

A vertical splash of water is the central focus of the background image, set against a blurred, light blue and white background. The splash is captured in a way that shows its movement and texture.

Oakland County WRC
Clinton-Oakland Sewage Disposal System
FY 2027 Clean Water State Revolving Fund
DRAFT Project Planning Document
Amendment
March 2026

Prepared for:



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ABBREVIATIONS

AMP – Asset Management Plan
CFS – Cubic Feet Per Second
CIP – Capital Improvement Plan
CIPP – Cured-In-Place Pipe
CoF – Consequence of Failure
COSDS – Clinton-Oakland Sewage Disposal System
CRWRRF – Clinton River Water Resource Recovery Facility
CVT – Cities, Villages, and Townships
CWSRF – Clean Water State Revolving Fund
DCA – District Compliance Agreement
E. coli – Escherichia coli
EGLE – Michigan Department of Environment, Great Lakes, and Energy
FSP – Fiscal Sustainability Plan
FY – Fiscal Year
GLWA – Great Lakes Water Authority
H₂S – Hydrogen Sulfide Gas
I/I – Inflow and Infiltration
IPaC – Information for Planning and Consultation
MDNR – Michigan Department of Natural Resources
MFA – Michigan Finance Authority
MIRIS – Michigan Resource Inventory System
MNFI – Michigan Natural Features Inventory
NASSCO – National Association of Sewer Service Companies
NWI – National Wetland Inventory
OMID – Oakland-Macomb Interceptor Drain
O&M – Operations and Maintenance
PACP – Pipe Assessment Certification Program
PoF – Probability of Failure
RCP – Reinforced Concrete Pipe
SAW – Stormwater, Asset Management, and Wastewater (SAW)
SEMCOG – Southeast Michigan Council of Governments
SSOs – Sanitary Sewer Overflows
TMDL – Total Maximum Daily Load
USDA NRCS – U.S. Department of Agriculture Natural Resource Conservation Services
U.S. EPA – United States Environmental Protection Agency
USFWS – U.S. Fish and Wildlife Service
WRC – Oakland County Water Resources Commissioner
WRRDA – Water Resources Reform and Development Act
WRRF – Water Resource Recovery Facility
WWTP – Wastewater Treatment Plant

I. INTRODUCTION

The Oakland County Water Resources Commissioner (WRC) is submitting this Project Planning Document to apply for a fiscal year 2027 Clean Water State Revolving Fund (CWSRF) low interest loan to rehabilitate approximately seven miles of interceptor sanitary sewer and to rehabilitate the Elizabeth Lake Pump Station within the Clinton-Oakland Sewage Disposal System (COSDS). The COSDS is a regional sanitary sewer service district that serves thirteen communities in central and northern Oakland County. The WRC owns, operates, and is responsible for all maintenance, operation, and administration of the WRC interceptor sewers that serve the district. The Project Planning Document has been developed using the Michigan Department of Environment, Great Lakes, and Energy (EGLE), CWSRF Project Planning Document Preparation Guidance released in January 2023.

A Project Planning Document was submitted to EGLE in May 2023 for consideration of CWSRF loan in fiscal year (FY) 2024. The projects included lining three sections of sewers in the COSDS, as well as rehabilitation of the Elizabeth Lake Pump Station. The project was not awarded funding. Since the original Project Planning Document was completed, WRC is completing Phase 1A of the Elizabeth Lake Pump Station and has begun work on Phase 1B. In addition, Project Areas 1 and 3 will be lined during 2026. A portion of Project 2 has been awarded as a design-build project.

WRC submitted Intent to Apply form 1031-3645 to EGLE dated October 31, 2025, with the intention of amending the Project Planning Document. The Intent to Apply form included a description of the desired project and preliminary costs. The CWSRF Amendment will evaluate improvements to three sanitary sewer sections in COSDS and additional rehabilitation tasks at the Elizabeth Lake Pump Station.

The complete Project Planning Document is included in the Amendment. Section II: Background has not been updated. The remaining sections have been updated to include descriptions of the proposed projects, updated costs, and a review of the potential environmental impacts and proposed mitigation. As the project locations are proposed to change, a public meeting will be held to review the amended Project Planning Document.

II. BACKGROUND

A. STUDY AND SERVICE AREAS

The COSDS is 35.3 square miles consisting of 4.0 square miles of surface water and provides sanitary sewer service to 13 cities, villages, and townships (CVTs) and includes a regional interceptor system approximately 57 miles in length. The COSDS service area includes all or part of the Cities of Auburn Hills, Rochester Hills, Rochester, and Lake Angelus; the Townships of Independence, Waterford, West Bloomfield, Oakland, Orion, and Oxford; and the Villages of Clarkston, Lake Orion, and Oxford. The COSDS sends a portion of wastewater flows from these communities for treatment to the Clinton River Water Resource Recovery Facility (CRWRRF) and the remaining wastewater flows to the Oakland-Macomb Interceptor Drain (OMID), which ultimately receives treatment at the Great Lakes Water Authority (GLWA) Water Resource Recovery Facility (WRRF).

The original COSDS was constructed in the late 1960s and early 1970s. It consists of two interceptor sub-systems referred to as the Clinton-Oakland and the Paint Creek interceptors. There is also the Gibson-Avon Arm, which collects sanitary sewage from a portion of the City of Rochester Hills.

