Drinking Water State Revolving Fund

Project Planning Document

Ellis & Harmonia Water Project

June 1, 2023

Submitted to:



MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Submitted by:

Bedford Charter Township

Calhoun County Michigan

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1. Introduction

This Project Planning Document (PPD) has been prepared to fulfill the requirements of the Drinking Water State Revolving Fund (DWSRF) program. Bedford Charter Township is applying for funding to build a new water main that will provide safe public drinking water to an area that has PFAS contamination in levels exceeding maximum allowable limits. This PPD is intended to meet the requirements of the following statutes, laws, and rules:

- The federal Safe Drinking Water Act (SDWA), Amendments of 1996, 42. United States Code (U.S.C.) §300f et seq.
- Part 54, Safe Drinking Water Assistance, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), MCL §§324.5401-324.5418
- The Michigan Safe Drinking Water Act, 1976 PA 399, (Act 399), MCL §§325.1001-325.1023
- The Act 399 Administrative Rules, Michigan Administrative Code R325.10101-R325.12820

2. Project Background

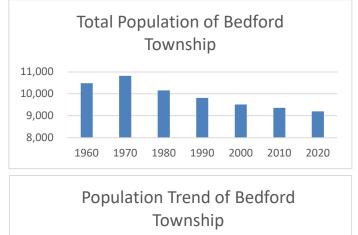
2.1 Delineation of Study Area

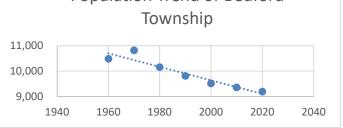
The Service Area is located in Sections 32 and 33 of Bedford Charter Township, and Section 04 of the City of Springfield, Calhoun County, Michigan. It lies between the Battle Creek ANG Base and the Kalamazoo River. This area has a number of private water wells that have tested positive for PFAS contamination. Some of these wells are in exceedance of allowable limits, some others had detectable levels. A map of the study area and appropriate natural features (lakes, rivers, etc.), and other key characteristics is attached in Appendix A.

2.2 Population

Bedford Charter Township had a population of 9,357 in 2010 and 9,198 in 2020.¹ Linear regression analysis of historical population trends from US Census data indicates an average 10-year growth to be -2.10%. Based on that analysis, the 5-, 10- and 20-year projections are shown below. There are no significant seasonal population fluctuations.

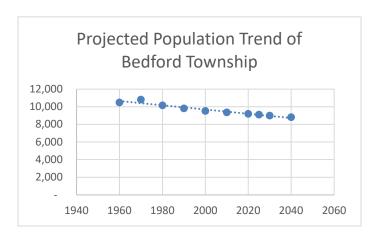
	Total	
Year	Population	Delta %
1960	10,486	
1970	10,817	3.16%
1980	10,157	-6.10%
1990	9,810	-3.42%
2000	9,517	-2.99%
2010	9,357	-1.68%
2020	9,198	-1.70%
Average 10	Year Change	-2.12%





¹ https://www.census.gov/quickfacts/fact/table/bedfordchartertownshipcalhouncountymichigan#

	Projected
Year	Population
2025	9100
2030	9003
2040	8812



2.3 Existing Environment Evaluation

2.3.1 Cultural and historic resources

Cultural and historic resources are not anticipated to be in the project area. SHPO and THPO representatives will be contacted for verification.

2.3.2 Air Quality

Air Quality is not currently affected by the conditions requiring this project. Air quality will be impacted by the construction phase of this project as noted later in this document. Post construction, air quality will return to the pre-construction levels.

2.3.3 Wetlands

An area of the project along Harmonia Road will be adjacent to wetland soils. See maps in Appendix B.

2.3.4 Great Lakes Shorelands, Costal Zones, and Costal

Management Areas

This project will not encroach on any shorelands, zones, or costal management areas of the Great Lakes.

2.3.5 Floodplains

The selected project alternative will cross under Helmer Creek which is in a flood plain.

2.3.6 Natural or Wild and Scenic Rivers

Helmer Creek lies in the path of the selected project alternative. There are no classified "Natural, Wild, or Scenic Rivers" in the project area.

2.3.7 Topography

Project area is relatively flat land with small knolls. The project route will primarily follow existing roadways which are graded to enhance water drainage, and which allows access by existing residential clients.

2.3.8 Geology

The aquifer in the Study Area is the Marshall Formation. The Marshall Aquifer is made up of sandstone, a type of rock that is formed from compressed sand. It is porous which makes it productive, however, because of its porosity it is also vulnerable to contamination and can be over used if too much is pumped with wells.

2.3.9 Soil Types

Soil types in the project excavation area as derived from GIS resources consist of:

Houghton Muck - undrained

Coloma Sandy Loam

Oshtemo Sandy Loam

See Map in Appendix B.

2.3.10 Agricultural Resources

There are no agricultural resources that will be impacted by the alternative.

2.3.11 Fauna and Flora

A rare species review will be initiated with Michigan Natural Features Inventory (MNFI) for the project area. Additionally, if required, a section 7 consultation will be conducted with USFWS.

2.4 Existing System

There are no existing facilities in the Service Area. Water treatment and supply is done by the City of Battle Creek. The EGLE map showing existing private water withdrawal well locations is in Appendix C.

2.4.1 Condition of source facilities

There are no existing facilities in the service area.

2.4.2 Method of water treatment

There are no existing facilities in the service area.

2.4.3 The condition, capacity, and reliability of storage tanks and pump stations

There are no existing tanks or pump stations in the service area.

2.4.4 The condition of service lines

There are no water distribution mains or service lines in the Service Area.

2.4.5 Existing Transmission/Distribution Mains

The new water main in this proposed project will connect to on the north end is a newly placed 8" watermain connected between the Battle Creek WWTP, and Jackson Street W. It will connect to an existing 12" main located approximately 1700 feet east of the intersection of Ellis and Harmonia Roads.

2.4.6 The Method of Residuals Handling and Disposal

Not Applicable.

2.4.7 The Condition of Water Meters

There are no water distribution mains or water meters in the Service Area.

2.4.8 Operation and Maintenance

There are no existing water distribution mains or service lines in the Service Area.

2.4.9 The Design Capacity of The Waterworks System and The Existing Uses of Available Capacity

There are no existing water distribution mains or service lines in the Service Area. The City of Battle Creek will be consulted to confirm capacity capability.

2.4.10 Evaluation of the System's Climate Resiliency

There are no water distribution mains or service lines in the Service Area. Southwestern Michigan has extreme climate during the winter. Water mains placed in the proposed project will be placed to a depth below the surface to protect them from freezing, flooding, wind storms, and vandalism.

2.5 Need for the project

2.5.1 Compliance with the Drinking Water Standards Defined in The Administrative Rules for Act 399.

The groundwater in the Service Area is contaminated with PFAS beyond safe levels and is not in compliance with the cited standards. MDHHS and EGLE well sampling maps and PFAS test results are in Appendix E. The contaminated wells are 8,000 to 9,000 feet from the Battle Creek ANG Base and the Battle Creek Executive Airport. These are believed to be the point sources of the PFAS contamination. Please refer to Appendix E for the locations of wells that have been tested.

2.5.2 Orders or Enforcement Actions

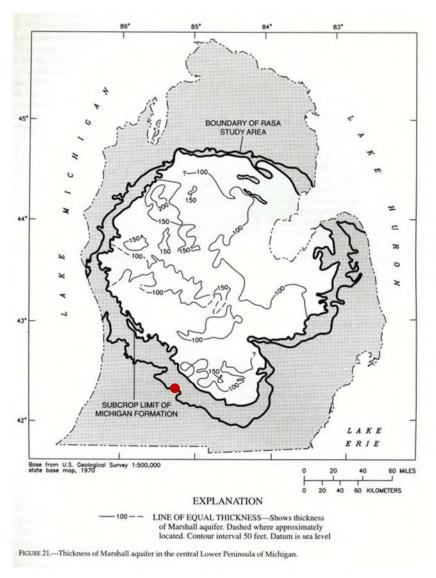
Not applicable.

2.5.3 Drinking water quality problems

There are no issues currently with the water supply from the City of Battle Creek. The City's Water Quality Report in in Appendix D. MDHHS and EGLE Well Sampling Maps and PFAS test results are in Appendix E.

Groundwater PFAS contamination is the primary concern and the reason for this proposed project. The contaminated wells are from 8,000 to 9,000 feet horizontally from the Battle Creek ANG Base and the Battle Creek Executive Airport. These are believed to be the point sources of the PFAS contamination. Maps from MDHHS and EGLE indicating the locations of wells tested for PFAS contamination are in Appendix E.

The aquifer in the Study Area is the Marshall Formation. The Marshall Aquifer is made up of sandstone, a type of rock that is formed from compressed sand. It is porous which makes it productive, however, because of its porosity it is also fairly vulnerable to contamination and can be over used if too much is pumped with wells. See Fig 3-4 below.



 $^{^2\} https://project.geo.msu.edu/geogmich/groundwater.html$

Figure 3.4 Michigan Aquifers 1



2.6 Projected Future Needs

This project will complete the immediate needs of the area served. Any new REUs in the area will tie into the new system.

² https://project.geo.msu.edu/geogmich/groundwater.html

3. New Water Supply Well Procedures

3.1 Well Design

No new wells are planned for this project.

4. Analysis of Alternatives.

Table 3: Analysis of Alternatives

The objective for all options is to provide safe drinking water to the service area.

The drinking water standard(s) related to all alternatives is PA 399 Safe Water Act of 1976

All alternatives tie in to existing water main at River Rd.

Alternative and	Construction	Technical	Rational for
Alignment	Method	Constraints	Rejection
Do Nothing (no action)			This alternative does
			not meet the objective
<u>Alternative – West</u>	New water main and	HAB could be difficult	This alternative would
Route: Tie in at River	services placed using	depending on soil types.	tie into a high-pressure
Rd. and head south	open cut excavation and	Working within a	zone requiring a
3,200-ft cross-country	horizontal auger bore	railroad ROW will	pressure reducing valve,
and along Ellis Rd. to	(HAB) under the	require an additional	which is not desirable
Harmonia Rd. then West	railroad ROW.	permit known for taking	by the operating /
2,200-ft along Harmonia		significant time to	maintaining authority.
Rd to Evergreen Rd. and		obtain. Easements from	It incurs extensive cost
south 1150 ft. to existing		private property owners	due to the length of the
Springfield 10" water		would be necessary.	run.
main.			

<u>Alternative – East</u>	New water main and	HAB could be difficult	This is the preferred
Route: Tie in at River	services placed using	depending on soil types.	project alternative.
Road and head south	open cut excavation and	Working within a	
3200 ft. cross-country	horizontal auger bore	railroad ROW will	
and along Ellis Rd. to	(HAB) under the	require an additional	
Harmonia Rd. then East	railroad ROW. A	permit known for taking	
1700 ft to existing	directional drill will be	significant time to	
Springfield 12" water	required to pass under	obtain. Easements from	
main.	Helmer Creek.	private property owners	
		would be necessary.	

