



February 6, 2020

FINDING OF NO SIGNIFICANT IMPACT

TO ALL INTERESTED GOVERNMENTAL AGENCIES AND PUBLIC GROUPS

As required by state and federal rules for determining whether an Environmental Impact Statement is necessary, an environmental review has been performed on the proposed action below:

Project	City of Harlowton Wastewater System Improvements
Location	Harlowton, Montana
Project Number	C301306
Total Cost	\$1,624,000

The City of Harlowton, through its Wastewater System Preliminary Engineering Report (PER), written in April of 2018, focused on improvements needed by the City to meet Montana Pollutant Discharge Elimination System (MPDES) permit limits for its aerated, three-cell lagoon. The previous PER, written in 2012, identified the most problematic sections of the collection system for infiltration/inflow (I/I). These sewer mains were rehabilitated or replaced in 2014, resulting in a significant reduction in I/I and making it more efficient and effective to now make improvements at the lagoon.

The City of Harlowton is not able to meet final effluent limits for Total Residual Chlorine and *E. coli* in its current permit (MT0020354), issued September 1, 2017. Another problem at the wastewater treatment facility is the accumulation of sludge in the bottom of the lagoon cells. This accumulation occupies lagoon capacity and decreases design detention time for wastewater treatment, and contributes to excess Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) in the effluent. The 2018 PER also identified deficiencies and needed improvements at the lift station, the liner and aeration system, and within parts of the collection system.

This proposed first phase of improvements consists of installation of ultraviolet (UV) disinfection, sludge removal from all three lagoon cells, and replacement of the existing lift station pumps and controls. The installation of UV disinfection and the removal of accumulated sludge are expected to result in compliance with the MPDES permit. The existing lift station pumps have reached the end of their useful life. Pump replacement will correct ongoing mechanical issues. Sludge will be land-applied on nearby farmland in accordance with Federal 40 CFR 503 sludge disposal regulations. The land application of sludge will enhance soil conditions and provide beneficial reuse of the biosolids. The project is proposed for construction during the summer of 2020.

The estimated project cost (including administration, engineering, and construction) is \$1,624,000. The City will fund these project costs through a \$625,000 grant from the Treasure State Endowment Program (TSEP); a \$125,000 grant from the DNRC Renewable Resource Grant and Loan (RRGL) Program; and a loan in the amount of \$874,000 from the Water Pollution Control State Revolving Fund (WPCSRF) Program at an interest rate of 2.5% and a term of 20 years.

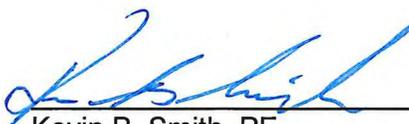
Federal and State grant/loan programs will fund the project. Environmentally sensitive characteristics such as wetlands, floodplains, threatened or endangered species, and historical sites are not expected to be adversely impacted because of the proposed project. Public participation during the planning process demonstrated support for the selected alternative. No significant long-term environmental impacts were identified. An environmental assessment (EA), which describes the project and analyzes the impacts in more detail, is available for public scrutiny on the DEQ web site <http://deq.mt.gov/Public/ea> and at the following locations:

Department of Environmental Quality
1520 East Sixth Avenue
P.O. Box 200901
Helena, MT 59620-0901
mmarsh@mt.gov

City of Harlowton
17 South Central Avenue
PO Box 292
Harlowton, MT 59036

Comments on the EA may be submitted to the Department of Environmental Quality at the above address. After evaluating comments received, the department will revise the environmental assessment or determine if an environmental impact statement is necessary. If no substantive comments are received during the comment period, or if substantive comments are received and evaluated and the environmental impacts are still determined to be non-significant, the agency will make a final decision. No administrative action will be taken on the project for at least 30 calendar days after release of the Finding of No Significant Impact.

Sincerely,



Kevin B. Smith, PE
Engineering Bureau
Water Quality Division
Montana Department of Environmental Quality

City of Harlowton
WASTEWATER SYSTEM IMPROVEMENTS
ENVIRONMENTAL ASSESSMENT

I. COVER SHEET

A. PROJECT IDENTIFICATION

Applicant: City of Harlowton
Address: 17 S. Central Avenue
PO Box 292
Harlowton, MT 59036
Project Number: SRF Project # C301306

B. CONTACT PERSON

Name: Mayor Paul Otten
Address: 17 S. Central Avenue
PO Box 292
Harlowton, MT 59036
Telephone: (406) 623-5523

C. ABSTRACT

The City of Harlowton, through its Wastewater System Preliminary Engineering Report (PER), written in April of 2018, focused on improvements needed by the City to meet Montana Pollutant Discharge Elimination System (MPDES) permit limits for its aerated, three-cell lagoon. The previous PER, written in 2012, identified the most problematic sections of the collection system for infiltration/inflow (I/I). These sewer mains were rehabilitated or replaced in 2014, resulting in a significant reduction in I/I and making it more efficient and effective to now make improvements at the lagoon.

The City of Harlowton is not able to meet final effluent limits for Total Residual Chlorine (TRC) and *E. coli* in its current permit (MT0020354), issued September 1, 2017. Another problem at the wastewater treatment facility (WWTF) is the excess accumulation of sludge in the bottom of the lagoon cells, which occupies capacity and decreases design detention time for wastewater treatment. Biofeedback from the sludge contributes to excess Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) in the effluent. The 2018 PER also noted deficiencies and potential alternatives at the lift station; the liner and aeration system; and within parts of the collection system.

The proposed first phase of improvements consists of installation of ultraviolet (UV) disinfection, sludge removal from all three lagoon cells, and replacement of the existing lift station pumps and controls. The installation of UV disinfection and removal of the sludge are expected to improve effluent quality such that MPDES permit limits can be consistently met for BOD, TSS, and *E. coli*. Sludge will be land-applied on nearby farmland in accordance with Federal 40 CFR 503 sludge disposal regulations. The land application of sludge will enhance soil conditions and provide beneficial reuse of the biosolids. The project is proposed for construction during the summer of 2020.

The estimated project cost (including administration, engineering, and construction) is \$1,624,000. The City will fund these project costs through a \$625,000 grant from the Treasure State Endowment Program (TSEP); a \$125,000 grant from the DNRC Renewable Resource Grant and Loan (RRGL) Program; and a loan in the amount of \$874,000 from the Water Pollution Control State Revolving Fund (WPCSRF) Program at an interest rate of 2.5% and a term of 20 years.

Environmentally sensitive characteristics such as wetlands, floodplains, threatened or endangered species, and historical sites are not expected to be adversely impacted because of the proposed project. Additional environmental impacts related to land use, water quality, air quality, public health, energy, noise, growth, and sludge disposal were also assessed. No significant long-term environmental impacts were identified.