Figure 1 shows a map of the entire COSDS, including the service area and interceptors. Figure 2 shows the proposed fiscal year 2027 Project Planning Document overall project improvement areas including Area 2B – between Joslyn and Walton Boulevard, Area 4 – between West Kennett Road and West Walton Boulevard, and Area 5 – West Walton Boulevard. There will also be rehabilitation work within the Elizabeth Lake Pump Station.

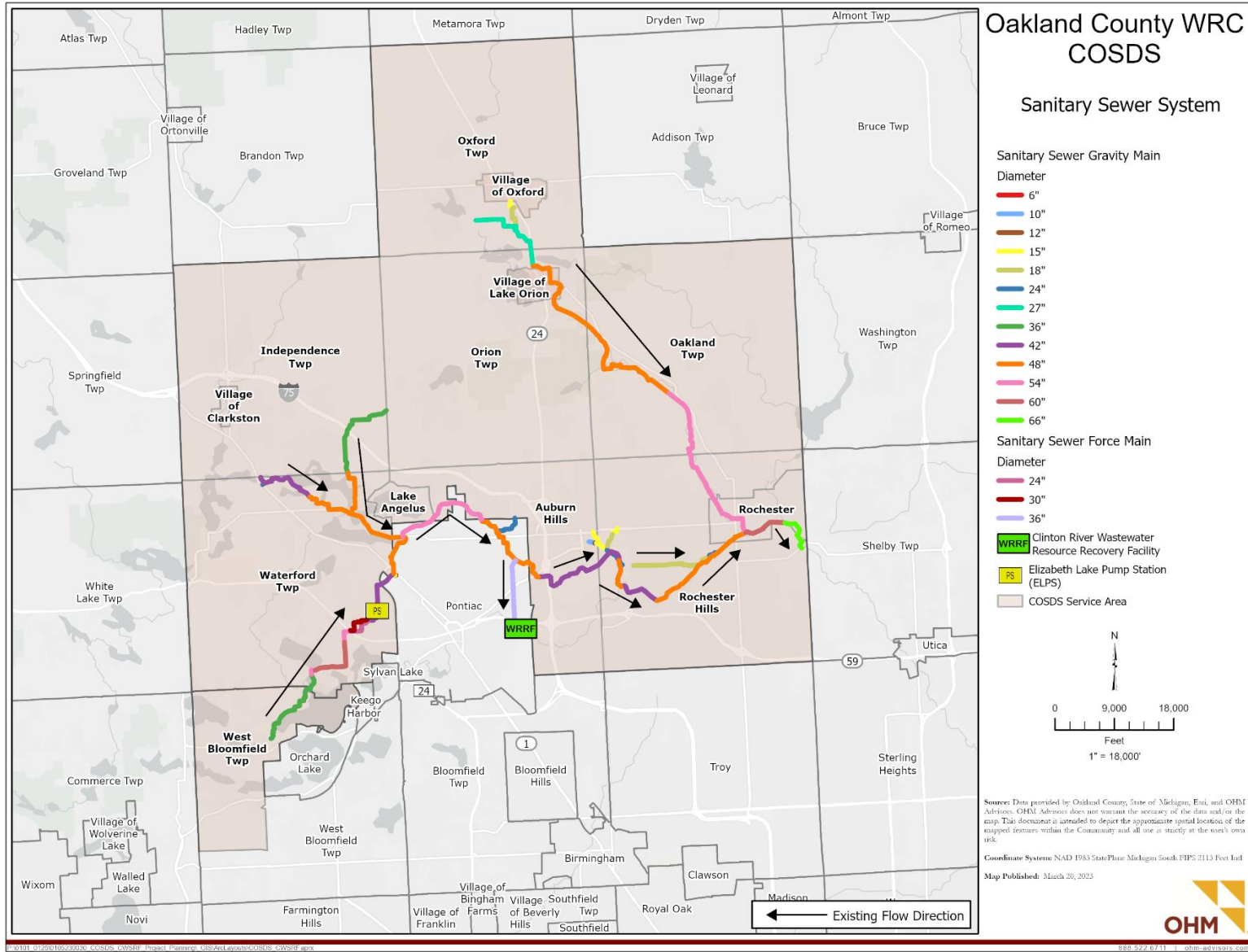


Figure 1. COSDS and Service Area Map

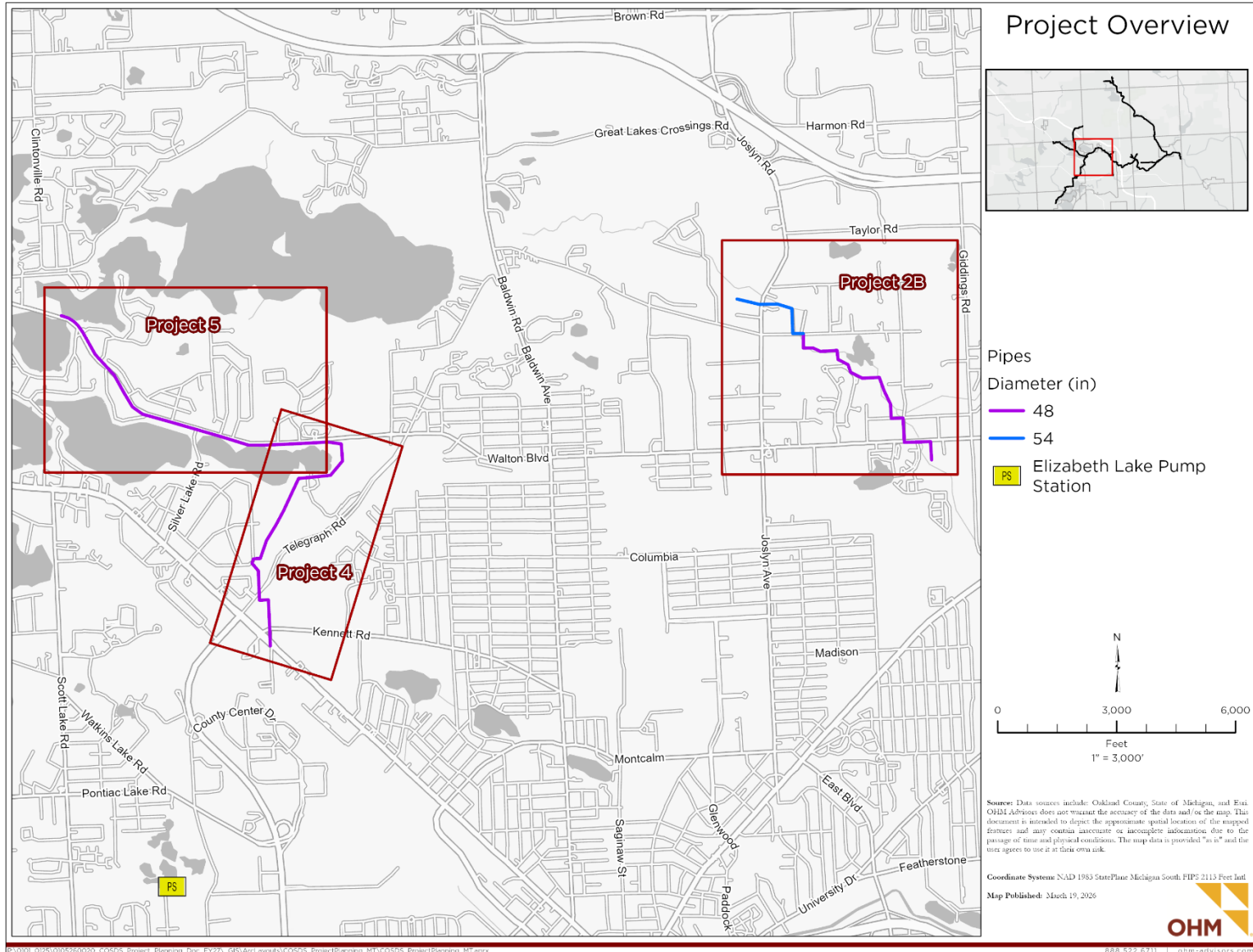


Figure 2. Overall Project Improvement Area Map

B. POPULATION

The COSDS service area population was estimated to be 322,752 according to 2022 COSDS Master Plan Addendum. The COSDS service area population increased by approximately 6.2% between the years 2015 and 2022. The predicted 2045 total population equivalency for the COSDS service area is 344,688 residents, which is a 5.9% increase from 2022. There is no substantial seasonal variation in population within the COSDS service area. The projected 20-year population for the COSDS service area is a total of 342,781 residents. Table 1 displays the population data from the 2022 service area population update for the thirteen communities within the COSDS service area.