4.1 NARRATIVE OF ALTERNATIVES

The route of the water main from River Road south will cross private property. An easement will be required to complete the route south. Additionally, this alternative requires a HAB under a railroad ROW which will require special permitting from the ROW owner. Obtaining this permit may affect the actual start date for the project. The map in Appendix F indicates the service area and proposed routes.

4.1.1 No-Action/Do Nothing Alternative

The No-Action alternative is not a viable option for the community. The groundwater is contaminated by PFAS. The No-Action Alternative would not meet water quality requirements.

4.1.2 West Alternative

The West Alternative ties into a new water main that is being installed between the Battle Creek WWTP and Jackson Road. From the tie-point, it runs south for 3,200-ft south in private property then west 2,200-ft along Harmonia Rd., then south 1150 ft. along Evergreen Rd, to an existing 10" high pressure water main requiring a pressure reducing valve. Easements that would have to be acquired for this route. This route also requires a horizontal auger bore under the railroad track and permits from the railroad to enter upon railroad property and to place facilities underneath the railroad. This alternative would serve additional 16 potential customers.

4.1.3 East Alternative

The East Alternative ties into a new water main that is being installed between the Battle Creek WWTP and Jackson Road. From the tie-point, it runs south for 3,200-ft south in private property then east 1700 ft along Harmonia Rd to tie in on an existing 12" main. Easements that would have to be acquired for this route. This route also requires a horizontal auger bore under the railroad track and permits from the railroad to enter upon railroad property and to place facilities underneath the railroad. Additionally, a directional drill will be required to pass under Helmer Creek. This alternative would serve 16 potential customers.

Other alternatives were not reviewed due to length of pipe required to create a looped installation.

4.2 Optimum Performance of Existing System

There are no public facilities that can be optimized.

4.3 Regionalization

The proposed project is in fact a regional alternative. The City of Battle Creek treats and supplies water to Bedford Charter Township and to the townships of Emmett, Pennfield, and to the City of Springfield. This project will expand the regionalization and service area for the City of Battle Creek. An existing intergovernmental agreement for regional water is in place. Coordination with, and approvals from the cities of Battle Creek and Springfield will be required.

4.4 Monetary Evaluation

Since both Principal Alternatives would provide new public water mains to the service area, the monetary comparison is based on initial project costs only. The discount rate, salvage value, escalation and interest during construction will be similar. The following table compares the alternatives:

Principal	Project Cost	Potential New	Expandability
Alternative		Users	
West Alternative	\$4,208,000	16	
East Alternative	\$3,570,000	16	

4.4.1 Sunk Costs

There are no known sunk costs in respect to this project.

4.4.2 Total Present Worth

West Alternative Total Present Worth = \$6,739,500.00 Estimated.

East Alternative Total Present Worth = \$5,037,500.00 Estimated.

4.4.3 Salvage Value

The useful life of the new water main is 50 years. The monetary evaluation is for 20 years. The salvage value is (50-20)/50 x Initial Cost or 60% of Initial Costs.

West Alternative = \$1,438,000.00.

East Alternative = \$1,340,000.00.

4.4.4 Escalation

There are no escalation costs for this project.

4.4.5 Interest During Construction

Interest during construction is not anticipated to be significant.

4.4.6 User Costs

User costs will include a one-time \$1000.00 fee for the meter and installation. There will be approximately \$30.00 per month per REU for water usage. These costs will be offset by eliminating the cost of purchasing filter units and/or potable water for consumption and the operation and maintenance of private wells.

4.4.7 Delivery Method

Design-Bid-Build Delivery Method will be used for this project.

4.5 Environmental Evaluation

4.5.1 Cultural Resources

The Township will hire a consultant to perform a section 106 review for this project. THPO representatives will be contacted in regards to their concerns in the project area. No archeological, historical, cultural, or tribal impacts are anticipated for the project.

4.5.2 The Natural Environment

Besides the temperature during winter months in Michigan, no adverse climate impacts are anticipated for either alternative. Air quality will be directly impacted during construction for both alternatives. This will be caused by dust from construction operations and exhaust from construction equipment and vehicles. Dust control mitigation will be included in the construction contract documents. This impact is temporary, limited to the time of construction operations.

No significant wetland impacts are anticipated for either alternative. There are no costal zones involved with any proposed work. EGLE does not list any areas of concern for environmental contamination. There are no agricultural resources that will be impacted by either alternative.

No known plant or animal community environmentally sensitive habitats will be impacted longterm. A threatened and endangered species review will likely be required by EGLE as part of the permitting process.

4.6 Technical Considerations

Both Principal Alternatives will comply with Act 399 and be designed to meet the standard recommended guidelines established in the "Recommended Standards for Waterworks" as published by the Great Lakes and Upper Mississippi Board of State Sanitary Engineers. The scale of this project is not large enough to adversely impact the capacity of the existing system.

4.7 New / Increased Water Withdrawals

There are no new surface or groundwater withdrawals being proposed.

5. Selected Alternative

The East Alternative was selected for the following reasons:

- It provides safe drinking water to 16 REUs in an area known to be contaminated by PFAS.
- Battle Creek City forces will operate and maintain the proposed water mains.
- The West alternative is considerably longer resulting in increased costs.
- The West alternative would require a pressure reducing valve.

5.1 Design Parameters

The project plan design will be modeled to confirm system capacity. Determination of that responsibility is to be decided amongst the City of Battle Creek, the City of Springfield, and CEI.

5.2 Useful Life

Water mains have a life expectancy of 50 years.

5.3 Water and Energy Efficiency

As this projects ties into an existing system, no measurable gains or losses are expected.

5.4 Schedule for Design and Construction

Milestone (month/year)	Dec 2023	Jan 2024	Feb	Mar 2024	Apr 2024	May 2024	Jun 2024	Jul 2024	Aug 2024	Sep 2024	Oct 2024
Design											
Bidding											
Permitting											
Financing											
Construction Start											

Highlighted columns mean work on that task will be taking place.

5.5 Cost Summary (Estimate)

Item	Cost Opinion
Construction Costs	\$2,049,000
Soft Costs	\$960,000
(Engineering, Financing, Legal and	
Administration)	
Contingencies	\$410,000
Financial Costs	\$151,000
Total Project Cost Opinion	\$3.57 Million

5.6 Implementability

- Bedford Charter Township has the legal authority to implement the proposed project.
- Bedford Charter Township, with assistance from their Engineering Consultant, will have the managerial capability to implement the proposed project.
- Bedford Charter Township is a small community that lacks the capacity to incur debt sufficient to finance this project.
- Per an existing intergovernmental agreement, operation and maintenance on the water main in the proposed project will be done by the City of Battle Creek.

Environmental and Public Health Impacts

6.1 Construction impacts

- Air quality will be directly impacted during construction. This will be caused by dust from
 construction operations and exhaust from construction equipment and vehicles. Dust
 control mitigation will be included in the construction contract documents. This impact is
 temporary, limited to the time of construction operations.
- Post construction air quality will be indirectly impacted beneficially. Green areas will be re-seeded and roads will be re-surfaced reducing dust.
- Soil erosion and sedimentation mitigation controls will be included in the construction contract documents.
- After construction operations are completed and as customers connect to the municipal
 water supply, water quality will be directly improved as water from wells contaminated by
 PFAS will no longer go into on-site septic systems and leach into the ground water,
 stopping that cycle.

6.2 Operational impacts

River Road, Ellis Road, and Harmonia Road will be directly impacted by construction. The route would impact mostly front lawns of residential and commercial properties, including drive approaches. Tree removal will be minimized to the greatest extent possible.

There are no known hazardous or contaminated materials in the proposed construction area. PFAS is known to be in the groundwater. The pipe is anticipated to remain above the groundwater.

6.3 Social impacts

Construction will temporarily impact traffic movement for the residential and commercial users along the route of the new water main. Long-term negative social economic impacts are not anticipated. The project help maintain and encourage residential and commercial development in the area. It will likely mitigate socioeconomic degradation by keeping property values from decreasing as a result of PFAS in the drinking water.

6.4 Indirect impacts

The purpose of this project is to provide safe drinking water to properties that are already developed. Significant growth as a result of public water supply is not anticipated. Long narrow parcels are typical within the service area, and most of them are already developed. Most of the larger parcels within the service area have existing commercial operations.

6.4.1 Changes to land use

Changes to land use are not anticipated as stated above.

6.4.2 Changes in Air or Water Quality

Changes in air or water quality are not anticipated as stated above.

6.4.3 Changes to Natural Areas and Sensitive Species or

Ecosystems

Changes to natural areas and sensitive species or ecosystems are not anticipated as stated above.

6.4.4 Changes to Aesthetic Aspects of The Community

Changes to aesthetic aspects of the community are not anticipated as stated above.

6.4.5 Changes to Resource Consumption

Changes to resource consumption is not anticipated as stated above.

6.5 Cumulative impacts

A threatened and endangered species review will likely be required by EGLE as part of the permitting process.

7. Mitigation Measures

The adverse impacts that cannot be avoided are, tree removal, and traffic control. The pipe alignment will be designed so that one way traffic can pass during construction. Half of the existing road pavement will be removed so the pipe can be located to minimize the need to remove trees. An EGLE permit to regulate environmental impacts will be part of the project.

8. Public Participation

8.1 Planning Meetings

The Township will hold and attend several meetings involving the City of Battle Creek, the City of Springfield, and the Calhoun County Environmental Health department.

8.2 Public Meeting

A formal public hearing will be held at the Bedford Township Hall to receive public input on the Project Planning Document at a date / time to be determined. The meeting will address at a minimum:

- A description of the water quality problems.
- A description of the recommended alternative including costs and a cost breakdown.
- A discussion of the project financing.
- A discussion of the impacts on social and environmental impacts associated with the project.

8.3 Public Hearing Advertisement

A copy of the public hearing advertisement and an affidavit confirming publication will be included in Appendix G.

8.4 Public Meeting Summary

A copy of the public meeting notes can be found in Appendix H.

8.4.1 Meeting Agenda

A formal public hearing will be held at the Bedford Township Hall to receive public input on the Project Planning Document at a date / time to be determined. The meeting will address at a minimum:

- A description of the water quality problems.
- A description of the recommended alternative including costs and a cost breakdown.
- A discussion of the project financing.
- A discussion of the impacts on social and environmental impacts associated with the project.

8.4.2 List of Attendees

A typed list of public hearing attendees will be included in Appendix I.

8.4.3 Public Concerns

A discussion of the project concerns and comments received during meeting and the public comment period will be included in Appendix J.

8.4.4 Social and Environmental Impacts

A description of the anticipated social and environmental impacts and the measures taken to mitigate will be included in public hearing presentation (see Appendix K).

8.5 Adoption of the Project Planning Document

The Bedford Charter Township Board of Trustees will approve a resolution adopting the final Project Plan. (see Appendix L.)