Under Montana law, (75-6-112, MCA), no person may construct, extend, or use a public sewage system until DEQ has reviewed and approved the plans and specifications for the project. Under the Montana Water Pollution Control State Revolving Fund Act, DEQ may loan money to municipalities for construction of public sewage systems.

The DEQ, Engineering Bureau, has prepared this Environmental Assessment to satisfy the requirements of the Montana Environmental Policy Act (MEPA) and the National Environmental Policy Act (NEPA).

D. COMMENT PERIOD

Thirty (30) calendar days.

II. PURPOSE OF AND NEED FOR ACTION

The City of Harlowton's wastewater collection system dates to the early 1900s with the installation of vitrified clay pipe (VCP). The City's 2012 PER identified the sewer pipes that were in the worst shape and contributing the most I/I into the wastewater collection system. Many of these pipes were rehabilitated or replaced in 2014, with a resulting significant reduction in I/I. As a result, less wastewater is received at the WWTF, allowing for improved efficiency and effectiveness in operations. There is a single dry well/wet well lift station that pumps all the city's wastewater to the WWTF. In 2015 a lagoon performance evaluation revealed a significant accumulation of sludge within the lagoon cells. This excess sludge reduces treatment capacity and detention time, releases nutrients and soluble BOD back into the water column, and contributes to degradation of

effluent quality. With I/I significantly reduced by the 2014 project, the City felt better able to focus specifically on improvements needed to meet their MPDES permit requirements, and a 2018 PER was written.

The City of Harlowton's aerated, three-cell lagoon with chlorine disinfection was constructed in 1998 and replaced a facultative treatment pond system. The WWTF discharges to the Musselshell River under MPDES permit MT0020354. Because the City was having trouble meeting effluent limits (BOD, TSS, pH, Total Residual Chlorine (TRC), and *E. coli*) in the permit, it signed an Administrative Order on Consent (AOC) with the DEQ in 2011. The AOC has since been closed and the City is again operating under its MPDES permit (effective date - September 1, 2017), which contains TRC and *E. coli* limits that are difficult for the existing WWTF to meet. In addition to the issues related to the violation of permit limits, the lagoon liner, aeration system, lift station pumps, and WWTF controls are reaching the end of their useful life. Excess debris reaching the lagoon cells has also been a concern. There are also sections of sewer main needing rehabilitation or replacement to further reduce I/I in the collection system.

Harlowton's proposed wastewater project consists of the most basic, but necessary lagoon improvements expected to improve treatment and effluent quality, with the understanding that an improved aeration system and lagoon covers could follow in a future project if BOD and TSS violations continue to occur. Liner replacement and sewer collection system upgrades are also potential future project components. The proposed project to be completed in 2020 entails:

- Sludge removal from the first two lagoon cells (approximately 374,000 gallons) with land application for disposal.
- Installation of ultraviolet (UV) disinfection on the lagoon effluent.
- Replacement of the existing lift station pumps and controls.

III. ALTERNATIVES INCLUDING THE PROPOSED ACTION AND COSTS

The 2018 Preliminary Engineering Report (PER) considered alternatives for disinfection, sludge removal, and headworks. The 2018 PER did not make a final selection for a preferred headworks alternative, however, since the headworks design is dependent on selection of a future treatment system alternative. The City will include replacement of the existing lift station pumps and their controls as part of this project, due to the age of the pumps and the frequency of mechanical problems they have been having. Alternatives for disinfection and sludge removal are presented below:

A. DISINFECTION ALTERNATIVES

Three disinfection alternatives, including No Action, were evaluated in the 2018 PER:

- Disinfection Alternative One: No Action
- Disinfection Alternative Two: Ultraviolet Disinfection
- Disinfection Alternative Three: Chlorination/Dechlorination

DISINFECTION ALTERNATIVE ONE: NO ACTION – The City of Harlowton is not able to meet the *E. coli* and Total Residual Chlorine (TRC) limits in its current MPDES permit. The no-action alternative would not address this issue, putting

the City at risk of non-compliance and associated fines; therefore, this alternative will not be considered further.

DISINFECTION ALTERNATIVE TWO: ULTRAVIOLET (UV) DISINFECTION –

This alternative consists of construction of a small building containing a concrete channel holding banks of UV light bulbs. There would be automatic cleaning of light bulbs and installation of a propane backup generator. The building would be located at the southeast corner of the existing lagoon cells, on the wastewater effluent line discharging to the Musselshell River. Both *E. coli* and TRC limits could be met with this alternative.

DISINFECTION ALTERNATIVE THREE: CHLORINATION/DECHLORINATION

– The City of Harlowton currently uses chlorine to disinfect its wastewater effluent, through use of a chlorine injection box and 400 feet of 24-inch pipe to obtain the needed contact time. The stricter TRC limit of 0.01 mg/l in the City's MPDES permit has been difficult to meet. This alternative includes continued use of the existing disinfection system, with the addition of dechlorination with sodium bisulfite located downstream in a separate building. Both *E. coli* and TRC limits could be met with this alternative.

B. SLUDGE REMOVAL ALTERNATIVES

Two alternatives were evaluated in the 2018 PER:

- Sludge Removal Alternative One: No Action
- Sludge Removal Alternative Two: Sludge Removal

SLUDGE REMOVAL ALTERNATIVE ONE: NO ACTION – A 2015 performance evaluation of the Harlowton lagoon system determined that sludge depth was excessive and impacting lagoon efficiency. The City has had past exceedances of BOD and TSS and excessive sludge can contribute to this by the sloughing of solids and release of soluble BOD back into the water column. The no-action alternative continues the risk of excessive sludge contributing to permit violations. Therefore, this alternative will not be considered further.

SLUDGE REMOVAL ALTERNATIVE TWO: SLUDGE REMOVAL – This alternative consists of the removal of sludge from the bottom of all three lagoon cells using a floating dredge, followed by transportation to nearby ranchland for either surface injection or incorporation into the soil by tilling. It is conservatively estimated that 150 acres are needed. Sludge removal would help with the existing BOD and TSS exceedances and would help limit the algae problem.

C. COST COMPARISON - PRESENT WORTH ANALYSIS

Present worth analysis is a means of comparing alternatives in present day dollars and can be used to determine the most cost-effective alternative. The total net present worth costs presented in Table 1 below for disinfection alternatives are based on a 3.2% interest rate and a life of 20 years. In the case of one-time sludge disposal, there are no operation and maintenance or salvage costs to allow for a present worth analysis.

TABLE 1 - ECONOMIC EVALUATION OF ALTERNATIVES

Alternative	Total Project Cost *	O&M (\$/Year)	Salvage Value	Net Present Worth (3.2%, 20 years)
Disinfection Alternatives				
UV	\$994,522	\$15,200	\$137,217	\$1,143,452
Chlorination/Dechlorination	\$657,631	\$25,500	\$75,667	\$989,785
Sludge Removal Alternative				
Sludge Removal	\$388,488	\$0	\$0	\$388,488

*The total project cost includes a construction contingency of 10%, engineering costs of 18-20%, and administration/financial costs of 5%.