Table 1. Present and Future Population Projections for COSDS

Community	2022 Existing COSDS Sewered Total Population Equivalencies	2015 Past COSDS Sewered Total Population Equivalencies	Percent Change 2015 to 2022	Projected 2045 COSDS Sewered Total Population Equivalencies	Interpolated 2043 COSDS Sewered Total Population Equivalencies
Independence Township/Village of Clarkston	16,783	17,656	-4.9%	17,805	17,716
Waterford Township	69,937	71,928	-2.8%	73,420	73,117
West Bloomfield Township	21,233	20,717	2.5%	22,317	22,223
City of Auburn Hills/Lake Angelus	66,201	57,889	14.4%	74,685	73,947
Orion Township	34,538	30,657	12.7%	35,928	35,807
Village of Lake Orion	3,117	2,754	13.2%	3,486	3,454
Oakland Township	11,043	9,638	14.6%	13,470	13,259
Oxford Township	9,291	8,224	13.0%	9,508	9,489
Village of Oxford	3,058	3,159	-3.2%	2,373	2,433
City of Rochester Hills	74,724	68,577	9.0%	77,349	77,121
City of Rochester	12,826	12,621	1.6%	14,348	14,216
Service Area Total	322,752	303,820	6.2%	344,688	342,781

C. EXISTING ENVIRONMENT EVALUATION

1. Cultural and Historic Resources

Many of the homes within the COSDS service area are over 50 years old. There are no historical properties listed by the State of Michigan or the National Historic Registry that are in the vicinity of the project areas.