APPENDIX A

Map of the Study Area

APPENDIX B

Wetlands & Soils Maps

APPENDIX C

Map of Water Withdrawal Points

APPENDIX D

City of Battle Creek Water Quality Report

APPENDIX E

MDHHS and EGLE Well Sampling Maps and Test Results

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Map of Alternatives

APPENDIX G

Public Hearing Advertisement and Affidavit of Publication

APPENDIX H

Public Hearing Notes and Copy of Presentation

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Public Hearing Attendance Sheet

APPENDIX J

Written Comments Received During Public Comment Period and Responses

APPENDIX K

Social and Environmental Impacts

APPENDIX L

Township Resolution Adopting Project Planning Document

APPENDIX A Map of the Study Area



Civil Engineers Inc. 14250 Beadle Lk Rd Suite 150 Battle Creek, MI 49014-7202 www.cei-bc.com 269-962-5127

JOB NO: **221001**

drawn by: **KEH** REVIEWED BY: RAR

OWNER



ELLIS AND HARIM

Michigan Department or Health's Human Services

Battle Creek ANG Base Drinking water well results for 2020 PFAS resampling.

2020 Resampling Status

Exceedence First-time Sample

Detection First-time Sample

Detection No Filter Provides

Not Detected First-time Sample

STUDY AREA

■■■ WEST ALTERNATIVE

GRAPHIC SCALE

(IN FEET) 1 inch = 800 ft.

EAST ALTERNATIVE

EXISTING WATER WELLS

EXISTING WATER MAINS

Exceedence

***** Exceedence

Not Detected

O Detection

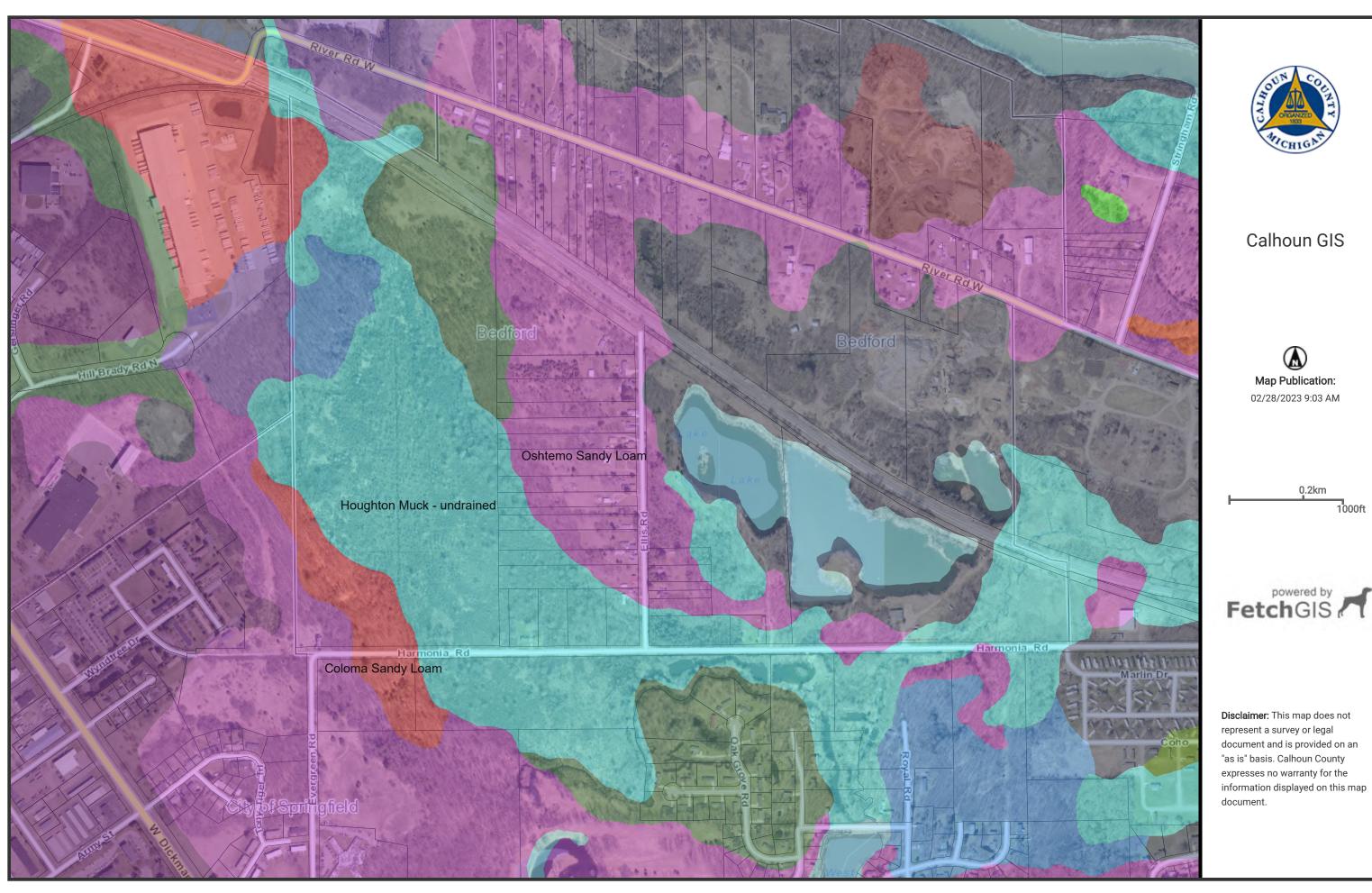
— Draft — 1/21/2021

Know What's Below, Call MISS DIG.

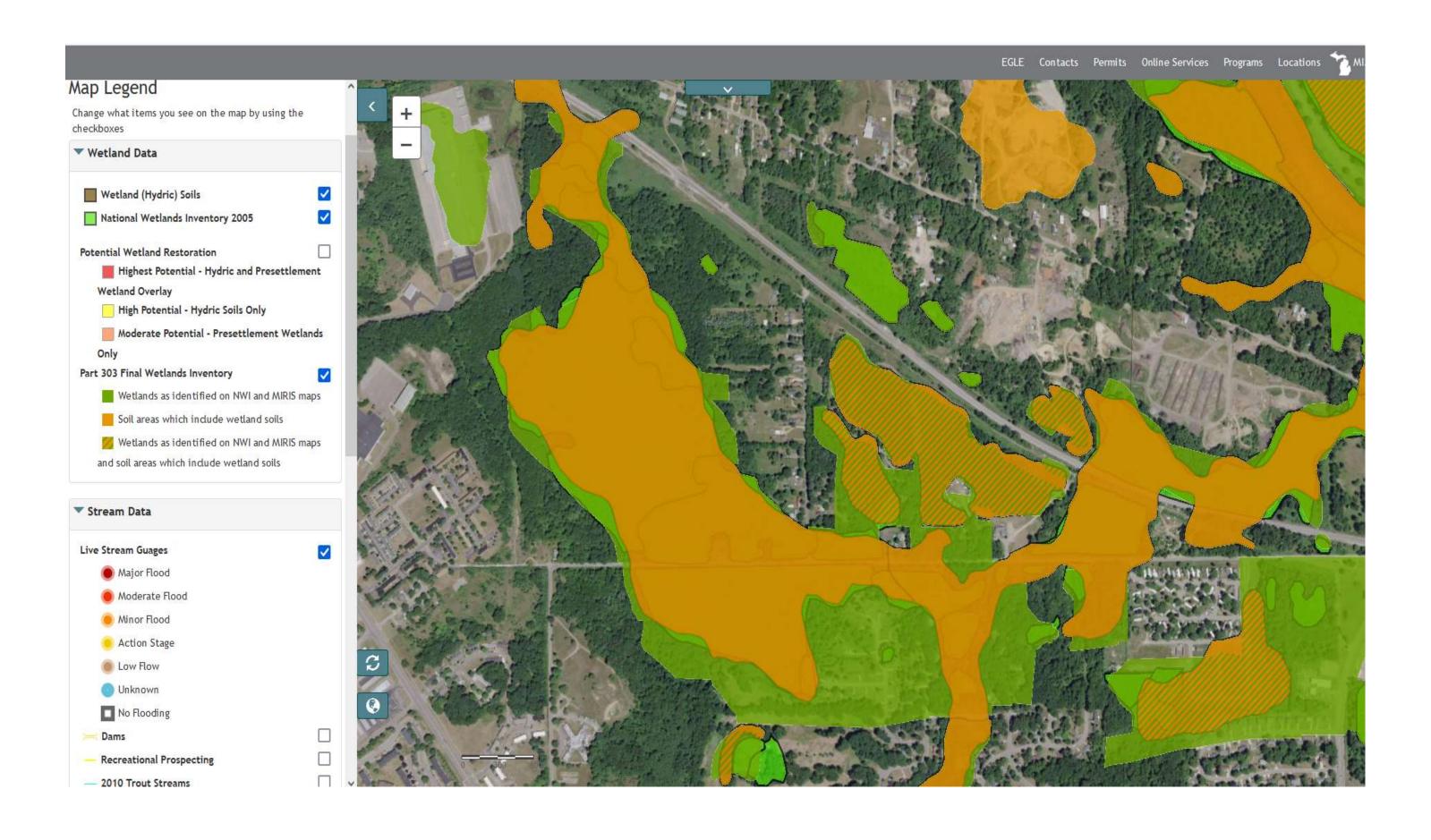
REVISIONS

SHEET Appendix A

APPENDIX B Wetlands and Soils Maps



2/28/2023, 9:03 AM EST



APPENDIX C Map of Water Withdrawal Points



Civil Engineers Inc. 14250 Beadle Lk Rd Suite 150 Battle Creek, MI 49014-7202 www.cei-bc.com 269-962-5127

JOB NO: **221001**

drawn by: *KEH* reviewed by: RAR

OWNER

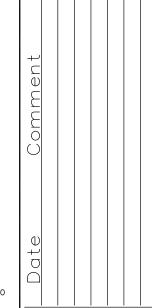


WATER WITHDRAWL POINTS

ELLIS AND HARMONIA WATER CONCEP.

Know What's Below, Call MISS DIG.

REVISIONS



EXISTING WATER WELLS

EXISTING WATER MAINS

STUDY AREA

■■■ WEST ALTERNATIVE

GRAPHIC SCALE

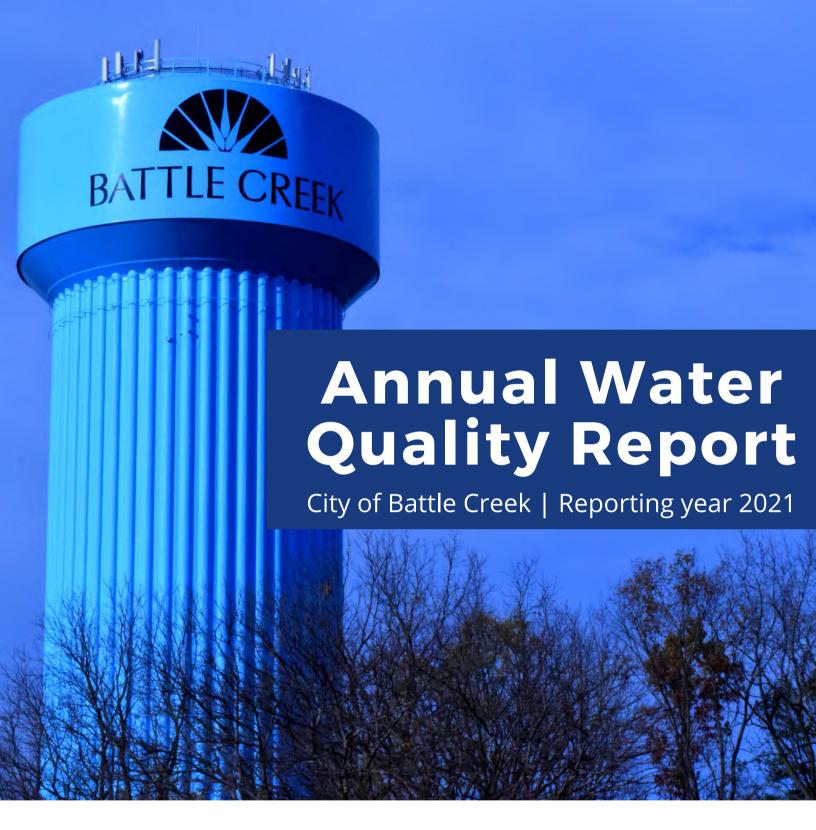
(IN FEET) 1 inch = 800 ft.