D. BASIS OF SELECTION OF PREFERRED ALTERNATIVE

To assist in selection of a preferred disinfection alternative, a qualitative ranking process considering both monetary and non-monetary factors was utilized. The two viable alternatives were compared with respect to technical feasibility, longevity/reliability, water quality, regulatory compliance, constructability, environmental impacts, financial feasibility, operation and maintenance, public health and safety, and land impact/availability. Each alternative was given a score ranging from 1 to 5 for each criterion, with 5 representing the maximum benefit to the community. The criteria were also weighted with a value between 1 and 3, with 3 having the heaviest weight and most importance. The two disinfection alternatives are scored for comparison in Table 2.

As shown in the table below, both alternatives scored relatively close. UV disinfection scored higher with respect to operation and maintenance and health and safety. The UV alternative allows the City to meet both *E. coli* and TRC limits.

TABLE 2 – DISINFECTION ALTERNATIVES RANKING

Criterion	Criterion Weight	UV		Chlorination/Dechlorination	
		Score	Points	Score	Points
Technical Feasibility	2	4	8	4	8
Longevity/Reliability	1	5	5	5	5
Water Quality	2	5	10	5	10
Regulatory Compliance	2	5	10	4	8
Constructability	1	5	5	5	5
Environmental Impacts	1	5	5	4	4
Financial Feasibility	3	4	12	5	15

Operation and Maintenance	2	5	10	4	8
Public Health & Safety	3	5	15	4	12
Land Impact/Availability	1	5	5	5	5
TOTAL SCORE			85		80

In addition to the installation of UV equipment, the project includes removal and disposal of lagoon sludge, which is the only viable alternative to address the excess sludge depth in the lagoon and its negative effects on wastewater treatment. The city is also including lift station pump replacement and control improvements as part of the proposed project.

The total project cost is broken down into administrative/finance and engineering/construction costs in Table 3.

TABLE 3 - ESTIMATED PROJECT COSTS

Components	Estimated Costs
Administrative/Finance Costs	\$77,290
Engineering/Construction Costs	\$1,546,710
Total Project Cost	\$1,624,000

The estimated project cost (including administration, engineering, and construction) is \$1,624,000. The City will fund these project costs through a \$625,000 grant from the Treasure State Endowment Program (TSEP); a \$125,000 grant from the DNRC Renewable Resource Grant and Loan (RRGL) Program; and a loan in the amount of \$874,000 from the Water Pollution Control State Revolving Fund (WPCSRF) Program at an interest rate of 2.5% and a term of 20 years.

The current residential sewer rate in Harlowton is \$31.09 per month and the rate will be increased 32 percent to \$41.09 to finance the needed improvements. The financial impact of this project on the system users is shown in Table 4. The proposed project will result in a monthly sewer cost per household that is 2.1% of the monthly median household income. Based on EPA guidance for project affordability, the sewer rate can be characterized as placing a significant financial burden on many of the households within the community.

TABLE 4 - PROJECT AFFORDABILITY

Monthly sewer user cost	\$41.09
Monthly median household income (mMHI) ¹	\$1,979
User rate as a percentage of mMHI	2.1 %

¹ Based on 2010 US Census Bureau data

IV. AFFECTED ENVIRONMENT

A. PLANNING AREA AND MAPS

The City of Harlowton is located in central Montana, near the center of Wheatland County (see Figure 1). It was founded in 1900 as a railroad stop on the Montana Railroad, later known as the Milwaukee Railroad. The planning area boundary includes all the developed Harlowton community, as well as acreage east to the wastewater treatment facility and south to the Musselshell River (Figure 2). The proposed wastewater improvements will occur within the city's lagoon property and at the existing lift station (see Figures 3 and 4). Figure 5 identifies two potential sites for application of the lagoon biosolids and the haul routes that would be used to reach them.

B. POPULATION AND FLOW PROJECTIONS

In the early 1900s Harlowton was much larger, due to its importance in railroad operations and the local agricultural economy. Census data shows a population of 1,734 in Harlowton in 1960, with a population drop to 1,181 in 1980, due in part to the Milwaukee Railroad pulling out of Harlowton and Montana in 1974. The 2010 Census population for Harlowton was 997 and the current population is 984. Population counts through these years indicate a negative growth of 0.2 percent. For design purposes, it is assumed that Harlowton's population will remain constant over the next 20 years.

The existing WWTF was built in 1997 for an average 20-year design flow of 215,000 gallons per day and a design population of 1,372. The current average daily flow is 184,000 gallons per day, based on 2018 lift station records. The 2040 design flow is assumed to be the same as the current flow, under the assumption of a projected flat population growth over the next 20 years. Table 5 summarizes projected population and average daily design flow data.

TABLE 5 – DESIGN POPULATION AND WASTEWATER FLOWS

Year	Population	Average Daily Flow (gal/day)
2040	984	184,000

C. NATURAL FEATURES

The City of Harlowton lies within the Montana high plains in the Upper Musselshell River Valley at an elevation of 4,177 feet. The city is surrounded by the Crazy Mountains to the south, the Little Belt Mountains to the north, and the Castle Mountains to the west. The Snowy Mountains are located to the northeast. These ranges are included in the Lewis and Clark National Forest. The Musselshell River serves as a southern boundary to the city. Loam is the predominant soil type in the project area.

Harlowton receives some form of precipitation an average of 73 days each year, resulting in 14 inches of rain and 43 inches of snow annually. The average high summer temperature is 83°F and the average winter low temperature is 12°F,

occurring in January.

V. ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT

A. DIRECT AND INDIRECT ENVIRONMENTAL IMPACTS

1. Land Use/Prime Farmland – The new UV disinfection building will be located within the existing, fenced lagoon area. According to the Natural Resources Conservation Service (NRCS), this land is designated as Farmland of Statewide Importance that has already been converted to a non-farm use. The two possible land application sites for biosolids disposal contain acreage that is designated as Farmland of Statewide Importance. The application of biosolids will enhance the fertility of the soil. Preliminary calculations show that 97 acres are needed for biosolids disposal; however, to be conservative, 150-acre sites have been identified. Application of biosolids to the farmland will positively impact the prime farmland. NRCS review comments are summarized at the end of this EA.
2. Floodplains – The most current floodplain designation that includes the proposed project site was mapped in 1981. A portion of the proposed wastewater project will be located within the 100-year floodplain; however, this area has been previously disturbed and the proposed construction will not adversely affect the floodplain. A Floodplain Development Permit will be obtained from the Wheatland County Floodplain Administrator prior to any construction. The DNRC reviewed the proposed project and their comments are summarized at the end of this report.
3. Wetlands – According to the Preliminary Engineering Report, there are no wetlands or riparian areas located within one mile of the project area.
4. Cultural Resources and Historical Sites – The proposed improvements should not impact historic or cultural resources since the new UV Building will be constructed within the previously disturbed area of the lagoon. The State Historic Preservation Office (SHPO) reviewed the proposed project and their comments are summarized at the end of this report.
5. Fish and Wildlife – According to the State of Montana's Sage Grouse Program's website, there are no general or connectivity sage grouse areas within the vicinity of Harlowton. Therefore, compliance with Executive Orders 12-2015 and 21-2015 is met.