2. Air Quality

National Ambient Air Quality Standards are health-based standards set by the United States Environmental Protection Agency (U.S. EPA). The entire State of Michigan is in attainment for carbon dioxide, lead, nitrogen dioxide, and particulate matter. Oakland County is in the non-attainment area for ozone. According to the 2021 Michigan Air Quality Annual Report there were six ozone exceedance days in 2021. Although there are non-attainment areas within Michigan for sulfur dioxide, Oakland County is in attainment for this pollutant.

3. Wetlands

Geographic information system (GIS) data were extracted from the EGLE Wetlands Map Viewer aerial imagery. The EGLE Wetlands Map Viewer compiles data from the following sources: National Wetland Inventory (NWI) maps generated by the U.S. Fish and Wildlife Service's (USFWS); land cover maps generated by the Michigan Department of Natural Resources (MDNR)'s Michigan Resource Inventory System (MIRIS); hydric soils mapped by the U.S. Department of Agriculture Natural Resource Conservation Service (USDA NRCS); and additional soil data produced by the National Cooperative Soil Survey operated by the USDA NRCS. As shown in Figure 3, there are numerous wetlands present in the project area.

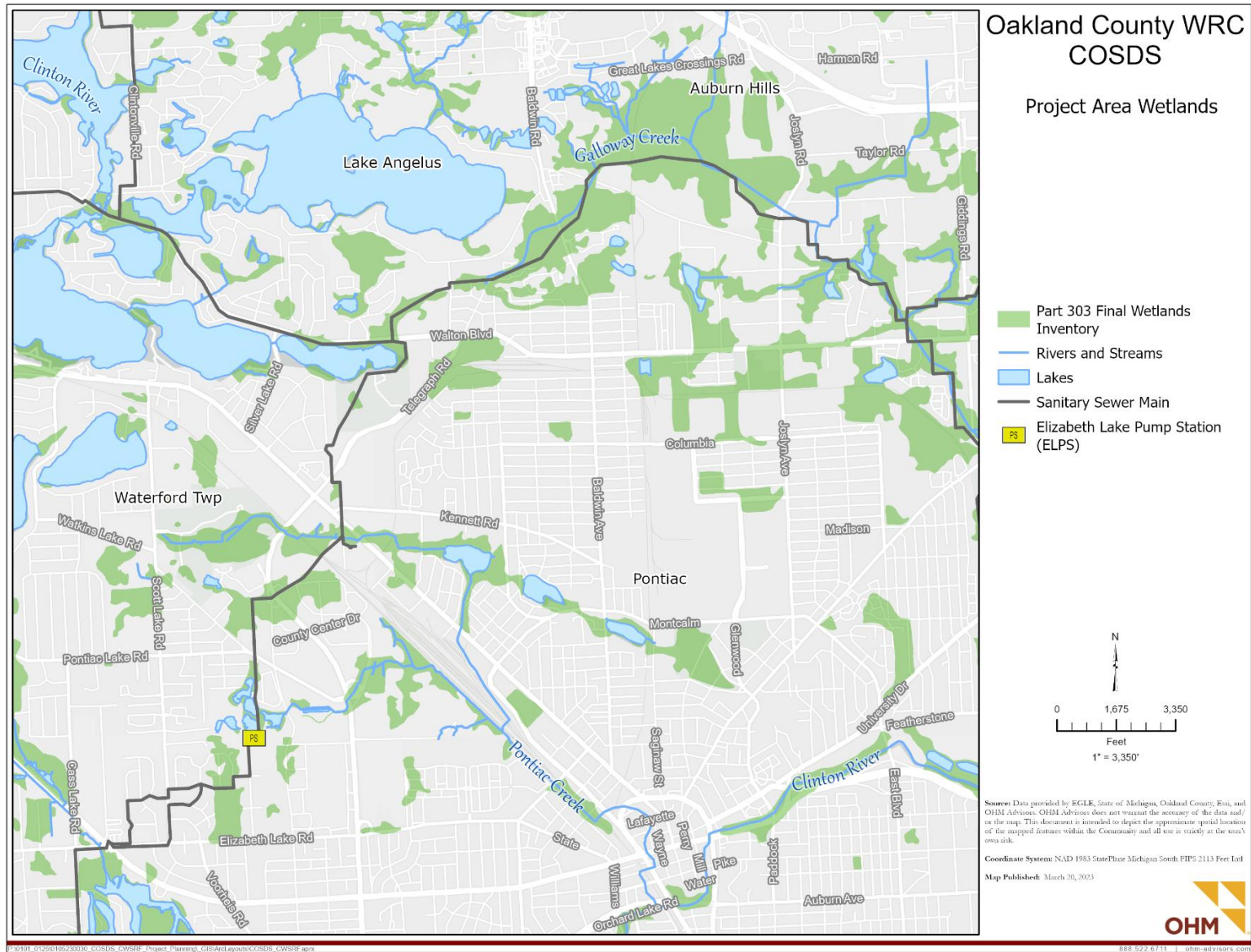


Figure 3. Project Area Wetland Map

4. Great Lakes Shorelands, Coastal Zones, and Coastal Management Areas

There are no Great Lakes shorelands, coastal zones, or coastal management areas within the study area.

5. Floodplains

There are numerous lakes and streams in the project area. Figure 4 shows the 100-year floodplain.