EAST ALTERNATIVE

SHEET Appendix C

APPENDIX D

City of Battle Creek Water Quality Report



PREPARED AND PRESENTED BY

City of Battle Creek PWS ID# 0000450



City of Battle Creek water

Top service continues



For help in another language, please call the Department of Public Works at 269-966-3343. The city will provide interpretation at no cost to the caller.

Por consultas o asistencia en español, por favor comuníquese con el Departamento de Obras Públicas al (269) 966-3343. Se le conseguirá un intérprete de forma gratuita.

အကယ်၍ အရြားဘာသာစကားဖြင့် အကူအညီလိုပါက Department of Public Works ဖုန်း (၂၆၉) ၉၆၆ ၃၃၄၃ သို့ ခေါ် ဆိုနိုင်ပါသည်။ စကားပြန်ကို အခမဲ့စီစဉ်ပေးပါမည်။

The City of Battle Creek is pleased to present our annual water quality report, with testing completed between Jan. 1 and Dec. 31, 2021.

We continue to dedicate ourselves to producing drinking water that meets all state and federal standards. We always look for, and use, new methods to deliver the best quality drinking water to you, our customers.

In 2021 we worked on the following projects, helping us meet the needs of our water customers:

- We continued planning and preparation to install two 36-inch water meters at our Verona Pumping Station. They will more accurately measure the water we produce, improve data on water loss, and help us comply with regulations.
- We improved the two water tanks on Eldred Street to better protect the drinking water, give better access control, and improve safety features on the five million and 3.8 million gallon tanks. We also painted and updated corrosion control on the 3.8 million gallon tank.
- We replaced 227 lead water service lines, toward the goal of removing all of those in our system. We coordinate replacements with our street improvement projects.

For more information about this report, or for other questions about your drinking water, within Battle Creek city limits, call Utility Administrator Perry Hart, 269-966-3481.

If you live in the City of Springfield, call 269-965-2354.

If you live in Emmett Township, call 269-968-0241.

Sign up for Water Information System text and/or email notifications at battlecreekmi.gov/notifyme.

Have a water concern after hours, on weekends, or holidays? Call 269-966-3493.

The City Commission invites neighbors to give public comment during regular meetings, typically at 7 p.m. the first and third Tuesdays of each month at City Hall, 10 N. Division St. For agendas and more information, visit battlecreekmi.gov or call 269-966-3311.

Meetings stream live on the city's YouTube channel, on AccessVision cable, and under Live 17 at accessvision.tv.

Perry Hart City Utility Administrator

IMPORTANT HEALTH INFORMATION

PAGE

Some people may be more vulnerable to contaminants in drinking water than the general population.

Immunocompromised people, such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. Environmental Protection Agency and Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, and other microbial contaminants, are available from the **Safe Drinking Water Hotline** at 800-426-4791 or water.epa.gov/drink/hotline.

Infants and children who drink water containing lead could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities.

Adults who drink this water over many years could develop kidney problems or high blood pressure.

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level, over a relatively short amount of time, could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level, over many years, could suffer liver or kidney damage.

People with Wilson's Disease should consult their personal doctor.

Treating our water

The treatment process of our drinking water has a series of steps at our Verona facility on Brigden Drive.

First, we draw water from the groundwater aquifer, and send it to our Radon, Iron, and Manganese removal plant (we call this the RIM Plant). Once there, we add air through an aeration process that removes radon and oxidizes iron and manganese. These two processes help remove iron and manganese later in the treatment process. Aeration (adding air to the water) also makes the iron and manganese form larger particles, which are easier to remove.

Next, we filter the water to remove the iron and manganese through dual-media, rapid sand filters. After filtration, we add a small amount of phosphate product, to keep the water from corroding our system's pipes and plumbing, which benefits lead and copper control.

Next, we send the water to an underground reservoir. Finally, we add low doses of fluoride (for dental health) and chlorine (to disinfect), and we pump the water to our water towers, and into your homes and businesses.

Meet the team

Meet Kim Walden and Tara Reniger! You are likely to speak to them when you call the water team at 269-966-3506 with your needs and questions. They can take your call 7:30 a.m.-4 p.m. Monday through Friday.



Where does my water come from?

The City of Battle Creek uses groundwater from the Marshall Sandstone Aquifer, drawn from the Verona Well Field in the northeast section of the city. This is our sole source of drinking water.

We constructed wells in the sandstone formation to collect the water stored there.



What is groundwater?

Groundwater is water beneath the surface of the earth that fills openings, known as pore spaces, in sand, gravel, or fractured rock. Groundwater begins as precipitation from snow or rain, which passes through the soil and accumulates in the pore spaces.

What is an aquifer?

When enough water accumulates to supply a well, it is considered an aquifer. The City of Battle Creek gets its water from a bedrock aquifer. We pump the water from 22 wells, with depths ranging from 100-150 feet.

A well house in the Verona Well Field, on the site of our Verona water production facility, on Brigden Drive in Battle Creek.

Substances that could be in the water

To make sure tap water is safe to drink, the U.S. Environmental Protection Agency prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. One can reasonably expect drinking water, including bottled water, to contain at least small amounts of contaminants. The presence of these contaminants does not necessarily indicate the water poses a health risk.

The sources of drinking water - both tap and bottled - include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land, or through the ground, it dissolves naturally occurring minerals - in some cases, radioactive material - and substances from animals, or human activity.

Substances that may be in source water include: **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment

plants, septic systems, agricultural livestock operations, or wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally occurring, or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides/herbicides, which may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic compounds, which are byproducts of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive contaminants, which can be naturally occurring, or may be the result of oil and gas production, and mining activities.

For more information about contaminants, and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline: 800-426-4791.

Check out our historic display valves

Sometimes it is hard to imagine what our water infrastructure looks like, because the maze of pipes, valves, service lines, and fire hydrants exist mostly underground. But after a 2018 project to improve the water transmission mains at our Verona Pumping Station, we have two huge water valves on display for you to see and appreciate with us.

One sits at our Department of Public Works, 150 S. Kendall St. It is a 30-inch Eddy valve with a casting date of 1957. The Eddy Valve Co. was in Waterford, New York.

A smaller valve on the left side of the main valve casing is a bypass valve that allows pressure to equalize on both sides. Without this, the pressure on one side of the closed valve could be so great that it is difficult to open the valve, and can cause damage to it.

A large gear box on top of the valve made it possible to operate the valve by hand. Opening or closing this valve would take more than 150 turns of the operating nut.

The second valve sits at the Verona Pumping Station, 250 Brigden Drive. This one is a 30-inch Darling valve, also cast in 1957. The Darling Valve Co. was in Williamsport, Pennsylvania.

We could operate this valve mechanically with a horizontal or vertical valve wrench. It was installed in a vault, we used an electric actuator (a machine part that creates movement) to operate the valve.

The city installed both of these in the late 1950s, along with the original pumping station. Recently, the valves were no longer operable, and we installed new transmission lines in 2018, as part of a larger project improving operations and saving energy.

Special thanks to our Water and Waste Water teams, Andrew Matthews and Ben Blaniar for painting the city logo, Steve Skowron for fabrication work, J&H Engineering for design help, EJ for the manhole covers, and Davis Construction for helping sandblast and paint the valves.

Source water assessment

The state assessed our Columbia and Verona well field source water in 2003 to determine their relative potential for contamination. The susceptibility rating is on a seven-tier scale, from very low to very high, based primarily on geologic sensitivity, water chemistry, and contaminant sources.

The susceptibility rating for Verona is high, and the rating for Columbia is moderately high. It is important to understand these ratings do not imply poor water quality, only the systems' potential to become contaminated in the assessment areas.

There are remedies in place for known contamination sources for Verona, to prevent municipal well contamination. The City of Battle Creek has not used the Columbia Well Field since 2003.

To further protect our drinking water sources, we developed a wellhead protection plan for both well fields. For more information, see battlecreekmi.gov/publicworks and click Environmental Services, or call Utility Administrator Perry Hart at 269-966-3481.

Verona improvements win award

We were thrilled to celebrate in 2021, winning the American Public Works Association Project of the Year Award for an environmental project less than \$1 million: our Verona Pumping Station improvements.

One of our six pumps that send drinking water out into the community was not operating. All six were single-speed pumps, which was wasting energy during peak energy demand times of day. We decided to replace the inoperable sixth pump with a larger, variable-speed pump, and let the single-speed pumps work overnight, when energy costs are lower. We calculated a savings of up to \$60,000 with these improvements.

We also needed to fix the "Verona Triangle," a mess of inefficient and redundant piping and valves in the transmission mains leaving the Verona Pumping Station. The mess was caused over decades of system repairs and adjustments that connected old and new pipes, to lessen service interruptions. We decided to simplify and realign the pipes in the field, to make this system run smoother, and allow our team to operate it better. We were able to remove 275 feet of unnecessary piping!

We completed the project in July 2020, at a cost of \$866,237.





Winning the 2021 APWA Award, from left: APWA MI Chapter President Duane Poole; city Utility Administrator Perry Hart; city Engineering Administrator Kurt Tribbett; Bret Eckhart of contractor L.D. Docsa Associates; Aaron Davenport, Senior Vice President, Kalamazoo Office Director of Jones & Henry Engineering

Water testing results (table next page)

We monitor our water for many different substances, on a strict sampling schedule. The water we deliver also must meet specific health standards.

The table on the next page shows those substances we detected in our water. You can request a complete list of our analytical results by calling 269-966-3481.

Remember that detecting a substance does **not** mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less often than once per year, because the concentrations of those substances do not change frequently. In these cases, we show the most recent sample data, along with the year we collected it.



