



GRETCHEN WHITMER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY  
LANSING



LIESL EICHLER CLARK  
DIRECTOR

April 29, 2020

TO: All Interested Citizens, Organizations, and Government Agencies

SUBJECT: FINDING OF NO SIGNIFICANT IMPACT  
**City of Flint**  
**Wastewater System Improvements**  
**Clean Water State Revolving Fund Project No. 5696-01**

The purpose of this notice is to seek public input and comment on a preliminary decision by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) that an Environmental Impact Statement (EIS) is not required to implement recommendations discussed in the attached Environmental Assessment of a wastewater project plan submitted by the applicant mentioned above.

#### **HOW WERE ENVIRONMENTAL ISSUES CONSIDERED?**

Part 53, Clean Water Assistance, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, being Sections 324.5301 to 324.5316 of the Michigan Compiled Laws Annotated, requires EGLE to evaluate all environmental implications of a proposed wastewater project. EGLE has done this by incorporating a detailed analysis of the environmental effects of the proposed alternatives in its review and approval process. A project plan containing information on environmental impacts was prepared by the municipality and reviewed by the State. EGLE has prepared the attached Environmental Assessment and found that the proposed project does not require the preparation of an EIS.

#### **WHY IS AN EIS NOT REQUIRED?**

Our environmental review concluded that no significant environmental impacts would result from the proposed action. Any adverse impacts have either been eliminated by changes in the project plan or will be reduced by the implementation of the mitigative measures discussed in the attached Environmental Assessment.

#### **HOW DO I GET MORE INFORMATION?**

A map depicting the location of the proposed project is attached. This information is also available on our website at [www.michigan.gov/cleanwaterrevolvingfund](http://www.michigan.gov/cleanwaterrevolvingfund) under "Related Links." The Environmental Assessment presents additional information on the project, alternatives that were considered, impacts of the proposed action, and the basis for our decision. Further information can be obtained by calling or writing one of the contact people listed below.

## HOW DO I SUBMIT COMMENTS?

Any comments supporting or disagreeing with this preliminary decision should be submitted to me at EGLE, Constitution Hall, P.O. Box 30457, Lansing, Michigan 48909-7957. We will not take any action on this project plan for 30 calendar days from the date of this notice in order to receive and consider any comments.

## WHAT HAPPENS NEXT?

In the absence of substantive comments during this period, our preliminary decision will become final. The applicant will then be eligible to receive loan assistance from this Agency to construct the proposed project.

Any information you feel should be considered by EGLE should be brought to our attention. If you have any questions, please contact Mr. Eric Pohan, the project manager, at 517-284-5416, by email at [Pocane@michigan.gov](mailto:Pocane@michigan.gov), or you may contact me. Your interest in this process and the environment is appreciated.

Sincerely,



Kelly Green, Administrator  
Water Infrastructure Financing Section  
Finance Division  
517-284-5433

Attachment

**Michigan Department of Environment, Great Lakes, and Energy  
Clean Water State Revolving Fund (CWSRF)  
City of Flint, Genesee County  
Environmental Assessment  
April 2020**

**PROJECT IDENTIFICATION**

**Applicant:** City of Flint, Genesee County

**Authorized Representative:** Ms. Jeanette Best, Water Pollution Control Manager

**Address:** G-4652 Beecher Road  
Flint, Michigan 48532

**Project Number:** 5696-01

**PROJECT SUMMARY**

The city of Flint (Flint) is located approximately 66 miles northwest of the city of Detroit in Genesee County and contains a land area of 34.06 square miles. Flint has a residential population of 97,810 as of 2017, according to data provided by the United States Census Bureau. Projections predict the population will decrease to 79,000 by the year 2040.