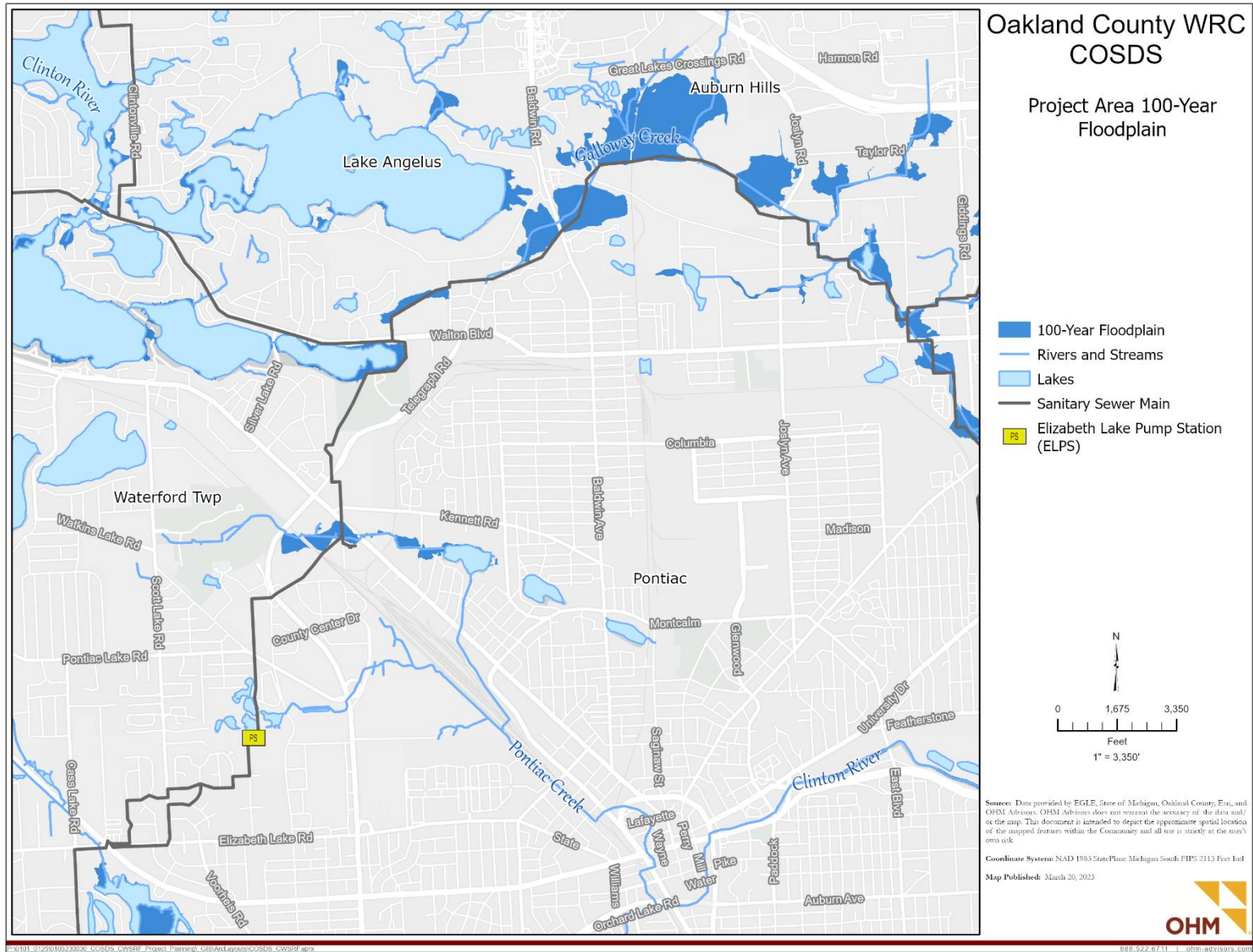


Figure 4. Project Area Floodplain Map

6. Natural or Wild and Scenic Rivers

There are no Natural Rivers as designated by the MDNR or Wild and Scenic Rivers as designated by the National Fisheries and Wildlife Service within the COSDS service area.

7. Major Surface Waters

The COSDS service area encompasses portions of the Clinton Main, Upper Clinton, Paint Creek, and Stoney Creek Subwatersheds. There are numerous inland lakes including Cass, Elizabeth, Sylvan, Otter, Voorheis Lakes, Lake Angelus, and Lake Orion. Also within the service area are portions of the Upper Branch and Main Branch of the Clinton River, and Paint and Stoney Creeks, all of which are tributary to the Clinton River.

8. Topography

The terrain in the proposed project area is generally flat plain with some hills near the Elizabeth Lake Pump Station property and has a slope from northwest to southeast.

9. Geology

The surficial geology of the project area is categorized as:

- medium-textured glacial till and
- glacial outwash sand and gravel and postglacial alluvium.

The bedrock within the project area is categorized as Coldwater Shale, which is predominantly gray to bluish gray shale with 5 to 20 feet of red shale present near the bottom of the geologic formation. Coldwater Shale may reach a depth of greater than 500 feet. The geologic formation is of the Mississippian Period.

10. Soil Types

The COSDS service area has varying soil types, which are generally moderately to good draining soils. All work will be required to comply with the State's and County's Soil Erosion and Sedimentation Control requirements. Figure 5 shows the soils in the proposed project areas.