Common mammals in the planning area include coyote, antelope, deer, raccoons, squirrels, skunks, prairie dogs and mice. Common birds in the area include the Mourning Dove, European Starling, Magpie, Sharp-tailed Grouse, Red-winged Blackbird, and Western Meadowlark. There are also a variety of different hawk species in the area, namely the Northern Harrier, Red-Tailed Hawk, Swainson's Hawk, and the Ferruginous Hawk. There are several species of amphibian and reptiles in the area, as well as a variety of fish species in the nearby Musselshell River. These

species include Brown Trout, Channel Catfish, Common Carp, Flathead Chub, Longnose Dace, Mountain Whitefish, Rainbow Trout, River Carpsucker, Smallmouth Bass, and Yellow Perch.

The project is situated at the extreme eastern extent of potential Montana grizzly bear range, with a remote chance that grizzly bears could venture along the Musselshell River. Precautions should be taken during construction to keep the site clean and construction personnel protected.

The Musselshell River receives seasonal eagle use. There are no known active nests within 0.5 miles of the project site. Should any eagle nests be discovered within this perimeter, compliance with seasonal restrictions and construction development buffers of the U.S. Fish and Wildlife Service (FWS) must be followed. Biosolids removed from the lagoon will be land-applied in accordance with Federal 40 CFR 503 sludge disposal regulations in a one-time application and vector attraction reduction requirements will be met. Given that construction will occur strictly at the lagoon and the land application site for biosolids, no impacts to any fish or wildlife are anticipated. The FWS and the Montana Department of Fish, Wildlife and Parks reviewed the proposed project and their comments are summarized at the end of this EA.

6. Water Quality – The primary surface water resource in the planning area is the Musselshell River and its tributaries. The river flows east to west, emptying into the Fort Peck Reservoir. Antelope Creek is a tributary of the Musselshell River, flowing east of the City. Harlowton's WWTF discharges treated effluent to the Musselshell River. The reach of the Musselshell River at the discharge point is classified as B-2, which means that these waters are to be maintained suitable for drinking, culinary, and food processing purposes, after conventional treatment; bathing, swimming, and recreation; growth and marginal propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply. The probable impaired uses are primary contact recreation and aquatic life, according to the 2018 303(d) list. The probable causes for impairment are alteration in streamside or littoral vegetative covers, *E. coli*, flow regime modification, habitat alterations, and iron. The probable sources are listed as agriculture and crop production, municipal point source discharges, on-site wastewater systems, grazing in riparian and shoreline zones, impacts from hydrostructure flow regulation-modification, channelization, streambank modifications-destabilization, natural sources, and impacts from abandoned mine lands.

Allocated nondegradation loads for the Harlowton WWTF for BOD and TSS were determined and documented in the Statement of Basis for the MPDES permit dated September 27, 1994. These allocated loads are 102 pounds/day (lb/day) for BOD and 250 lb/day for TSS, and have been carried through to the Fact Sheet for the current MPDES permit. Actual annual average BOD and TSS loads for the years 2012 through 2014, listed in that Fact Sheet, are all under 25 lb/day, well below the allocated nondegradation loads.

Harlowton's three public water supply wells are all drilled into deep bedrock aquifers that are recharged from precipitation in the Little Belt Mountains. This water supply is high in total dissolved solids.

Groundwater at the lagoon site is relatively shallow, within a few feet of the surface, and therefore construction dewatering may be necessary. Stormwater associated with construction activities will be controlled through temporary erosion and sediment control measures, thereby protecting water quality.

7. Air Quality – Short-term negative impacts on air quality are expected to occur during construction from heavy equipment in the form of dust and exhaust fumes. Proper construction practices will minimize this problem. Project specifications will require dust control with either the application of water or chemicals. No long-term air quality impacts will result from the proposed project. Any odors from biosolids removal, drying, hauling, and land application will be temporary and are not expected to be offensive due to the relative location of these temporary operations from residences.
8. Public Health – Public health will be positively impacted by the proposed project. Replacement of the current chlorination system with UV disinfection improves operator safety and the quality of wastewater effluent discharged to the Musselshell River. Sludge removal will improve lagoon performance and effluent quality. Sludge removed from the lagoon cells will be land-applied in accordance with EPA's 503 rules, thereby protecting public health.
9. Energy – The consumption of energy resources directly associated with construction of the recommended improvements is unavoidable, but will be short-term. There will be no long-lasting adverse impact on energy. The new pumps at the lift station will be more efficient than the existing pumps. A backup propane generator is proposed for the UV equipment.
10. Noise – Short-term impacts from excessive noise levels may occur during construction activities. The construction period will be limited to normal daytime hours to avoid early morning or late evening construction disturbances. No significant long-term impacts from noise should occur.
11. Sludge Disposal – It is intended that all sludge (biosolids) will be removed from the lagoon cells and land-applied in accordance with Federal 40 CFR 503 sludge disposal regulations in a one-time application. The Part 503 regulations contain specific numerical limits and other requirements for heavy metals, pathogens, and vector attraction. Verification of sludge quantity and quality, in-place sludge nutrient content, identification of a disposal site, and nutrient testing of soils at the application site will be required. The final sludge disposal plan utilizing this information must be submitted to the DEQ for review and concurrence prior to sludge disposal.

The sludge would be removed as a liquid using a dredge to protect the lagoon liner, and transported to a suitable land application site using

tanker trucks. The liquid sludge would be land-applied by either surface injection or applied to the surface and then incorporated by disk. With an estimated 83 dry tons of sludge, the PER estimates that 97 acres of land is required, depending on the crop and soil conditions. To be conservative, 150-acres of available area are required in the PER for planning purposes. The sludge has not yet been tested for metals concentrations. Should any metals concentrations exceed Part 503 requirements, the biosolids would need to be hauled to a Class II landfill, presuming they meet the paint-filter liquids test and other requirements of the Part 258 Landfill Rule.