The proposed project includes improvements to the Flint Water Pollution Control Facility (WPCF) and the Northwest Pump Station (NWPS). The total estimated cost associated with these projects is \$30,100,000. Flint anticipates financing the improvements with a low-interest CWSRF loan. Flint qualifies as a disadvantaged community under CWSRF legislation which could allow them to receive up to 20 percent principal forgiveness of the financed amount this year. Additional projects are also proposed for CWSRF financing over the next five years and include replacements and updates at the WPCF and in the sanitary sewer system. These additional projects have an estimated construction cost of \$84,465,100 and will be discussed in future environmental assessments (EAs) as applicable.

**EXISTING FACILITIES**

The Flint sanitary sewer system is comprised of 573 miles of 6-inch to 108-inch diameter sewer, 12,846 manholes, and approximately 47,600 service laterals serving Flint, the city of Burton, and portions of Flint Township, Genesee Township, and Mount Morris Township. Conveyance of wastewater to the WPCF is accomplished via a sanitary sewer collection system with eight small pump stations that discharge to three main pumping stations. The small pump stations discharge to three interceptors which eventually reach one of the three main pump stations; the NWPS, the East Pump Station (EPS), and the 3<sup>rd</sup> Avenue Pump Station (TAPS) that feeds the WPCF. The NWPS and EPS are located on the grounds of the WPCF while the TAPS is located approximately three miles away. In addition, Flint has a retention treatment basin (RTB) connected to the EPS influent manhole and WPCF influent box that fills after the wastewater has backed up to a certain level. Treatment in the RTB includes settling and disinfection through the addition of sodium hypochlorite prior to discharge to the Flint River.

Flow transported via the collection system is not combined (separate storm and wastewater flows), however there can be significant infiltration and inflow contributions to the collection system and WPCF for treatment particularly during wet weather events. The WPCF is located in the northeast corner of Flint Township at the corner of Beecher Road and Linden Road. All wastewater sent to the WPCF is treated and discharged to the Flint River. Treatment at the WPCF is organized into four treatment areas including preliminary and primary treatment, secondary treatment, disinfection, and solids handling. The average annual flow coming to the WPCF is currently 20 million gallons per day (MGD), however the secondary treatment system can handle flows as high as 70 MGD. The 20 MGD average is significantly below the system's National Pollutant Discharge Elimination System (NPDES) permitted capacity of 50 MGD. Wet weather events can increase flow to the WPCF in excess of 70 MGD which results in storage of wastewater in the RTB and the deep sewer tunnel connected to the EPS.

**NEED FOR PROJECT**

The WPCF is in compliance with the NPDES permit and there are currently no orders of enforcement in place. However, there are numerous issues that need to be addressed immediately due to the condition of the WPCF and pump stations. To ensure reliability of continued operation, an asset management plan (AMP) for the facility was recently completed which rated the condition of the existing assets. It concluded that numerous assets within the sanitary system are in need of immediate replacement or repair. The most critical needs were prioritized into five phases. This EA covers projects identified in Phase 1.

**Table 1: 5-Year Proposed Projects**

<b>Projects</b>	<b>Phase</b>	<b>Fiscal Year</b>
NWPS improvements and bypass sewer, Battery A grit treatment train (Battery A) improvements, influent box rehab and improvements, ultraviolet light (UV) disinfection retrofit, sludge dewatering improvements, and aeration process modifications and improvements	1	2020
Waste uploading station, Battery B grit treatment train (Battery B) removal and screening, TAPS improvements, primary settling tank improvements, and final clarifier improvements	2	2021
Final clarifier return activated sludge flow control, and cake storage facility	3	2022
Primary electrical switchgear update and 3 <sup>rd</sup> Avenue force main improvements	4	2023
Avon Pump Station diversion structure	5	2024

**POTENTIAL ALTERNATIVES**

**No Action Alternative**

The no-action alternative would not address the priorities identified in the AMP. The existing WPCF equipment and system structures would continue to degrade to the point the WPCF would not be able to treat wastewater to a degree that complies with the NPDES permit requirements. As a result, this alternative was not considered.