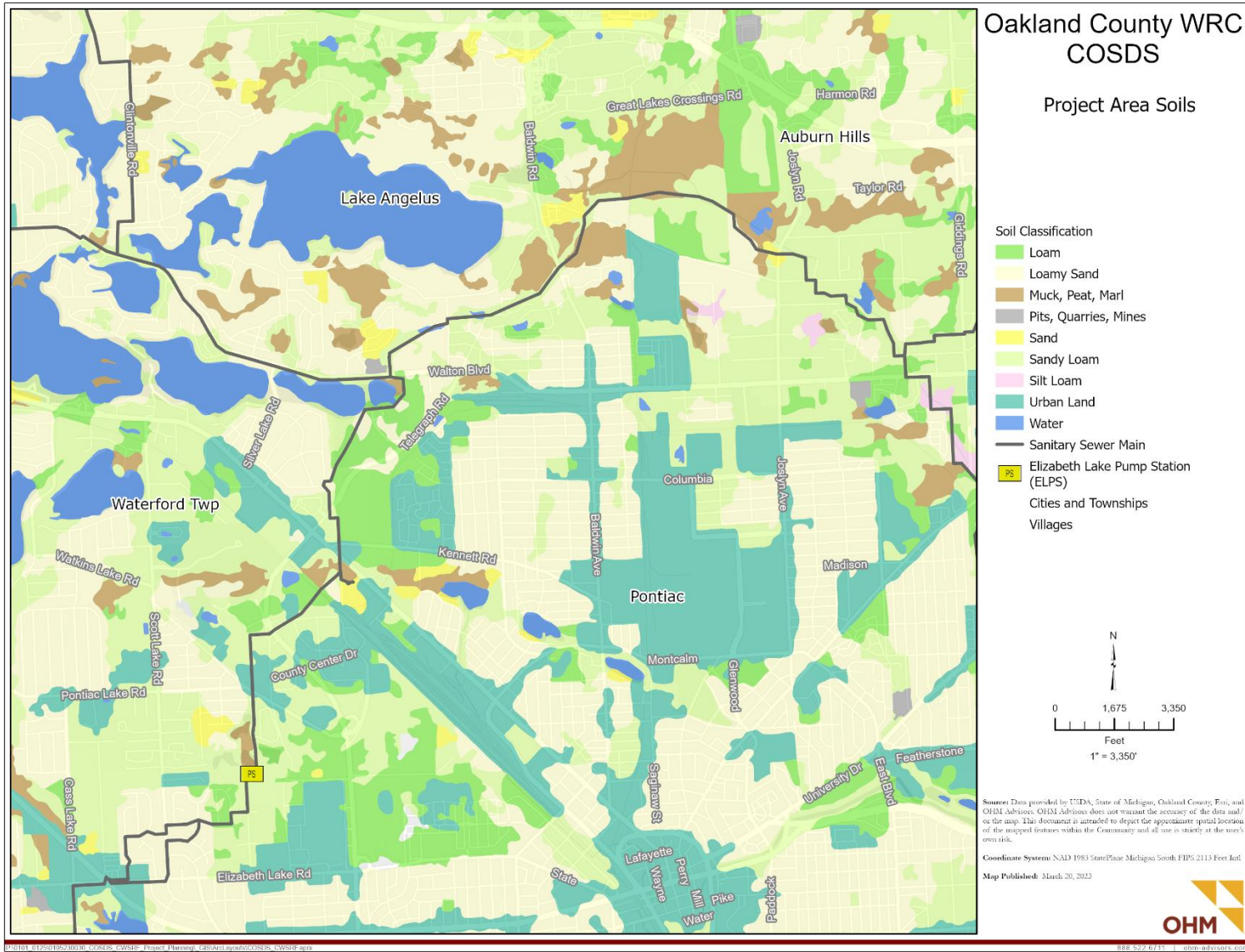


Figure 5. Project Area Soil Map

11. Agricultural Resources

There are no prime or unique agricultural lands within the proposed project areas.

12. Fauna and Flora

A desktop review of the Michigan Natural Features Inventory (MNFI) was conducted to identify threatened, endangered, and rare species that may be present in the project area in 2023. The results of the review can be found in Appendix A. No habitat for animals of economic or sport value are within the area. MNFI identified a total of five State threatened, endangered, or species of special concern within the 1.5-mile project area buffer, which includes the project areas proposed for FY2027. The species listed are as follows:

- Bastard pennyroyal (*Trichostema dichotomum*)
- Hairy angelica (*Angelica venenose*)
- Lake herring (*Coregonus artedi*)
- Pickerel frog (*Lithobates palustris*)
- Rainbow mussel (*Villosa Iris*)

Additionally, seven species were generated via the USFWS Information for Planning and Consultation (IPaC) website, and comments were provided for seven Federally listed threatened, endangered, or candidate species. The species listed include the following:

- Eastern Massasauga Rattlesnake (*Sistrurus catenatus*)
- Eastern Prairie Fringed Orchid (*Platanthera leucophaea*)
- Indiana Bat (*Myotis sodalis*)
- Monarch Butterfly (*Danaus plexipuss*)
- Rayed Bean (*Vilosa fabalis*)
- Salamander Mussel (*Epioblasma triquerta*)
- Snuffbox Mussel (*Epioblasma triquetra*)

Most of the proposed work is in areas that present no suitable habitat for the identified threatened, endangered, or species of special concern. Suitable water habitat was identified for two of the five (Lake herring and rainbow mussel) State identified threatened, endangered, or species of special concern. No inland lake or stream work will occur for this project.