12. Environmental Justice – Environmental Justice Executive Order 12898: The proposed project will not result in disproportionately high or adverse human health or environmental effects on minority or low-income populations. No disproportionate effects among any portion of the community would be expected.
13. Wild and Scenic River Act – The proposed project will not impact any rivers designated as wild and scenic by Congress or the Secretary of the Interior.
14. Growth – The proposed wastewater improvements are not expected to trigger or encourage additional growth in Harlowton. For the last decade growth has been slightly negative, and for design purposes, zero growth is assumed. The original 1998 WWTF components were designed for a population of 1,372 and a wastewater flow of 215,000 gpd. Although the new UV disinfection system and new lift station pumps are being designed for the projected 2040 average daily flow of 184,000 gpd (based on a population of 984), they will also be able to handle the original, higher WWTF design flow.
15. Cumulative Effects – The proposed wastewater improvements are not expected to result in any cumulative effects. However, should any secondary and/or cumulative impacts from the project occur that are associated with housing, commercial development, solid waste, transportation, utilities, air quality, water utilization, and possible loss of agricultural and rural lands, these impacts will be managed and minimized as much as possible through proper community planning. There are several existing county and state regulations already in place (i.e., zoning regulations, comprehensive planning, subdivision laws, etc.) that control the density and development of property with regards to water supply, sewage disposal, solid waste disposal, transportation, and storm drainage.

B. UNAVOIDABLE ADVERSE IMPACTS

Short-term construction-related impacts (i.e., noise, dust, etc.) will occur, but should be minimized through proper construction management. Energy consumption during construction cannot be avoided.

VI. PUBLIC PARTICIPATION

The City of Harlowton held public meetings for the project on February 13th and April 10th of 2018, to allow for sufficient citizen input. The development of the PER and possible alternatives were discussed at the first meeting, which was attended by eight people. The history, problems, and regulatory issues facing the WWTF were explained. Cost estimates and impacts on sewer user rates were presented, as well as funding options and project schedule. At this meeting, the project engineer suggested that the Growth Policy and Capital Improvements Plan be updated by the City to support grant applications. The engineer also suggested adjusting the sewer rate structure to charge higher fees to non-residential strength customers, which would allow for more equitable sharing of wastewater costs.

Twelve people attended the second meeting in April, which presented an updated version of the PER. The engineer again discussed his concerns about the high-strength wastewater received at the City's lagoon, with the need to identify those users for higher rate assessment or implementation of a pretreatment requirement.

The City also maintains a Facebook page where the public is kept informed of the proposed wastewater improvements and the scheduling of public meetings addressing the proposed project.

VII. AGENCY ACTION, APPLICABLE REGULATIONS AND PERMITTING AUTHORITIES

All proposed improvements will be designed to meet state standards in accordance with Circular DEQ-2, and will be constructed using standard construction methods. Best management practices will be implemented to minimize or eliminate pollutants during construction. No additional permits will be required from the State Revolving Fund (SRF) section of DEQ for this project after the review of the submitted plans and specifications. However, coverage under the storm water general discharge permit and groundwater dewatering discharge permit, if necessary, must be obtained from the DEQ Water Protection Bureau prior to the beginning of construction. A 124 Permit from the Department of Fish, Wildlife and Parks, a 404 Permit from the U.S. Corps of Engineers, and a 318 Authorization from the Department of Environment Quality will be obtained for any work that occurs in a streambed or (jurisdictional) wetlands, should it become necessary.

VIII. RECOMMENDATION FOR FURTHER ENVIRONMENTAL ANALYSIS

EIS More Detailed EA No Further Analysis

Rationale for Recommendation: Through this EA, DEQ has verified that none of the adverse impacts of the proposed Harlowton wastewater improvements project are significant. Therefore, an environmental impact statement is not required. The environmental review was conducted in accordance with the Administrative Rules of Montana (ARM) 17.4.607, 17.4.608, 17.4.609, and 17.4.610. The EA is the appropriate level of analysis because none of the adverse effects of the impacts are significant.

IX. REFERENCE DOCUMENTS

The following documents were utilized in the environmental review of this project and are considered to be part of the project file:

1. City of Harlowton 2018 Preliminary Engineering Report Wastewater System, prepared by Robert Peccia & Associates, April 2018.
2. Montana Pollutant Discharge Elimination System Fact Sheet – City of Harlowton, Department of Environmental Quality, November 2016.

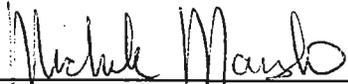
X. AGENCIES CONSULTED

As part of the Preliminary Engineering Report (PER) process, the following agencies were contacted regarding the proposed construction of this project:

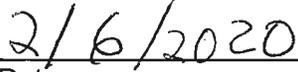
1. The U.S. Fish and Wildlife Service (Service) responded in February 2018 with respect to the proposed project. They determined that based on the confined nature and proposed location of the project in an existing agricultural and municipal setting, they do not anticipate that the proposed project would result in adverse effects to listed, proposed or candidate threatened or endangered species, or listed or proposed critical habitat.
2. The Montana Historical Society's State Historic Preservation Office (SHPO) reviewed the proposed project. They indicated that if there is no disturbance or alteration to structures over fifty years of age, there is low likelihood that cultural properties will be impacted. However, should structures need to be altered or cultural materials be inadvertently discovered during the project, SHPO must be contacted and the site investigated.
3. The U.S. Department of the Army Corps of Engineers (USCOE) stated that work within a water treatment system, as indicated in the preliminary project plan they received, is exempt. If any work is proposed below the ordinary highwater mark of stream channels, lakes, or wetlands adjacent to these waters, then a Section 404 permit would apply and authorization from USCOE would be needed.
4. The Montana Department of Fish, Wildlife and Parks (FWP) stated in February of 2018 that the fisheries and wildlife staff did not have any comments. FWP reserved the right to address any impacts to any stream or its banks or tributaries by any type or form of construction when detailed plans are furnished with an application as required by the Stream Protection Act and the Natural Streambed and Land Preservation Act.
5. The Montana Department of Natural Resources and Conservation (DNRC) Lewistown Regional Office was contacted with respect to potential floodplain impacts from the proposed wastewater improvements project. They indicated that the project may be in a regulated floodplain and noted that the area is proposed to be remapped and should be checked at the time of design and construction.
6. The Natural Resources Conservation Service (NRCS) was contacted in January

of 2020 with respect to the Federal Farmland Protection Policy Act (FPPA) and potential impacts to important farmland. The NRCS responded that the construction of the new UV disinfection building on the southeast corner of the existing lagoon will occur within an area already considered a permanent conversion of agricultural lands. Therefore, the provisions of the FPPA do not apply.

EA Prepared by:



Michele Marsh, P.E.