## **Regional Alternative**

The Flint wastewater treatment system is currently regional as it accepts flows from neighboring townships and cities. Another alternate regional system that would be able to treat flows from this system is not available. As a result, this alternative was not considered.

## **Upgrade Existing Facility or System**

Flint has organized its most critical needs into five phases of projects. Each of the Phase 1 projects are further detailed below. One alternative is presented for each project as Flint proposes to either remove, replace in-kind, or implement a more efficient system to improve the existing facility's operation. Based on engineering studies performed, no other alternatives exist that were viable or feasible to implement.

## **NWPS Improvements and Bypass Sewer**

Improvements at the NWPS involve pump replacement to more efficiently manage dry weather flows and construction of a new force main to promote solids suspension. In addition, the existing pumps, valves and flow meters are failing and need to be replaced. Each existing pump capacity is 9.5 MGD while dry weather flow ranges from 0.5 to 0.8 MGD, causing the pumps to either cycle on and off repeatedly or operate at inefficient or impossible flow rates. The NWPS's firm capacity will be re-rated to 8.1 MGD while the station's total capacity will be re-rated to 11.87 MGD.

A bypass sewer along Flushing Road diverting flow from the NWPS to the EPS tunnel will provide flow diversion during construction and wet weather relief should the NWPS be overloaded. The bypass structure will be constructed around the sewer pipe upstream and limit the NWPS flow to 11.87 MGD and provide complete diversion capability during the NWPS improvements. An energy dissipating structure will be constructed at the tunnel to properly introduce the diverted flows.

## **Battery A Improvements**

Excessive clogging, equipment and pipe deterioration, and failing grit removal equipment are common problems the WPCF must deal with when removing grit in Battery A (Battery A and Battery B refer to the two separate grit treatment trains at the WPCF). To address these issues, the aeration pattern in the grit chamber will be reconfigured to achieve a more efficient grit settling scheme, the grit pumps will be replaced, and a new building will be added to house a new grit classifier and dumpster for loading. These upgrades will occur at the same time as the influent box rehabilitation project to lower the cost of the project since both projects will require bypass pumping during construction.

## **Influent Box Rehabilitation and Improvements**

The influent box currently does not have isolation gates to stop or split flow to either Battery A or Battery B. This is a significant problem because the influent pipes to Battery A and Battery B cannot be isolated or worked on without bypass pumping. In addition, the upper portion of the influent box structure is deteriorating and needs to be replaced. The pipe from the influent box to Battery A was investigated as part of the AMP and was found to have significant deterioration to the point of imminent failure. The existing flow meter on the pipe does not correctly read lower or average flows due to its condition and type of meter.

Improvements to the influent box will require temporary bypass pumping from the influent box to the primary clarifier influent well. Structural rehabilitation will be done on the concrete structure above the water line where degradation has taken effect. Other work included in the project will involve relining the 54-inch diameter feed pipe and replacing the existing 54-inch flow meter to Battery A, replacing the removable covers on the top of the influent structure, and recoating the top slab with brick repair. A waterproof barricade will be constructed around pipe penetrations going from the influent box to Battery A and Battery B so an isolation gate can be constructed. A portion of pipe connecting Battery A and Battery B influent pipes will need to be removed so true isolation can occur when the newly constructed gates close, otherwise the flow to Battery B will also flow to Battery A through a common connection. These improvements will allow WPCF personnel to isolate flow to either Battery A or Battery B in the future without the need to bypass pump.

### **UV Disinfection Retrofit**

Disinfection at the WPCF is currently accomplished using chlorine gas dissolved in final effluent prior to mixing and contact time with secondary effluent. Sulfur dioxide gas also needs to be dissolved in water and introduced into the disinfected wastewater to remove the residual chlorine after disinfection. These gases pose dangers to workers and the surrounding community. These processes are highly regulated, require significant maintenance and upkeep, and a standby HazMat capability to cope with potential emergencies. Converting the disinfection system to ultraviolet light disinfection will eliminate these potential threats to workers and neighboring communities while simultaneously reducing the amount of maintenance required for the disinfection process.