Water testing results

Regulated substances																		
				City of Battle Cree	k			Emmett To	wnship			City of Sp	ringfield					
Substance (Unit of Measure)	Year sampled	IMRD	MCGL [MRDLG]	Amount detected	Range: low-high			. Violati	on	Amount detected	Range: low- high	Violation	Typical source					
Chlorine (ppm)	2021	[4]	[4]	0.81	.201.38		Vo.	0.78	.37 - 1.32	No		0.65	.20 - 1.21	No	Water additive used to control microbes			
Fluoride (ppm)	2021	4	4	0.73	.5194	١	No	0.7	.5486	No		0.69	.5583	No	Erosion of natural deposits; water additive to promote strong teeth; discharge from fertilizer and aluminum factories			
TTHMs (ppb)	2021	80	.0	Highest LRAA 41.6	28.3 - 67.0	ħ	40	61.8	NA	No		28.1	NA	No	By-product of drinking water chlorination			
HAA5 (ppb)	2021	60	0	Highest LRAA 9.8	7.0 - 15	١	No	12	NA	No		1	NA	No	By-product of drinking water chlorination			
Total Coliform Bacteria (% positive samples)	2021	5%	0	0	NA	ħ	Vo.	0	NA	No		0	NA	No	Naturally present in the environment			
Tap water samples were collected for	lead and co	pper ar	alyses fron	n sample sites throughou	ıt Battle Cre	ek, Emmett, :	and Springfie	eld										
Substance (Unit of Measure)	Year sampled	AL	MCGL [MRDLG]	90% Precentile Value	Range: low-high	AL/Total	Violation	90% Precentile Value	e Range: low- high	· Sites above AL/Total sites	Violation	Precentile	Range: low- high	AL/Total	Typical source			
Lead (ppb)	2021	15	-0	3	0-6	0/30	No	Ť	0-1	0/10		1	0-2	0/20	Corrosion of household plumbing systems; erosion of natural deposits			
Copper(ppm)	2021	1.3	1.3	0.6	0.0-1.0	0/30	No	0.7	0.0-1.0	0/10	No	0.5	0.0-0.7	0/20	Corrosion of household plumbing systems, erosion of natural deposits			
Secondary Substances (City	of Battle	Creek)	-			n.			Additional s	econdary	/ substanc	es					
Substance (Unit of Measure)	Year sampled	AL	MCGL [MRDLG]	Amount detected	Range: low-high	Violation		Typical sourc	e	Substance (all ppt)	Date sampled	AL	Amount detected	MCGL [MRDLG]	Typical source			
Sodium (ppm)	2021	NA	NA	22	17-22	No	Naturally pro salting; sept	esent in the envir tic systems	onment; road	HFPO-DA	2021	370	Non-detect < 2.0	0	Per- and polyfluoroalkyl substances (PFAS) are a large group of man-made chemicals that include perfluorooctanoic acid (PFOA) and			
Sulfate (ppm)	2021	NA	NA	57	48-67	No	Runoff/leact	hing from natural dustrial wastes		PFBS	2021	420	Non Detect <2.0	0	perfluoroctanesulfonic acid (PFOS). PFAS have been used globally during the last century in manufacturing, firefighting, and thousands of common household and other consumer products. These chemicals are persistent in t			
Chloride (ppm)	2021	NA	NA	59	50-65	No	Runoff/leach deposits	hing from natural		PFHxA	2021	400000	Non-detect < 2.0	0	environment and in the human body — meaning they don't break down — and they can accumulate over time. In recent years, experts have become			
Gross Alpha (pCi/L)	2021	15	NA	1.2	.5-1.9	No	Erosion of n	natural deposits.		PFHxS	2021	51	Non Detect <2.0	0	increasingly concerned by the potential effects of high concentrations of PFA on human health.			
Gross Beta (pCiL)	2015	50	NA	4.4	5.3 - 2.0	No	Decay of na made depos	atural and man- sits		PFNA	2015	6	Non-detect < 2.0	0	The Safe Drinking Water Act defines PFAS as per- and polyfluoroalkyl substances.			
Radium-226 (pCi/L)	2021	NA	NA	0.6	.48	No	Erosion of n	natural deposits.		PFOA	2021	8	Non Detect <2.0	0				
Radium-228 (pCi/L)	2021	NA	NA	1.1	.4-1.8	No	Erosion of n	natural deposits.		PFOS	2021	16	Non-detect <2.0	0				
												10 to						

Erosion of natural deposits

Combined Radium is a summary of Radium-226 and Radium-228.

DEFINITIONS

Combined Radium (pCi/L)

• **90th %ile:** The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. It is equal to or greater than 90% of our lead and copper detections.

1.0-2.4

- **AL: Action Level.** The concentration of a contaminant that, if exceeded, triggers treatment, or other requirements a water system must follow.
- HAA5: Haloacetic Acids
- LRAA: Locational Running Annual Average
- MCL: Maximum Contaminant Level. The highest level of a contaminant allowed in drinking water. They are set as close as possible to MCLGs, using the best available treatment technology.
- MCLG: Maximum Contaminant Level Goal. The level of a contaminant in drinking water below which there is no known or expected health risk. They allow for a margin of safety.
- MRDL: Maximum Residual Disinfectant Level. The highest level of a disinfectant allowed in drinking water. Convincing evidence shows adding a disinfectant is necessary to control microbial contaminants.

MRDLG: Maximum Residual Disinfectant Level Goal. The level of a
drinking water disinfectant below which there is no known or expected
health risk. MRDLGs do not reflect the benefits of using disinfectants to
control microbial contaminants.

Information on PFAS is available on the State of Michigan website at michigan.gov/pfasresponse/drinking-water/statewide-survey

- NA: Not applicable
- pCi/L: Picocuries per liter. A measure of radioactivity.
- ppb: Parts per billion. One part substance per billion parts water (or micrograms per liter).
- **ppm: Parts per million.** One part substance per million parts water (or milligrams per liter).
- SMCL: Secondary Maximum Contaminant Level. Standards developed to protect aesthetic qualities of drinking water, which are not health-based.
- TTHMs: Total trihalomethanes

Lead in home plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing.

We are responsible for providing high quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking.

If you have a service line that is lead, galvanized, previously connected to lead, or unknown but likely to be lead, we recommend that you run your water for at least five minutes to flush water from both your home plumbing and the lead service line.

If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the **Safe Drinking Water Hotline** at 800-426-4791, or on the **U.S. EPA's website**, water.epa.gov/drink/info/lead.

Water system by the numbers

City of Battle Creek

19,531 total water services 4,305 known lead services 14,765 services of unknown material unlikely to contain lead 461 services of unknown material

City of Springfield

1,734 total water services
2 known lead services
7 services of known material - no lead
73 services of unknown material unlikely to contain lead
1,652 services of unknown material

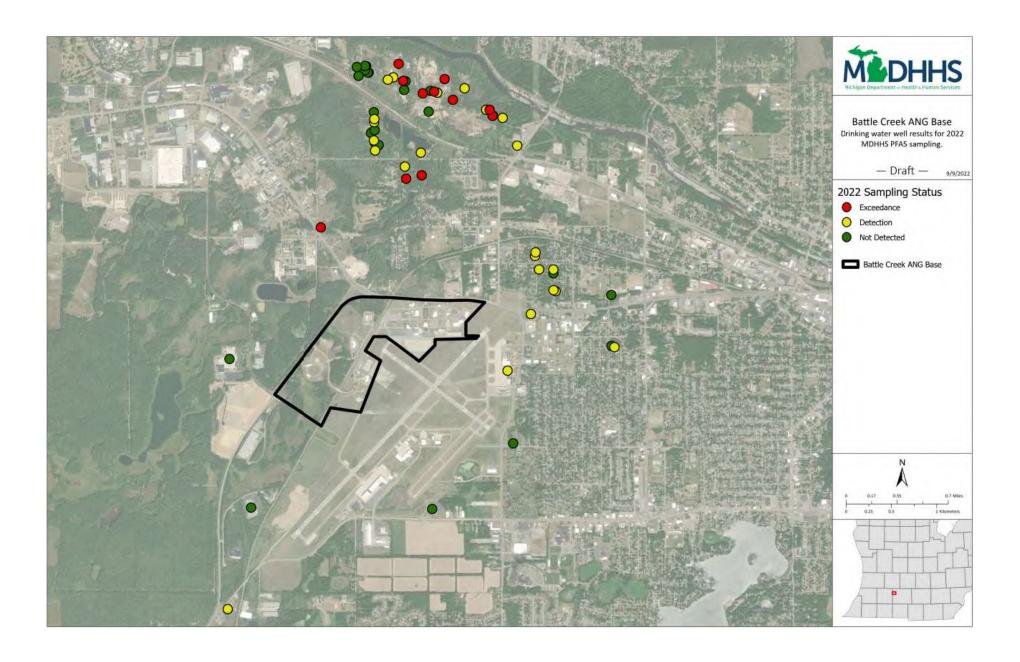
Emmett Township

929 total water services 2 known lead services 322 services of known material - no lead 605 services of unknown material unlikely to contain lead