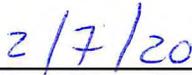


Date

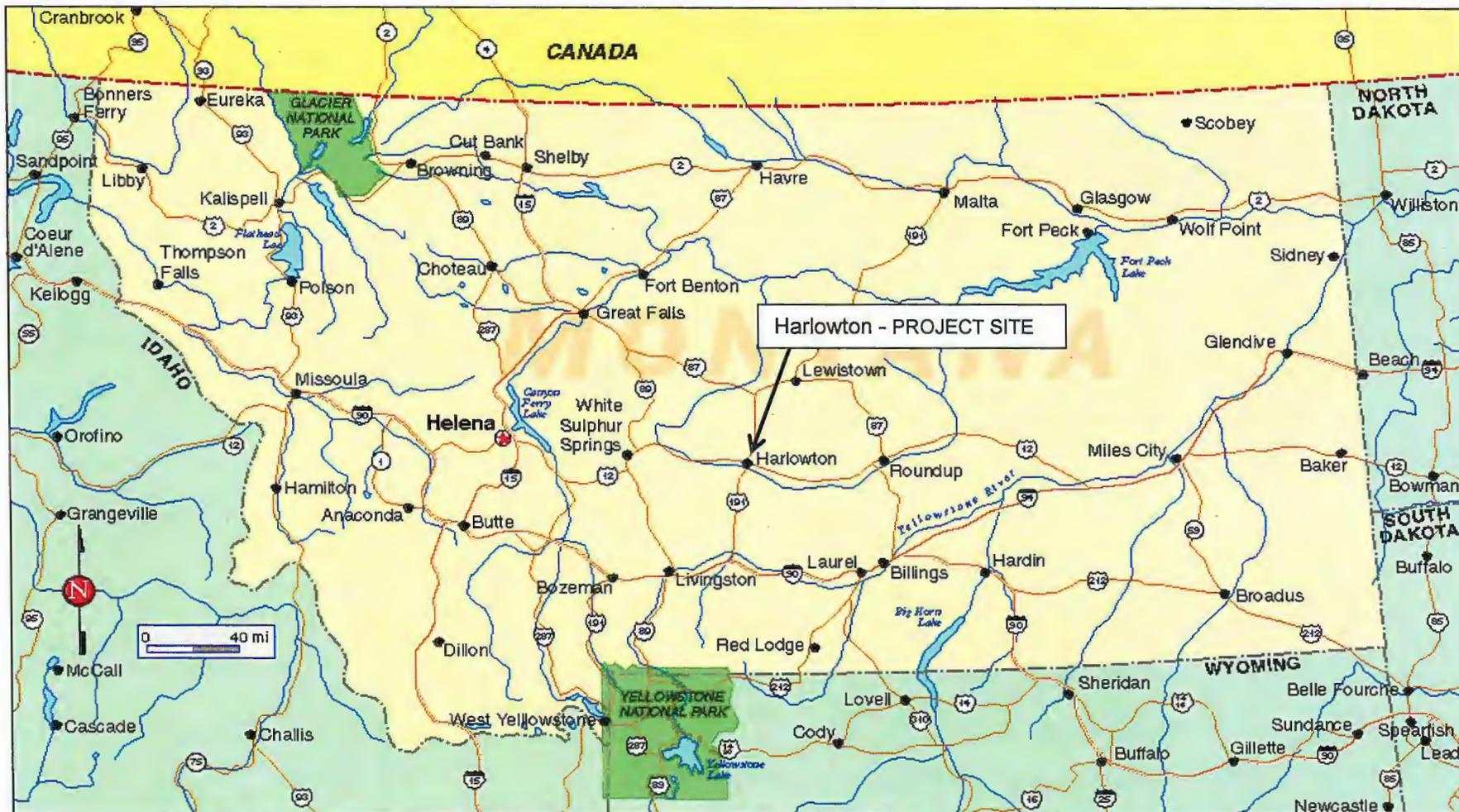
EA Reviewed by:



Mike Abrahamson, P.E.



Date



**FIGURE 1
LOCATION MAP**

Date: 4/1/2
F:\waste\17803 - Harlowton Wastewater\GIS\PlanningArea.mxd

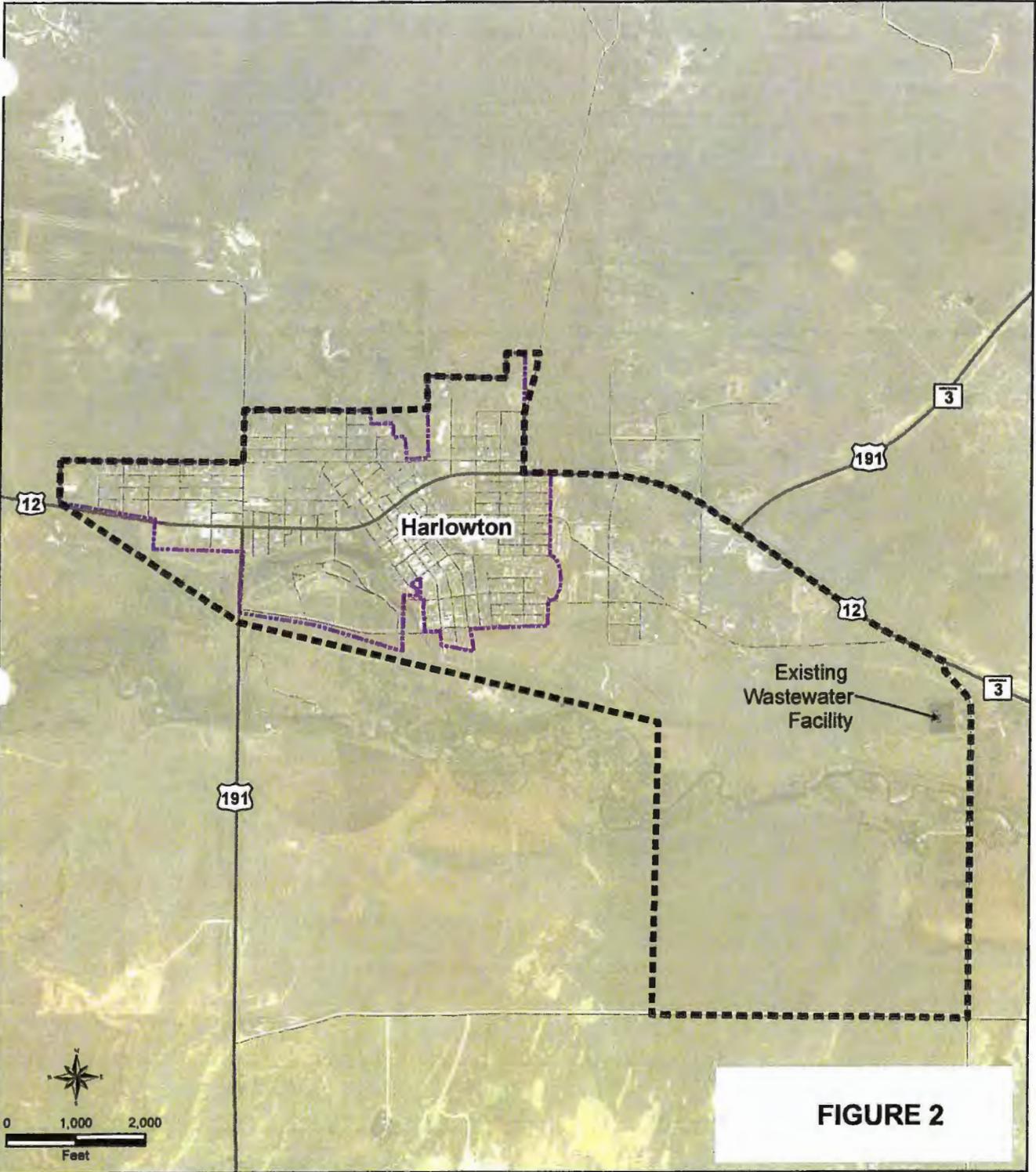


FIGURE 2



Planning Area

-  Planning Area Boundary
-  Harlowton City Boundary



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Preliminary Engineering Report - 2018**

