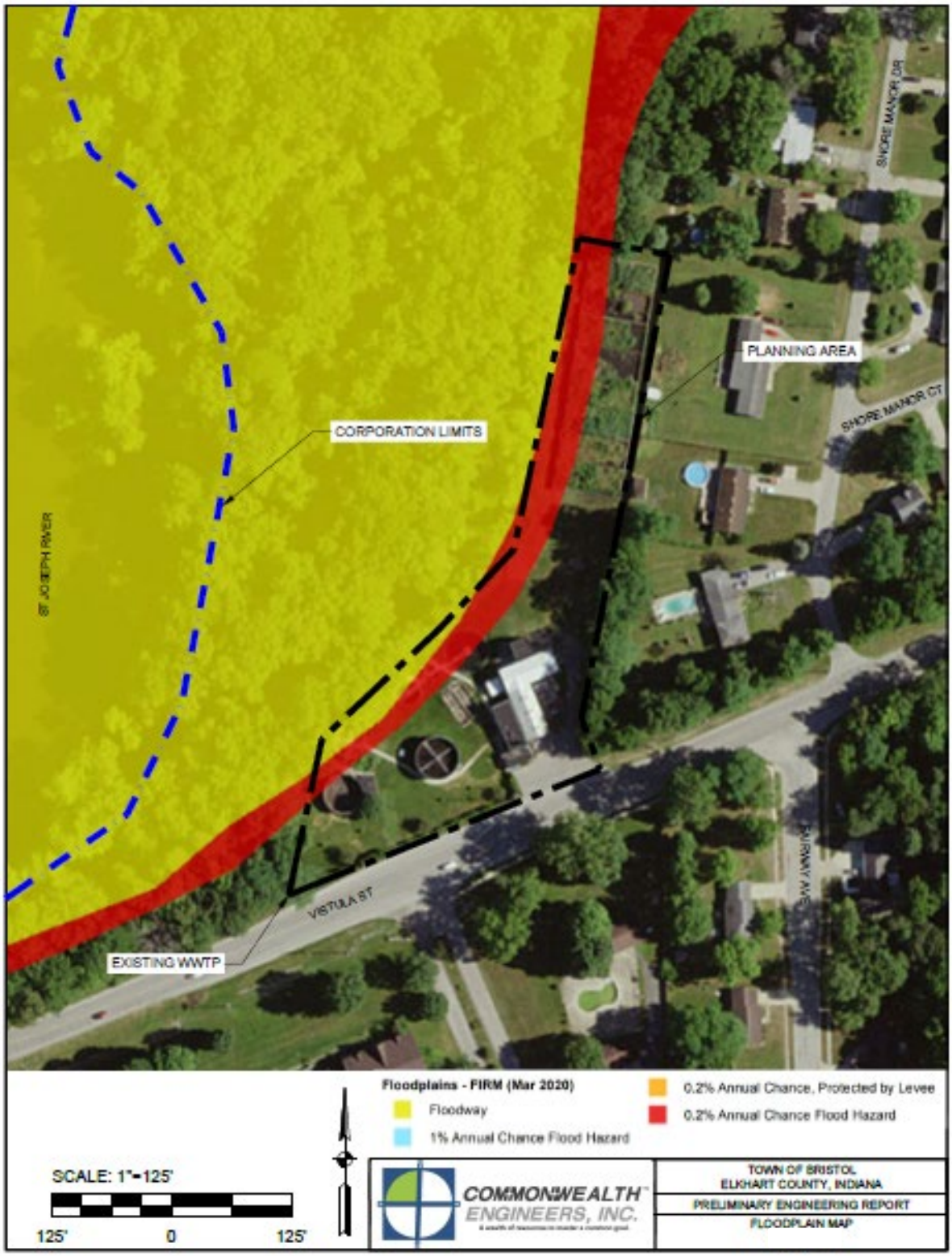
PLANNING AREA
CORPORATION LIMITS
EXISTING WWTP
ST JOSEPH RIVER
VISTULA ST
SHORE MANOR DR
SHORE MANOR CT
Floodplains - FIRM (Mar 2020)
Floodway
1% Annual Chance Flood Hazard
0.2% Annual Chance, Protected by Levee
0.2% Annual Chance Flood Hazard
SCALE: 1"=125'
125'
0
125'
COMMONWEALTH ENGINEERS, INC.
TOWN OF BRISTOL
ELKHART COUNTY, INDIANA
PRELIMINARY ENGINEERING REPORT
FLOODPLAIN MAP

Figure 6