APPENDIX E

MDHHS and EGLE Well Sampling Maps and Test Results

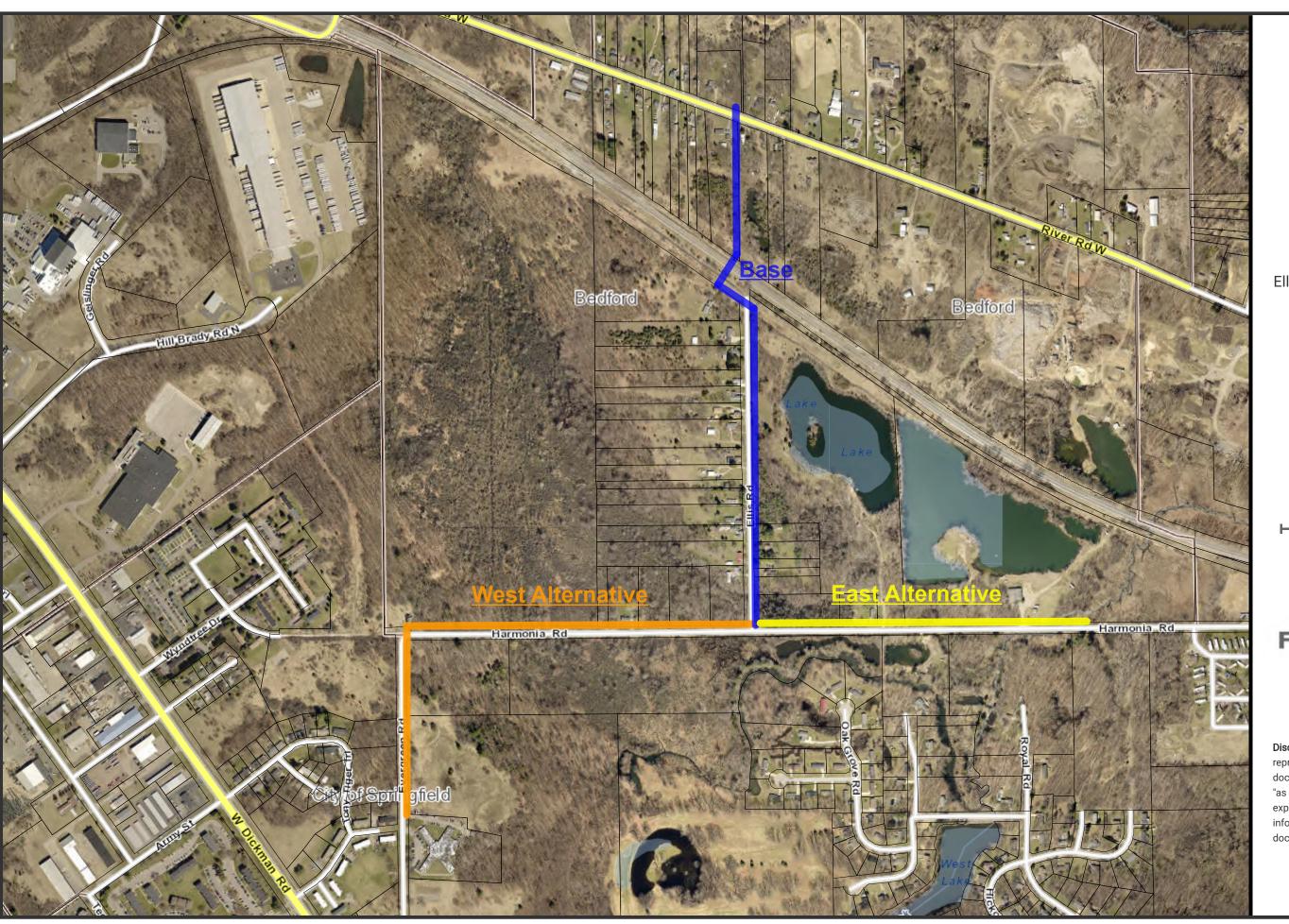


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343 SYCHE D 0W 2000 MANHS R.I. 30/6/2020 1463 SYCHE CLA MORNS SYCH D 0 Not in this sampling round No filter and replacement 2022 MONHS Round 9/10/2022 1463 SYCHE CLA Mort SYCHE D 0 Not in this sampling round No filter and replacement 2020 MILE MONT SYCHE SYCHE D 0 Not in this sampling round No filter and replacement 2020 MILE MONT SYCHE D 0 Not in this sampling round No filter and replacement 2020 MILE MONT SYCHE D 0 Not in this sampling round No filter and replacement 2020 MILE MONT SYCHE D 0 Not in this sampling round No filter and replacement 2020 MILE MONT SYCHE D 0 Not in this sampling round No filter and replacement 2020 MILE MONT SYCHE D 0 Not in this sampling round No filter and replacement 2020 MILE MONT SYCHE D 0 NOT SYCH D 0 NOT SYCHE D	
2018_EGLE 6/12/2018 WR13061210058.8 Vista 1801277-01 Unknown ND 0 Not in this sampling round No filter and replacement 2022_MDRHP Round 5/10/2022 1500 HII Brady Rd-FCLX Ment 535924.12 Unknown ND 0 Not in this sampling round No filter and replacement 151E ILUS RD NOT	
2011_GDE 4/12/2018 WH00531115038 Vista 180177 03 Unknown NO 0 No In this samples round No Reflect and replacement S151 RWTR NO W 4/1/2018 VVTID0514503040 Vista 1801877 03 Unknown NO 0 No No In this samples round No Reflect and replacement 2011_00 VISTA 180187 03 VISTA 1	
1516 FOVER DO W 2018, GIGLE 6/14/2018 WT1300141540RAP Vista 1801353-12 Unknown NO 0 Not in this sampling round No filter and replacement 2020, MOHHS, R1 10/4/2020 1516 RVER FC3 MOHHS R103 10/1439 PRE NO 0 Not in this sampling round No filter and replacement NO filte	
2020, MORHS, R.L. 10/4/2020 1527, RAVER FC.S. MORHSS END 0.0 Not in this sampling round No filter and replacement 2022, MORHS, RandS 15/20/2022 1527, Raver Rd W-FC.S. Mort S55924.0.0 PRE NO 0.0 Not in this sampling round No filter and replacement 1522, Raver Rd W-FC.SOUP Merit S55924.0.4 PRE NO 0.0 Not in this sampling round No filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round No filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round No filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round No filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round No filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round No filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round No filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round No filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round No filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round No filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round NO filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round NO filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round NO filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round NO filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round NO filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round NO filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round NO filter and replacement 1523, RAVER RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round NO filter RD W.F. S55924.0.4 PRE NO 0.0 Not in this sampling round NO filter RD W.F. S55924.0.4 PRE NO	ts 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2018_561E 6/14/2018 WT150011150M Vista 1801011-0 PM 2020_M0HHS_E1 16/14/2021 1527 FM	ts 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2018, 5GIL 6 (72),7GIS VITID0311155MK Vita 180141-G2 Unknown NO 0 Not in this sampling round No filter and replacement 2012 MARKS Round 5/12/2012 1358 Nort NV CC D Mort 5 33520.00 N NO 0 Not in this sampling round No filter and replacement 2012 N NO 0 Not in this sampling round No filter and replacement 2013 N NO 0 Not in this sampling round No filter and replacement 2013 N NO 0 Not in this sampling round No filter and replacement 2013 N NO 0 Not in this sampling round No filter and replacement 2013 N NO 0 Not in this sampling round No filter and replacement 2013 N NO NO NOT NOT NOT NOT NOT NOT NOT NOT	
2018 FGIE 6/22/2018 WR3100521135MK Vista 1801421-01 Unknown NO 0 Not in this sampling round No filter and replacement 2020 MONHS PLANT 1 10//2020 ISS REVER YC2 NOWN SET 1 10//2	
1543 River 50 VerZ-Q-DUP Merit S37205.04 PRE NO 0 Rot In this sampling round No filter and replacement 2020 MRHH \$1 100/R/2020 155 ELIS FCE NO 10 Rot In this sampling round No filter and replacement 2020 MRHH \$1 100/R/2020 155 ELIS FCE NO 10 Rot In this sampling round No filter and replacement No filter and No filter a	
1552 RIVER BD W 2018, FGLE 6/21/2018 WT1805211215MK Vista 1801421-04 Unknown NO 0 Not in this sampling round No filter and replacement 156 ELLIS RO	
2019, EGLE 4/12/2018 WT1005121205/18 Vtsta 1801277-04 Unknown NO 0 Rote in this sampling round Filter and replacements 2020, Months Round 5/11/2022 156 ELIS FOCK MONTH 5 R003 01058 FPE 0 7.56 Not in this sampling round Filter and replacements 2022 MONHS Round 5/11/2022 156 Elis R64°C-0 Merit 53592's.08 PPE NO 0 Rot in this sampling round Filter and replacements 1568 RIVER ROTE 1.00 FPE NO 0 Rot in this sampling round Filter and replacements 1000 RIVER 1000 R	
2018, 50E 4 (721/2018 WORTH-SIGN21120MK Vista 1894/41-05 Unknown NO 0 Not in this sampling round No filter and replacement 2012 MOHIST Round 19/12/2012 1543 Nov Not Not 1.0 N	
2022 MOHHS Round 5/25/2022 157 Ellis RD FCL-A Merit 516406.04 PRE D 2.1 Not in this sampling round Filter and replacements 167 ELLS R0 2020 MOHHS, R1 1/10/2022 167 Ellis FCL-A Merit 531881.02 PRE NO 0 Not in this sampling round No filter and replacements	
2022_MONNESS_Based 5/11/2022 157 Ells 6/T2-D Monff 53188.01 Unknown NO 0 Not in this sampling round No filter and replacement 157 ELLS 6/T2-D Monff 53197.02 PFE NO 0 Not in this sampling round No filter and replacement 157 ELLS 6/T2-D Not in this sampling round No filter and replacement 157 ELLS 6/T2-D Not in this sampling round No filter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round PfIlter and replacement 157 ELLS 6/T2-D Not in this sampling round 157 ELLS 6/T2-D Not in	
2809, Mannes, 9.1 10/9/2002 (a) 11.10.15.1.3 Months 11.0.11.5 (b) VIA. U. 2.0 to 1.10.15.1.3 million representation 1.0.1 million re	
173 Ellis Rd-FC1-A-DUP Merit S18201.04 PRE ND 0 Not in this sampling round No filter and replacement 2018, EGIE 6/12/2018 WR180612133518 Vista 1801277-09 Unknown D 7 Not in this sampling round Filter and replacements	
179 ELIS FC4	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1799 AMERICAL ISCION OR 2018, EGLE 4/2/2018 WELB08021220TIC Vista 1802241-06 Unknown E 544 Not in this sampling round Filter and replacements WELB08021220TIC #D Vista 1802241-06 Unknown E 555 Not in this sampling round Filter and replacements	0 15 2 220 89 170 0 0 0 0 45 0 0 0