**Figure 1.A.1
Planning Area Map**

\\F:\waste\17903 - Harlowton Wastewater\GIS\FigX_Exist_LiftStation.mxd
Date: 4/4/20

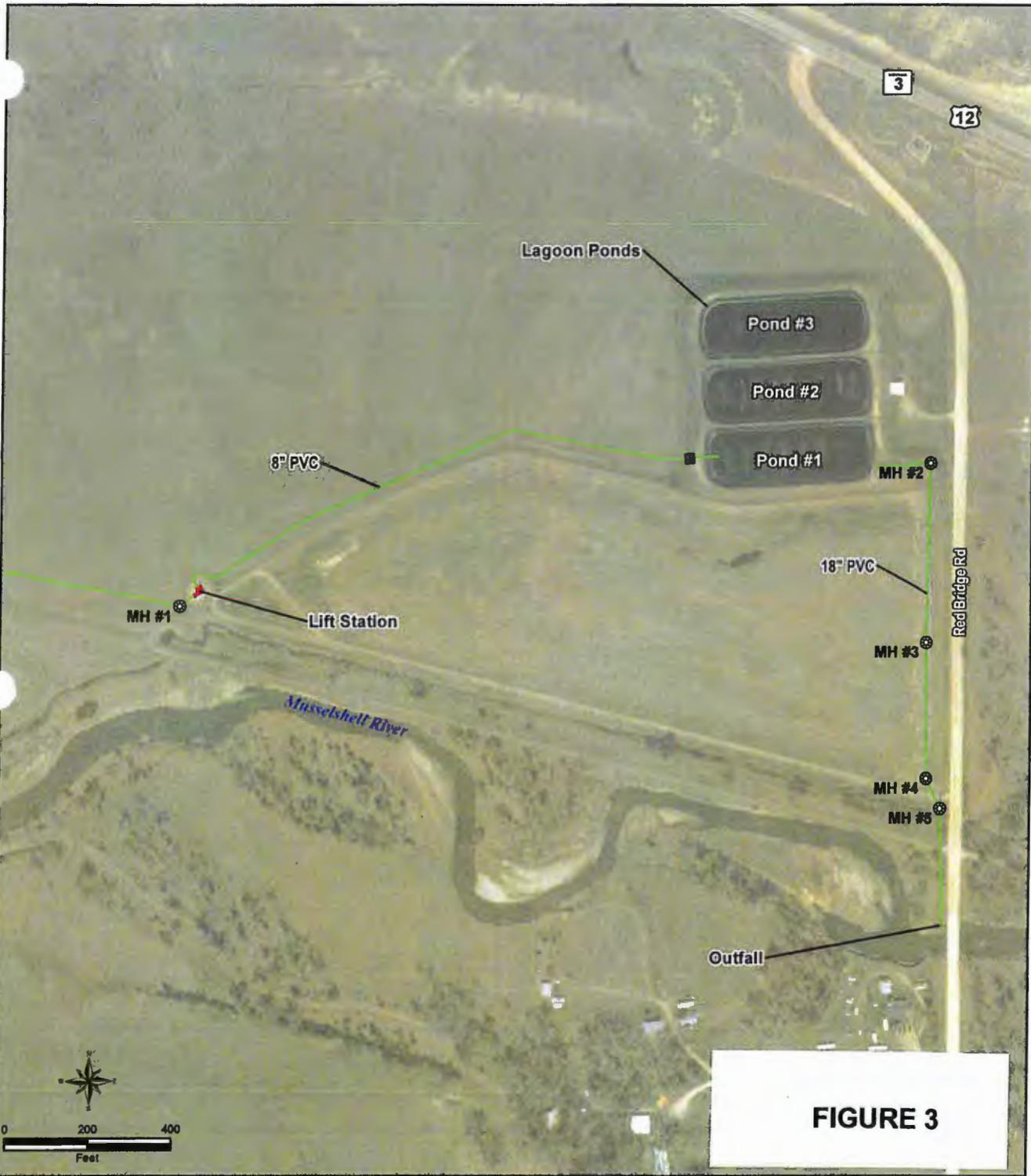


FIGURE 3

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**Figure 2.C.1
Existing Lift Station Location**