D. EXISTING SYSTEM

The COSDS includes sewers, manholes, and siphons that collect sanitary sewerage from the thirteen customer communities and convey wastewater to the GLWA WRRF or the CRWRRF. The CRWRRF originally served the City of Pontiac. The City sold the treatment facility to Oakland County WRC in 2014. In order to take advantage of available capacity, a portion of the wastewater from COSDS is directed to the CRWRRF and the remaining flow continues to the GLWA WRRF for treatment. There are approximately 58 miles of 8-inch to 66-inch diameter gravity sewers, 3.4 miles of forcemain, and 850 manholes in the system. The sewers were constructed between 1969 and 2016.

The Elizabeth Lake Pump Station, which is also part of the COSDS, was constructed in 1968 and consists of five dry-pit centrifugal pumps with vertical motors and one submersible emergency pump. The five centrifugal pumps are equipped with variable frequency drives. There is also a permanent standby diesel generator at the station in case of emergency. Much of the electrical equipment and pumps were last upgraded in 2001, but a few of the assets are original to the pump station. WRC has been rehabilitating the Elizabeth Lake Pump Station and has completed Phase 1A and is beginning Phase 1B, which included installing a new structure to facilitate bypass pumping, cleaning and coating of the wetwell, replacing elbows within the wetwell, and replacing isolation valves on the suction sides of the pumps.

The COSDS operated under a District Compliance Agreement (DCA) issued by the Michigan Department of Environmental Quality (now EGLE) between 2009 and 2018. The DCA required addressing sanitary sewer overflows (SSOs) that occurred at Locata Street downstream of the Elizabeth Lake Pump Station. The frequency of SSOs were reduced through a combination of measures:

- Upstream system rehabilitation
- Grade protection stations in Waterford Township
- Revisions to the Elizabeth Lake Pump Station operational procedures to store flow in the wet well and interceptor

As a result of these improvements, WRC was able to demonstrate that the COSDS was in compliance with the DCA, and the DCA was subsequently closed. The proposed improvements in this CWSRF Project Planning Document will result in maintaining and upgrading the system to proactively reduce the frequency of SSOs and avoid the need for future compliance action by EGLE.

1. Residuals Handling

Residuals generated during construction will be flushed downstream within the collection system for treatment.

2. Operation and Maintenance

WRC operates and maintains the COSDS. WRC maintains the interceptor system through a perpetual 7-year rotating maintenance program that includes sewer televising, cleaning, inspection, and repair. Issues identified during the inspection process are programmed for maintenance or rehabilitation. A portion of the wastewater from the COSDS is transported for treatment to the CRWRRF and the remaining wastewater flows to the OMID, which ultimately discharges to the GLWA WRRF. The local collector sewers that connect to the COSDS are owned and operated by the individual communities within the COSDS service area. WRC also maintains the Elizabeth Lake Pump Station.

An asset management plan (AMP) was developed under the Stormwater, Asset Management, and Wastewater (SAW) grant program. The initial plan was published in 2021. The AMP established a capital improvement plan (CIP), from which WRC selected the projects contained in this project planning document. The CIP is updated annually.

3. Design Capacity

The COSDS contract outlet capacity (which includes flow from the Clinton Oakland and Gibson Arm interceptors) is 140 cubic feet per second (cfs). The signed agreement between the COSDS and the OMID, defines this maximum allowable flow as the COSDS component at the OMID outlet. Current average dry weather flow for the system is approximately 30.8 cfs. Wastes discharged to the COSDS are typical of municipal sewage. The Elizabeth Lake Pump Station has a firm capacity of 30 cfs. The CRWRRF receives up to 47 cfs from the COSDS interceptors.

4. Climate Resiliency

Sewers in poor condition could allow greater amount of infiltration and inflow (I/I) to enter the collection system. With increasing precipitation events of higher volumes, reducing I/I becomes more critical. The Elizabeth Lake Pump Station is equipped with a back-up generator in order to maintain operation in the event of a power outage.

E. NEED FOR THE PROJECT

Televising of the sewers and scoring in accordance with the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP) identified sewers that had structural ratings of 4s and 5s in three concentrated areas, which require rehabilitation or replacement to prevent future sewer breaks and sanitary sewer overflows. The poor condition of the interceptor in these locations is due to hydrogen sulfide gas (H₂S) induced corrosion. Three portions of the collection system will be lined between 2026 and 2028. There are many remaining sections of PACP scores of 4. WRC has received odor complaints from properties downwind of the Elizabeth Lake Pump Station despite the existing odor control system consisting of granular activated carbon filtration. In order to address the odor issues, pipe lining is proposed downstream of the Elizabeth Lake Pump Station.