The UV disinfection system will be installed in the first channel of the chlorine tank. A building to house the new disinfection equipment will be constructed above the effluent channel to provide access for maintenance personnel during the winter. This building will be heated and will facilitate removal and replacement of UV equipment when service is required.

### **Sludge Dewatering Improvements**

During high solids events, the solids processing equipment at the WPCF cannot adequately process the high solids inventory. This is a problem because if the volume of the solids flow is inadequate, it backs up and reduces the efficiencies of other treatment processes. WPCF staff is also apprehensive about working around dewatering equipment that is processing undigested sludge directly from the East storage tank. The proposed project would provide a backup dewatering and loading process that could handle both types of sludge in a more efficient way.

Historically, Flint's solids processing method has been incineration followed by ash disposal to ash lagoons across Linden Road. More stringent regulations on air quality control and high operation costs led Flint to look for alternative sludge disposal solutions. A solids processing feasibility study compared landfill and land application, which also required the construction of a cake storage facility. The cost-effective option was landfilling, so that method was adopted in 2016. Both methods required the construction of a new solids loading facility to move the cake into the trucks, so a new building and appurtenances were completed in 2016. Flint is still landfilling but hauling and landfill disposal fees have been increasing at a high rate. In response, new solids processing options are being investigated, with a goal of further reducing cake volumes. The Cake Storage Facility

proposed for construction in Phase 3 is another effort to combat high landfilling fees through a storage building for land application.

To solve these problems and add redundancy, Flint is proposing to construct an additional dewatering and loading area in the existing incineration building. Two dewatering devices will be installed at 2,000 dry pounds per hour with conveyors to load and distribute dewatered cake into trailers. A new polymer system will also be installed along with final effluent water upgrades for sludge dewatering. The existing incinerator building will require a partition wall between the existing electrical equipment and the proposed dewatering area, roll up doors for the sludge loading vehicles, electrical improvements, and a new heating, ventilation, and air conditioning system.

### **Aeration Process Modifications and Improvements**

Improvements that will be completed as part of this project will reduce aeration requirements, improve energy conservation, and allow the plant to more efficiently operate their secondary biological treatment tanks. Existing blowers that are responsible for aerating and mixing both Battery A and B tanks have exceeded their useful life, and must be replaced. They are also oversized and cannot operate at a point low enough to efficiently treat pollutants entering the secondary treatment system. Valves and gates that are critical to isolating aeration tanks are not operable and prevent plant personnel from effectively using them in response to the condition and quantity of wastewater flow. Many of the concrete tanks are deteriorated and need repair.

In order to solve the problems at the WPCF, Flint is proposing to replace the existing blowers with more energy efficient turbo blowers and an automatic dissolved oxygen control system that can deliver the needed amount of air without excessive energy consumption. The system will replace only the needed influent and effluent valves for aeration tank isolation, employ a low energy mixing system in the aeration tanks, make repairs to the concrete, and implement supervisory control and data acquisition controlled operation of aeration tanks. This option requires the least amount of capital investment and will reduce the WPCF's secondary operation cost by a significant amount due to decrease in electrical energy usage with the correctly sized aeration blowers.

### **PROPOSED PROJECT**

The selected alternatives are the existing facility and system upgrade projects. The projects listed above are scheduled to begin construction in September 2020 with a completion date of late 2022 (see map for project locations).

**Table 2: Project Cost**

<b>Project</b>	<b>Cost</b>
NWPS Improvement and Bypass Sewer	\$4,230,000
Grit A Improvements	\$2,040,000
Influent Box Rehabilitation and Improvements	\$1,720,000
UV Disinfection Retrofit	\$5,191,000
Sludge Dewatering Improvements	\$2,702,000
Aeration Process Modifications and Improvements	\$14,217,000
<b>Total</b>	<b>\$30,100,000</b>

The proposed Phase 1 upgrades are expected to be financed with a 20-year loan at 2.0 percent interest from the CWSRF. The rate impact of these projects could be an increase of approximately \$3.18 per month to the average residential customer. However, since Flint qualifies as a disadvantaged community the rate increase may be less since Flint will receive up to 20 percent principal forgiveness on the loan.