2020_MOHHS_R1 10/6/2020 1793 Avenue A FCAC MOHHS E1/20-101449 PRE E 735.77 EGLE 2010096-04 PRE E 534	Not in this sampling round Filter and replacements 0 16.1 2.22 240.2 0 61.6 152.36 Not in this sampling round Filter and replacements 0 19 3 280 0 71 120	0 0 0 3338 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
Ment \$18050.02 PRE N/A N/A 1793 AVENUE A FC4D E MOHHS \$18050.101466 POST NO 0 1793 Avenue A FC4E EGLE 2010096-03 POST NO 0	Not in this sampling round Filter and replacements 0		348 189 0 0 0 27 12 112 23.2 59.5 0.95 4.19 0.912 0.025 0.077 420 1187 7.11
1793 AVENUE A FC4E DUP MOHHS EN20 101467 POST ND 0 2022_MOHHS Round2 \$/11/2022 1793 American Legion DrFC4-C Merit \$35927.07 PRE E 763.6 183 ELUS RD	Not in this sampling round Filter and replacements 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	360 178 0 0 0 22 15.4 3.91 0.95 282 0.34 0.02 0.042 0 0 18 1227 7.12
2018_EGLE 6/12/2018 VITE/05/2135/018 Vista 18/01277-10 Unknown D 12 2020_MONHS_R1 10/7/2020 135 ILLS FG.3-A MONHS 03/0101659 PEE D 11.64 135 ILLS FG.3-E MONHS 03/0101659 PEE D 10.64 135 ILLS FG.3-E MONHS 03/0101659 PEE N/A N/A	Not in this sampling round Filter and replacements 0 0 2 0 10 0 Not in this sampling round Filter and replacements 0 0 2.13 2.18 0 7.33 0 Not in this sampling round Filter and replacements 0 0 0 0 0 0 Not in this sampling round Filter and replacements 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	278 33 0 0 0 18 13.8 82 21.5 22.2 1.52 0.39 0.18 0.031 0.007 300 642 7.49
183 Bills FC3-E Merit \$18091.04 POST N/A N/A 2022_MOHHS_Round2 \$/11/2022 183 Bills Rd+C3-D Merit \$35926.04 PRE D 16.5 193 BLUS RD	Not in this sampling round Filter and replacements Not in this sampling round Filter and replacements 0 2.2 2.9 2.5 0 6.4 2.5		278 32 0 0 0 11 14.5 81.8 22.1 21.8 1.5 0.39 0.055 0 0.006 303 640 7.39
2020_MDHHS_R1	Not in this sampling round No filter and replacements 0 0 0 0 0 0 0 0 0 Not in this sampling round No filter and replacements 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
2029_MOHHS_R1 10/21/2020 197 ELIS RD-FCLD 0 MOHHS 1X/00-101514 PRE 0 3.27 197 ELIS RD-FCLD 0.00P MOHHS 1X/00-101515 PRE 0 4.02 20.5.47H 5T	Not in this sampling round Filter and replacements 0 0 0 3.27 0 Not in this sampling round Filter and replacements 0 0 0 4.02 0 Not in this sampling round No filter and replacements 0 0 0 0 0		
205 NEWTOWN AVE Vista 1800718-06 Unknown ND 0 2012 EGLE 4/18/2018 WR1804181755MK Vista 1800718-06 Unknown ND 0 2022 MOHHS RoundI 5/18/2022 205 Newtown Ave-FC1-0 Merit 585202.07 PRE ND 0	Not in this sampling round No filter and replacements 0 0 0 0 0 Not in this sampling round No filter and replacements 0 <th></th> <th></th>		
20 HILMAR RD N 1202 MONHS Round 6/9/2022 209 Helmer RD FCL-C Merit 536886.05 PRE D 81.4 245 TERRITORIAL RD W 22018, EGLE 4/19/2018 WT1804190855MK Viota 1800718-07 Unknown ND 0	Not in this sampling round Filter and replacements 0 0 0 0 0 0 0 0 20 Not in this sampling round No filter and replacements 0 0 0 0 0 0 0	0 0 0 7.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
WT180418900DMK Vista 1800718-08 Unknown ND 0 2020_MDHHS_R1 10/14/2020 2435 TERRITORIAL RD-FC1-C MDHHS EN20-101511 PPE ND 0 2022_MDHHS_Round 6/9/2022 2435 W Territorial RD-FC2-X Merit 536898.03 Unknown ND 0	Not in this sampling round No filter and replacements 0 0 0 0 0 Not in this sampling round No filter and replacements 0 <th></th> <th></th>		
2590 COLUMBIA AVE W 2018_EGLE 6/5/2018 WR1806051620MK Vista 1801169-01 Unknown ND 0 WR1806051630MK Vista 1801169-03 Unknown E 61.35	Not in this sampling round No filter and replacements 0 <	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
2029, MONHS Rt. 11,4/2020 2500 W COLUMBIA ANE/CZ-D MOHHS 1020-101643 PRE NO 0 2022, MONHS Round 5,11/2022 2500 Columbia Ane/W-PC-D MoHE 535926.03 PRE NO 0 2625 TRINGHAM NO 2016, EGLE 6/14/2018 WT1805141000RAP Viola 180335-01 Unknown 0 6	Not in this sampling round Filter and replacements 0 0 0 0 0 0 0 0 0 Not in this sampling round Filter and replacements 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
2022_MDHHS_Round1	Not in this sampling round Filter and replacements 0 4.3 0 6.7 0 4.5 8.9	0 0 0 22 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
2029_MORHHS_R1 10/13/2020 26th 74/115/FC2-A MORHIS E10/2010/10/30 FEE NO 0 2022_MORHIS_Roand 5/7/2022 266 54/15 FMC2-A Merit 35/62/10.6 FEE NO 0 265/FERRIGHAM_RD 2616_EGE 4/18/2018 WT18/0418/62/00K Vista 18/07/18/01 Unknown E 43.01	Not in this sampling round No filter and replacements		
2224HSTN 1 2016, EGGE 4/12/2018 WR3504173805WK Vidta 1800719-11 Uniknown 0 12221 2009 MOHHS R1 10/14/2020 272 N 24TH STFCL-D MOHHS ENZO-101510 PRE 0 5.76 30 CASELDON N 1	Note in this sampling round Filter and replacements 0 137 0 2.17 7.51 0.97 Not in this sampling round Filter and replacements 0 0 0 0 0 5.76 0		
2018_EGLE 4/18/2018 WR1804181430MK Vista 1800779-18 Unknown E 1705.19 5/31/2018 RV180551092018 Vista 1801079-01 Unknown E 1571.35 2019_EGLE 5/20/2019 WR1905200945MK Vista 1901154-02 Unknown E 1396	Not in this sampling round Filter and replacements 0 400 6.09 921 39.6 265 Not in this sampling round Filter and replacements 1.46 411 5.59 840 35.8 2.14 Not in this sampling round Filter and replacements 0 360 5 700 30 160	0 0 0 735 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
2020, MOHHS, R1 10/4/2020 30 N Costle Dr FCAA MOHHS IN/30 1010171 PRE E 1142.24 EGLE 2000/56-65 PRE E 1136.24 SON CASTLE DR FCAE MOHHS IN/30 1010172 POST NO 0 30 N CASTLE DR FCAE MOHHS IN/30 101472 POST NO NO N/A	Not in this sampling round Filter and replacements 4.13 233 7.91 534.1 0 21.2 137.08 Not in this sampling round Filter and replacements 0.00 5 630 0 25 130 Not in this sampling round Filter and replacements 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 2224 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	277 100 0 0 0 22 13.2 110 26.8 4.5 1.39 0.53 0.073 0 0 415 922 7.33
30 N Castle Dr FC3A Merit \$18050.04 PRE N/A N/A 2022 MDHHS Round \$/10/2022 30 Castle Dr FC4-A Merit \$35924.11 PRE E 1267.9 301 W DICKMAN RD	Not in this sampling round Filter and replacements Not in this sampling round Filter and replacements 0 300 9.2 570 0 26 110	0 0 0 35 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	323 98 0 0 0 0 22 17.8 110 26.1 43.2 1.13 5.02 0.098 0.005 0.14 397 924 7.29
2018. [GGLI 8/19/2018 W18108097165538 Vista 1802410-01 Unknown 0 5 2029. MOWHHS, R1 10/772020 30/17 W DECOMANY EC.2 0 100 10149 PE 0 16-57 2022. MOWHS Round 5/25/2022 30/17 W DECOMAN EC.2 0 Morth 536406.02 PRE 0 2.77 2022. MOWHS ROUND 30/17 W DECOMAN EC.2 Morth 536406.03 PRE 0 26.7	Not in this :ampling round Filter and replacements 0 0 0 0 5 Not in this :ampling round Filter and replacements 2.17 0 0 0 6.22 Not in this :ampling round Filter and replacements 0 0 0 0 9.7 Not in this :ampling round Filter and replacements 0 0 0 0 9.7		
180228TH ST N 2018, EGE 8/2/2018 WT1808021335TIC Viota 1802241-08 Unknown NO 0 28 N 309TH ST 2018, EGE 4/27/2018 WR18041718500MK Viota 1800719-14 Unknown D 18.67	Not in this sampling round No filter and replacements 0 0 0 0 0 Not in this sampling round Filter and replacements 0 1.37 0 11.1 2.67 2.45		
2022_MDHHS_Round3 5/18/2022 328 N 30th 52-FC2-D Merit \$16/202_01 PRE D 14.4 333 N 30TH ST 2018_EGLE 4/17/2018 WR1804171155MK Vista 1800719-02 Unknown D 13.937	Not in this sampling round Filter and replacements 0 0 0 10 0 2.1 0 Not in this sampling round Filter and replacements 0 0 0 10 8.96 1.61 2.5	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
2020_MOHHS_RL 11/4/2020 333 N 30th S-PC-20 MOHHS 8R0-3010141 PRE D 6.22 2022_MOHHS_Round2 5/18/2022 333 N 30th S-PC-20 Merit S85/202.03 PRE D 14.2 2022_MOHHS_Round2 5/18/2022 333 N 30th S-PC-20 Merit S85/202.03 PRE D 14.2	Not in this sampling round Filter and replacements 0 0 6.22 0 0 Not in this sampling round Filter and replacements 0 0 8 0 0 0 Not in this sampling round Filter and replacements 0 0 3.2 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
2018 (GGL 8/2/2018 WT1800221015T/C Vista 1802241-02 Unknown 0 4 34N 930PHST 2018 (GGL 4/17/2018 WR1804171830MK Vista 1800719-13 Unknown 0 7.52 350 24THST N	Not in this sampling round Filter and replacements 0 0 0 2 2 Not in this sampling round Filter and replacements 0 0 0 5.96 1.56 0		
2018_EGLE 4/17/2018 WT1804171.045MK Vista 1800719-01 Unknown ND 0 351 N 30TH ST 2018_EGLE 4/18/2018 WT1804180910MK Vista 1800719-15 Unknown D 28.858	Not in this sampling round No filter and replacements 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
2020 MOHHS RI 11/4/2020 513 197115*FCL-0 MOHHS 170:0101633 PRE 0 21.24 2014 MOHHS RI 11/4/2020 513 197115*FCL-0 UP MOHHS 170:0101639 PRE 0 22.35 556 24TH ST N 2016 EGE 4/17/2018 WR18041775/60K Vista 180:0719-10 Urknown 0 0.541	Not in this sampling round Filter and replacements 0 0 13.28 0 3.22 2.54 Not in this sampling round Filter and replacements 0 0 16.41 0 3.31 2.64 Not in this sampling round Filter and replacements 0 0 0 0 0 0.55 0		
2022 MONHS Round 5/17/2022 355 145 N H-CG-L0 Men't SIG-201.08 PRE NO 0 33 N 31200 T ST T SIG-201.08 PRE NO 0 33 N 31200 T SIG-201 T SIG-	Not in this sampling round Filter and replacements 0 0 0 0 0 0 Not in this sampling round Filter and replacements 0 0 14.2 1.96 0		
359 N 32ND-FC2D-DUP MOHHS EN20-101500 PRE D 16.01 360 N 30TH ST 2018_EGLE 4/19/2018 WR1804191105MK Vista 1800718-09 Unknown D 12.053	Not in this sampling round Filter and replacements 0 0 14.2 0 0 0 Not in this sampling round Filter and replacements 0 1.60.1 0 0 0 0 0 0 1.60.1 0 0 0 0 1.00.2 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
365 N 3280 5T 2001 EGE 4/18/2018 WT1804181655MK V/sta 1800718:04 Unknown NO 0 S84 N 30765T 2001 EGE 4/17/2018 WT1804173185MK V/sta 1800719:04 Unknown 0 28.74	Not in this sampling round No filter and replacements 0 0 0 0 0 0 0 0 Not in this sampling round Filter and replacements 0 2.02 0 21.3 2.65 2.61		
BB N 309H ST	Not in this sampling round Filter and replacements 0 0 2.17 0 0.552 Not in this sampling round Filter and replacements 0 0 0 0 0 Not in this sampling round Filter and replacements 0		
374 N 32ND ST 2018 EGLE 4/17/2018 WT1804171600MK Vista 1800719-07 Unknown D 4.36 2020 MOHHS R1 10/7/2020 374 N 32ST FC/2A MOHHS EN20-101484 PRE D 3.71	Not in this sampling round Filter and replacements 0 0 0 2.08 1.05 1.23 Not in this sampling round Filter and replacements 0 0 0 3.71 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
2022 MONHS Round 5/12/2022 37 34 N. 3226 547-C.A Morit 535928.04 PRE 0 8.3 278 N. 901975 1	Not in this sampling round Filter and replacements 0 0 5 0 3.3 0 Not in this sampling round Filter and replacements 0 2.16 0 2.13 2.4 2.09 Not in this sampling round Filter and replacements 0 0 3.564 0 0 2.25	0 0 0 0.042 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
Morit \$18050.07 PEE N/A N/A	Not in this sampling round Filter and replacements		277 167 0 2.3 0 21 13.6 0.47 0 207 0 0.02 0 0 0.011 0 878 7.47 272 106 0 2.1 0 20 14.4 98.6 22.2 54.8 1.61 0.47 0 0 0 345 866 7.52
390 BUCKNER RD 2018 EGE 4/18/2018 WT1804181100MK Vista 1800719-16 Unknown D 1.09 2020 MOHHS R1 10/14/2020 390 BUCKNER DR-PCLC MIDHHS EN20-101506 PRE ND 0	Not in this sampling round Filter and replacements 0 1.09 0 0 0 0 0 0 0 0 0		
399 N 32ND ST 2012 EGLE 8/17/2018 WR1808171255MK Vista 1802574-01 Unknown D 3 2020 MOHHS R1 10/14/2020 399 N 32ND ST-FC2-D MOHHS EN20-101512 PR€ D 2.72	Not in this sampling round Filter and replacements 0 0 3 0 0 Not in this sampling round Filter and replacements 0 0 2.72 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
2022 MONHS Round 6/9/2022 399 N 32rd 51°CL-0 Monit S16858.06 PRE 0 9.1	Not in this sampling round Filter and replacements 0 0 6.5 0 2.6 0 Not in this sampling round Filter and replacements 0 0 0.934 0.85 0		
2023. Motivis Round: 5/18/2022 411 V 32NO 3FFC2 O Merit 516/202 06 PRE 0 5.6 4143 COLUMBA AN W 2014 CO	Not in this sampling round Filter and replacements		
4143 COULMBA FC3-E MOHHS EN20-01464 POST ND 0 4143 Columba FC3-A Merit S18091.07 PRE N/A N/A 4143 Columba FC3-E Merit S18091.08 POST N/A N/A	Not in this sampling round Filter and replacements 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		448 118 0 38 0 14 202 159 45 24 1.27 0.76 0 0.01 0.716 604 1114 7.12 452 118 0 34 0 14 204 163 464 222 1.06 0.74 0 0 0.055 614 1142 7.15
11/4/2020 4143 W Columbia Ave-FC3-0 MDHHS 8020-101642 PRE NO 0 FG0E 201247-037-037-037-037-037-037-037-037-037-03	Not in this sampling round Filter and replacements 0 0 0 0 0 Not in this sampling round Filter and replacements 0 2 0 0 3 2 Not in this sampling round Filter and replacements 0 2.4 0 0 0 2.7	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
2018_EGLE 4/19/2018 WT1804191210MK Vista 1800718-12 Unknown D 2.306 495 HELMER RD N 2018_EGLE 4/17/2018 WT1804171725MK Vista 1800719-09 Unknown D 30.87		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
SOR NURS NOW 2018, EGGE 6/12/2018 WR18061215301.B Visita 1801277-12 Unknown D 13 2029, MOHHS, RL 16/7/2020 SOR RIVER FC4-A MOHHS SIX70 101455 PRE D 19.23 2022, MOHHS, Roand S 1/1/2022 SOR RIVER FC4-A MOHHS SIX70 101455 PRE D 25.5 C C C C C C C C C	Not in this sampling round Filter and replacements 0 4 0 0 3 6 Not in this sampling round Filter and replacements 0 0 0 2.25 7.05 Not in this sampling round Filter and replacements 0 0 0 3.6 6.1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
SI CASTLE DR N 2018, [GIGLE 4/18/2018 WR1804181420MK Vista 1800719-17 Unknown D 30.53 2022 MONHS, RoundZ 5/17/2022 SI Castle Dr NFC2-D Merit S86/201.09 PRE D 52.1 SER DR NFS SI SI CASTLE DR NFC2-D MERIT SI	Not in this sampling round Filter and replacements 0 2.53 0 8.3 3.38 13.2 Not in this sampling round Filter and replacements 0 0 6.5 0 4.2 15	0 0 0 312 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
2018_EGLE 6/12/2018 WSF1180612154518 Vita 1801277-13 Unknown E 27 2020_MOHHS_R1 10/6/2020 G60 RIVER RD_VFC4 E MOHHS ERZD_101480 POST ND 0 660 RIVER RD_WFC4D MOHHS ERZD_101479 PRE 0 13.51	Not in this sampling round	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	514 58 0 4.3 0 32 11.4 0.77 0 228 115 0 0 0.007 0.356 0 1414 7.14
660 River Rd W FC4E Merit \$18050,14 POST N/A N/A 2022_MDHHS_RoundI \$/11/2022 660 River RD W-FC4-D Merit \$35927.04 PRE D 38.1 680 RIVER RD W	Not in this sampling round Filter and replacements Not in this sampling round Filter and replacements O 6.1 2.8 2.5 0 10 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	514 98 0 4.3 0 32 11.4 0.77 0 226 115 0 0 0.007 0.356 0 1414 7.14 518 97 0 3.6 0 32 11.6 2.15 0.4 225 48.6 0 0.006 0 0 4 1361 7.18
2018, EGGLE 6/14/2018 WINES051415/SAP Vista 180/135/5-09 Unknown D 21 2029, MoNHHS, R1 L07/2020 689 RRF C2-D MoHHS D10-10167 PRE D 45.06 2022, MOHHS, Rowald 5/11/2022 680 River R0 W-FC≥-D Merit 535927.01 PRE E 68.2 696 RIVER RD C 5 FEBRURY RD C	Not in this sampling round Filter and replacements 0 0 6 7 Not in this sampling round Filter and replacements 0 3.5 0 0 5.66 6.92 Not in this sampling round Filter and replacements 0 8.6 0 3.5 0 7 8.9	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
2018_EQLE 6/12/2018 WST1500312500318 Vista 1031777-14 Unknown D 46 2020_MSHNS.51 103132020 600 RNRS BV4C-10 MSHS 1030-013010 FRE 0 74-6 2022_MSHNS.51 2013220 600 RNRS BV4C-10 MSHS 1030-013010 FRE 0 74-6 2022_MSHNS.50mMS 5/10/7022 600 RNRS BV4C-2 M Merit 315924.13 FRE E 85.5 706 RNRS RS DV4C-10 MSHS 1030-013010 FRE BV5C-10 MSHS 1030-0	Not in this sampling round Filter and replacements 0 6 7 22 Not in this sampling round Filter and replacements 0 7.7 0 7.36 0 7.9 20.57 Not in this sampling round Filter and replacements 0 8.8 0 7.7 0 7.6 22	0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
2018_EGLE 6/12/2018 WR180612161SIB Vista 1801277-15 Unknown D 33 2020_MDHHS_R1 10/6/2020 700 RIVER FCL2 A MDHHS EN20.101446 PRE D 63.97 2022_MDHHS_Round 5/10/2022 700 River Rd W-C2-D Merit 535934.08 PRE D 76.4	Not in this sampling round Filter and replacements 0 5 0 4 5 17 Not in this sampling round Filter and replacements 0 5.7 0 5.22 2 2.2 <t< th=""><th>0 0 0 21 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</th><th></th></t<>	0 0 0 21 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
80 \$24TH \$T 2020, MOHHS, R1 10/13/2020 80 \$24TH FC2-0 MDHHS EN20-101594 PRE NO 0 8 FX0FA R0 FX0FA R0 WR3905209900MK Vsta 1901154-01 Unknown E 539	Not in this sampling round No filter and replacements 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
2020 MCHHS R1 10/6/2020 87 Royal RGA 66LE 2010096-07 PRE E 592 Ment 518050-10 PRE N/A N/A	Not in this sampling cound Rifer and replacements 0 120 6 290 22 77 Not in this sampling cound Rifer and replacements 0 140 4 290 0 15 46 Not in this sampling cound Rifer and replacements 0 140 4 290 0 15 46	0 0 0 12 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	227 84 0 0 0 23 168 538 249 492 2.73 0.51 0.005 0.031 0.031 335 846 7.46