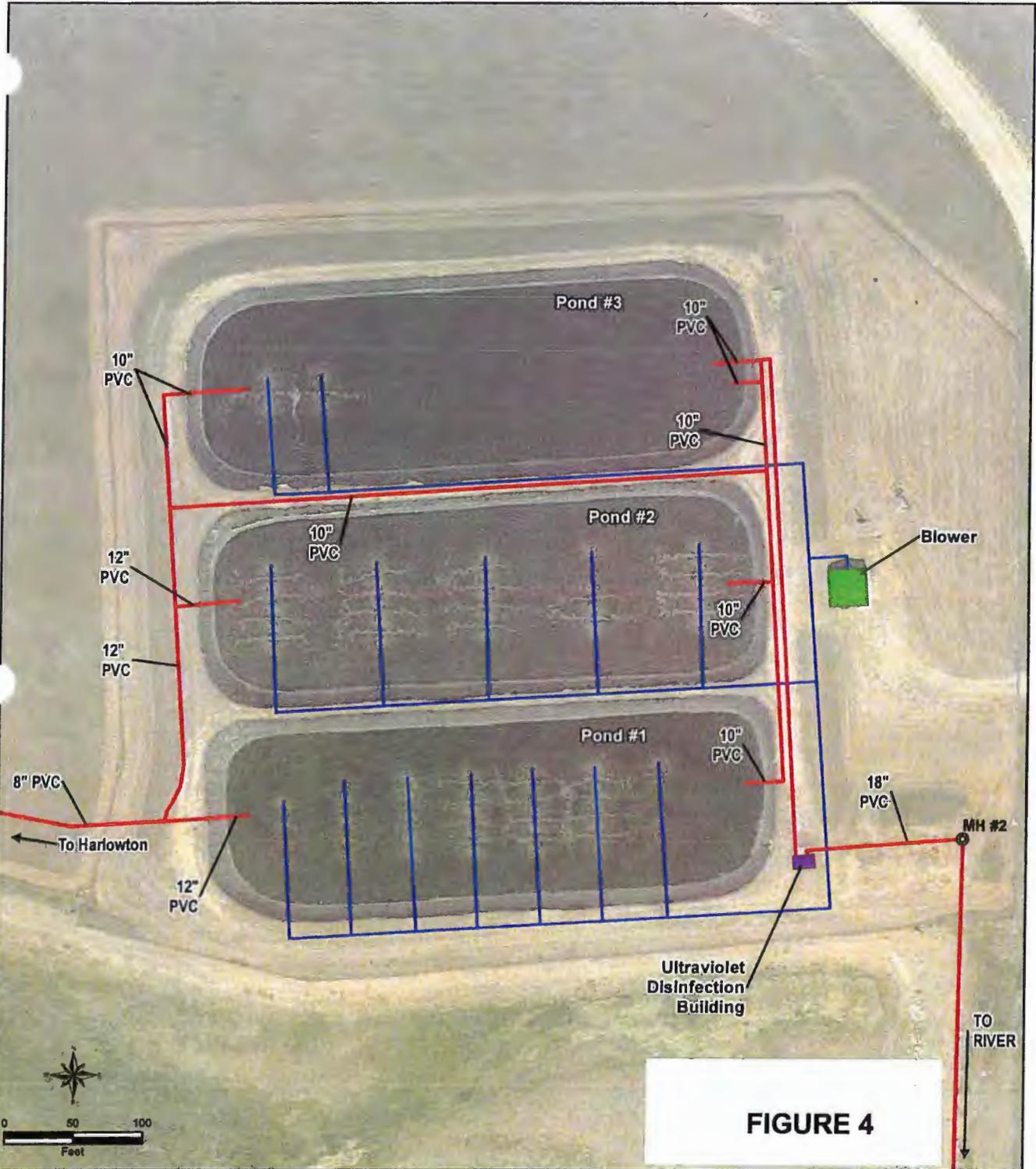
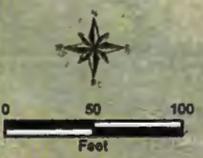


FIGURE 4

**Harlowton Wastewater System
Preliminary Engineering Report - 2018**

**Figure 4.A.2
Disinfection Alternative Two:
UV Disinfection Location**

Date: 4/4/21
 Y: F:\wastwtr\7803 - Harlowton Wastewater\GIS\FigX_UVD\Disinfect.mxd



- Manholes
- Aeration Piping
- Process Piping


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Date: 12/16/2019 Path: F:\waste\11803 - Harlowton Wastewater System Improvements 2019\GIS\SludgeAppSites_Overview.mxd

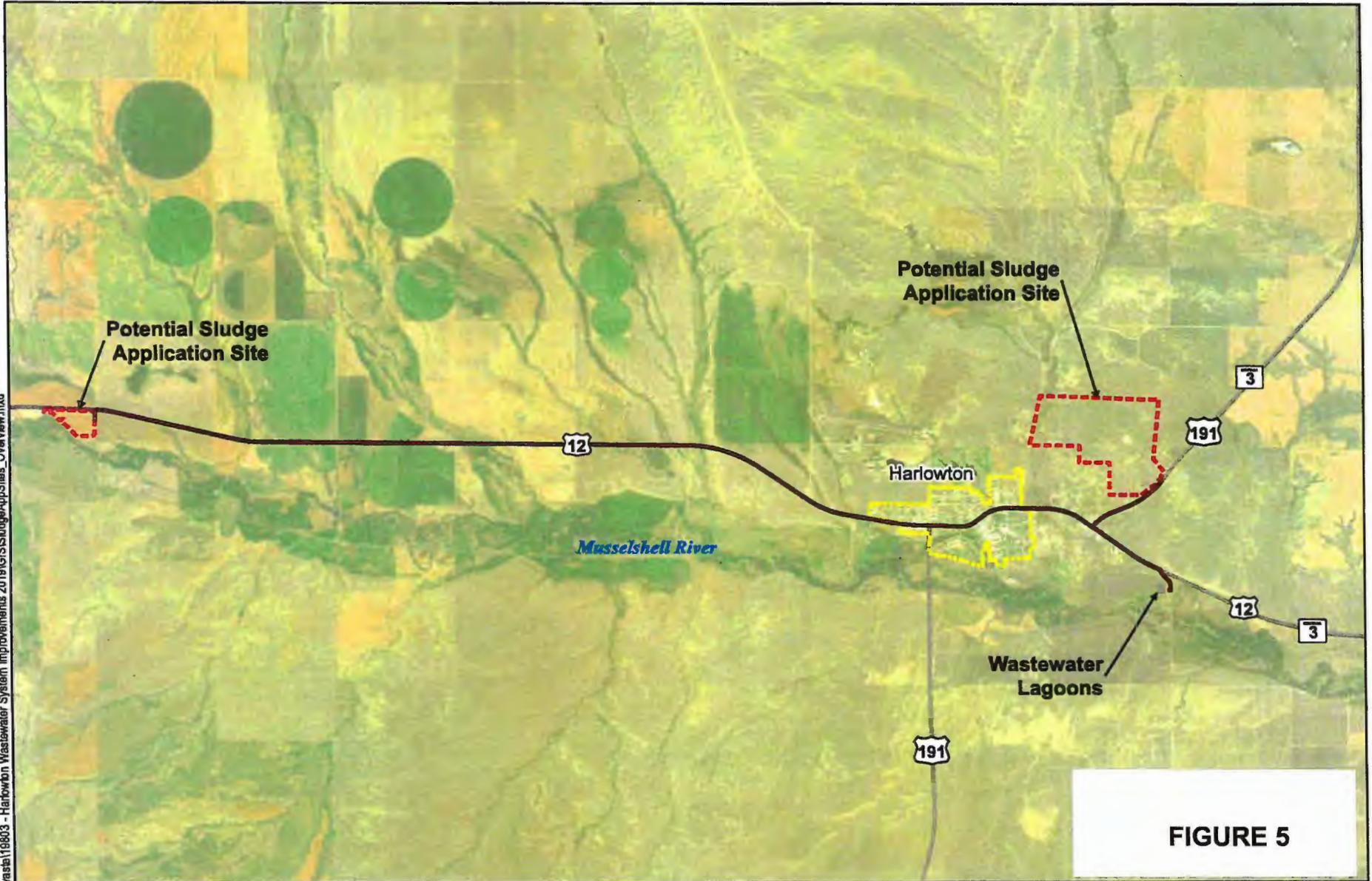
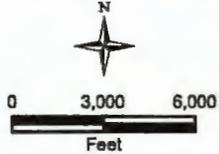


FIGURE 5

Harlowton Wastewater Improvements - 2020

Possible Sludge Land Application Sites



- Haul Roads
- - - Potential Sludge Application Site
- Harlowton City Boundary