### **EXISTING ENVIRONMENT AND POTENTIAL ENVIRONMENTAL IMPACTS**

A Section 7 review on the United States Fish and Wildlife Service (USFWS) website was completed by DLZ Engineering and four federally listed/proposed species were identified that have been known to occur in Genesee County. The species identified are the federally endangered Indiana bat, the federally threatened Northern long-eared bat, Eastern prairie fringed orchid, and Eastern massasauga rattlesnake. The Indiana bat and Northern long-eared bat roost in trees from April 1-September 30. Since construction plans only call for the removal of three trees outside the roosting period no impacts are expected. The USFWS also indicated that no suitable habitat exists within 1.5 miles of the project site for the Eastern massasauga rattlesnake and Eastern prairie fringed orchid.

A Rare Species Review was conducted by the Michigan Natural Features Inventory (MNFI) and several species, the Peregrine falcon, Bald eagle, Rusty-patched bumble bee, Black and gold bumble bee, and Twinleaf plant have been documented to occur within 1.5 miles of the project areas reviewed. The only species MNFI commented on for possible impacts as a result of the areas submitted for review was the Bald eagle. While the Bald eagle has been recently observed nesting near the Flint River, the nests were located in map Sections 10 and 14. This EA covers Phase 1 projects located in map section 4. The potential impact to Bald eagle habitat in Sections 10 and 14 will be discussed in future EA's as proposed projects in Phases 2-5 proceed with construction. If a previously undiscovered nest is found before or during construction, Flint will contact the USFWS and implement recommendations or obtain a Bald eagle permit to avoid the incidental take of eagles and their young.

The State Historic Preservation Office (SHPO) review is underway and no significant impacts are anticipated. Prior to construction taking place, the SHPO review recommendations will be implemented. For the SHPO review Flint hired Commonwealth Heritage Group (Commonwealth) to complete a preliminary assessment of archaeological resources in the project area located in Section 4 of Flint Township. The assessment found no verified archaeological resources within the project area. Commonwealth did report that the project area has a heightened potential for the discovery of precontact sites due to its proximity to the Flint River. Since the proposed project is on the banks of the Flint River, the location lends itself to the potential discovery of both precontact and postcontact sites, some of which may be eligible for listing in the National Register of Historic Places. The combination of a steep slope



off the edge of Flushing Road, previous disturbance for the road right-of-way and utilities, and the high potential for archaeological resources near the Flint River suggests that a Phase I archaeological survey, an unanticipated discovery plan, or archaeological monitoring during construction may be needed in this area.