2020 MDHHS R1 10/6/2020 87 ROYAL FC6-A	MDHHS EN20-101443 PRE	E	527.79 Not in this sampling round Filter and replacements	0 102 11.1 237.1	0 12.6 50.26	0	0 0	0 15.11	0 0	0	0	0 0	0 0	0 15	5.74 0	0	0 12.8	0 0	0 21.57	5.05 0	0	0 23.3	0 0	5.32 15.67	12.4	43.21 11	.13 193.84	89.77	0													
87 ROYAL FC6-E	MDHHS EN20-101444 POST	ND	0 Not in this sampling round Filter and replacements	0 0 0 0	0 0 0	0	0 0	0 0	0 0	0	0	0 0	0 0	0	0 0	0	0 0 0	0 0	0 0	0 0	0	0 0	0 0	0 0	0	0	0 0	0	0													
87 ROYAL FC6-G	MDHHS EN20-101442 POST	ND	Not in this sampling round Filter and replacements	0 0 0 0	0 0 0	0	0 0	0 0	0 0	0	0	0 0	0 0	0	0 0	0	0 0 0	0 0	0 0	0 0	0	0 0	0 0	0 0	0	0	0 0	0	0													
87 Royal FC6G	Merit S18050.09 POST	N/A	N/A Not in this sampling round Filter and replacements																											302	84	0	0 0	23 20	0.37	0 212	0	0 0	0.007 0.	J.02	0 865	7.57
2022 MDHHS Round2 5/18/2022 87 Royal Rd-FC4-A	Merit \$36200.06 PRE	E	553.3 Not in this sampling round Filter and replacements	0 130 9.2 200	0 16 56	0	0 0	0 17	0 0	0	0	0 0	0 0	0	9.3 0	0	0 15 21	1 0	0 21	0 2.1	0	0 32	0 0	6.7 18		37	9 160		0													

APPENDIX F Map of Alternatives





Calhoun GIS

Ellis & Harmonia Water



Map Publication: 03/02/2023 10:53 AM

03/02/2023 T0.33 AIVI

0.2km 1000ft



Disclaimer: This map does not represent a survey or legal document and is provided on an "as is" basis. Calhoun County expresses no warranty for the information displayed on this map document.

3/2/2023, 10:53 AM EST 1/

APPENDIX G

Public Hearing Advertisement and Affidavit of Publication

APPENDIX H

Public Hearing Notes and Copy of Presentation

APPENDIX I

Public Hearing Attendance Sheet

APPENDIX J

Written Comments Received During Public Comment Period and Responses

APPENDIX K Social and Environmental Impacts

APPENDIX L Township Resolution Adopting Project Plan