## **PUBLIC PARTICIPATION**

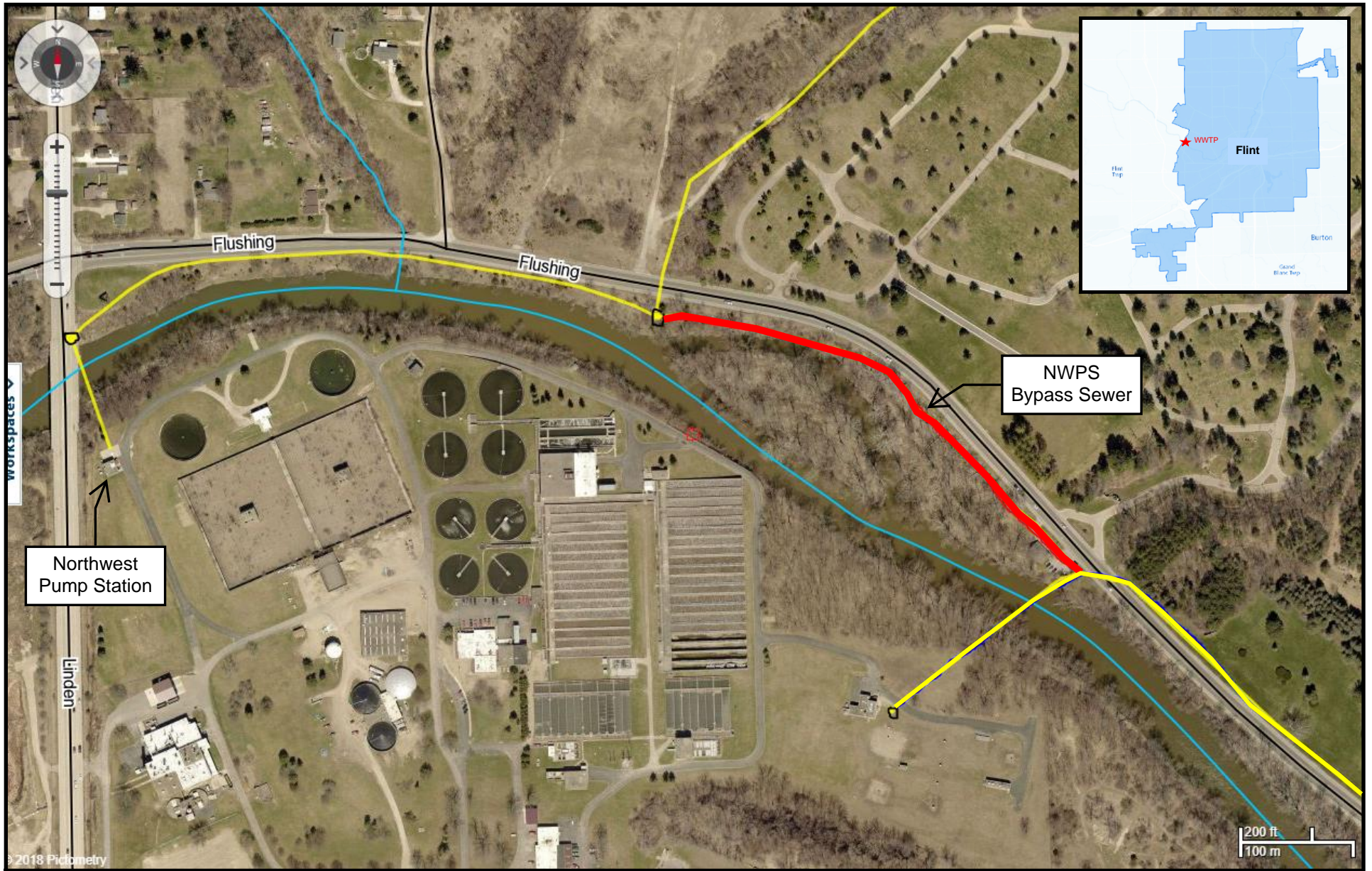
A public hearing, advertised in *The Flint Journal*, was held on June 24, 2019, at 9:00 p.m., in the Flint City Hall Council Chambers. The proposed project was presented by Hubbell, Roth, and Clark on behalf of Flint. At the conclusion of the presentation, the hearing was opened to the public for questions. A resolution of plan adoption was passed by the council after the public hearing closed.

## **REASONS FOR CONCLUDING NO SIGNIFICANT IMPACTS**

The proposed project will provide a reliable sanitary sewer system in Flint. The short-term, minor construction impacts are outweighed by the improvements that will be performed to Flint's sanitary sewer system.

Questions regarding this Environmental Assessment should be directed to:

Ms. Kelly Green, Administrator  
Water Infrastructure Financing Section  
Finance Division  
Michigan Department of Environment, Great Lakes, and Energy  
P.O. Box 30457  
Lansing, Michigan 48909-7957  
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**HRC**  
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**City of Flint**  
**WWTP & System Improvements**  
 Phase 1 Project Location Map

- LEGEND**
- Exist. System
  - Proposed
  - River



Figure 1