As mentioned previously, WRC has been undertaking improvements to the Elizabeth Lake Pump Station. Additional assets are in need of replacement, including electrical and control systems, heating and ventilation systems, the generator, valves, and piping. The upstream Elizabeth Lake Pump Station must remain in operation as there is little storage capacity available in the system. The 2026 COSDS Capital Improvement Plan (CIP) identified capital improvements for the Elizabeth Lake Pump Station that are scheduled to occur between 2027-2031. A summary of the CIP is included in Appendix B with projects outlined as part of this project.

In addition to providing protection of public health to avoid potential exposure to raw sewage from sanitary sewer overflows or back-ups, the area contains numerous lakes, streams, and wetlands along the COSDS and the Elizabeth Lake Pump Station. These projects are needed to protect these natural resources from sanitary sewer overflows, which become more likely as the system ages.

F. PROJECTED FUTURE NEEDS

As detailed in the 2026 COSDS CIP projects identified for the COSDS include system upgrades, rehabilitation, and replacements needed based on previous condition assessments of the wastewater system. The CIP, included in Appendix B details sanitary main, sanitary manhole, and pump station improvements for the 0 to 5-year planning period. WRC will be televising the COSDS sewers as part of the CIP, which may identify other asset locations that will need attention in the future.

III. ANALYSIS OF ALTERNATIVES

This section identifies alternatives to the proposed project including the sewer rehabilitation and the Elizabeth Lake Pump Station rehabilitation including no-action, optimization, and regionalization alternatives. Two principal alternatives were considered to rehabilitate the three identified COSDS interceptor locations and one principal alternative was considered to rehabilitate the existing Elizabeth Lake Pump Station.

A. NO-ACTION

The first alternative to consider is no-action. No-action will lead to continued H₂S induced corrosion. As the existing infrastructure ages and undergoes more corrosion, pipe wall thickness will continue to decrease, and the likelihood of failure will increase. A significant leak or sewer break on 48-inch and 54-inch piping would result in significant impact to properties in the vicinity of the sewer break. In addition, customers upstream of the sewer break would also be impacted, as flow would not be able to proceed to the CRWRRF or OMID until the break is fixed or emergency bypass pumping is implemented. There is limited storage within the COSDS. It is important that service be maintained. The sewers included in this Amendment are all over 50 years old, which exceeds EGLE's asset life, and are more likely to be compromised due to the presence of hydrogen sulfide in the sewer system.

The Elizabeth Lake Pump Station is a critical part of the COSDS. Properties upstream of the Elizabeth Lake Pump Station in West Bloomfield and Waterford Townships would be severely impacted, as the sewers in these areas would be anticipated to back-up due to limited storage capacity. The generator is proposed to be replaced as part of this project. Without a back-up power source during electrical outages, sewer back-ups would be likely.

Sewer breaks or failure of the Elizabeth Lake Pump Station would cause raw sewage to spread in the vicinity of the sewer break or potentially result in backups into homes and businesses. There are many lakes and streams in the area, which would negatively impact the water quality from a sanitary sewer overflow of raw sewage due to lowered dissolved oxygen concentrations and high fecal coliform levels. The lakes are used for recreation and there are several beach access points in the area. The State of Michigan has a state-wide total maximum daily load (TMDL) for *E. coli*. Raw sewage discharges can be high in *E. coli* and need to be avoided. In addition, there are wetland soils present in the vicinity of the sewers, which would also be detrimentally degraded if a sewer break or back-up occurred and caused a sanitary sewer overflow.

The no-action alternative will not be pursued because the existing interceptor system must be preserved and provide continued sanitary sewer service to the communities.

B. OPTIMUM PERFORMANCE OF EXISTING FACILITIES

Optimizing the performance of the existing sewer system would allow for the continuation of properly treated sewage; however, this alternative would not aid in the prevention of sewer main failure through degradation of the aged pipeline, which could eventually lead to sanitary sewer overflows if sewer breaks were to occur. The project areas are located near inland lakes and streams, as well as wetlands, which could be negatively impacted if sewer breaks were to occur. This alternative will not be pursued as it would result in sewer main failure and lack of sanitary sewer service to residents.

C. REGIONALIZATION

Another alternative is to consider regionalization. The COSDS discharges a portion of the wastewater to the CRWRRF and is already part of the regional GLWA system. There are no other authorities nearby, therefore this alternative does not apply and will not be pursued further.

D. REHABILITATION ALTERNATIVES

Project Areas 2B and 5 have structural ratings of Significant (Grade 4) as defined by NASSCO PACP scores. There are segments between Grade 4 defects within these project areas that are proposed to be included. All three areas also are susceptible to damage due to hydrogen sulfide that has been confirmed via inspection. Rather than installing a hydrogen sulfide control system, which would require significant maintenance by WRC staff, lining of Project Areas 2B, 4, and 5 are proposed. These project areas are described as follows:

- Area 2B – Between Joslyn and Walton Boulevard (approximately 5,900 feet of 48-inch and 2,400 54-inch diameter sewer), as shown in Figure 6.
- Area 4 – Between West Kennett Road and West Walton Boulevard (approximately 7,000 feet of 48-inch diameter sewer), as shown in Figure 7.
- Area 5 – West Walton Boulevard (approximately 8,100 feet of 48-inch diameter sewer between Schoolhouse Lake and Upper Silver Lake), as shown in Figure 8.

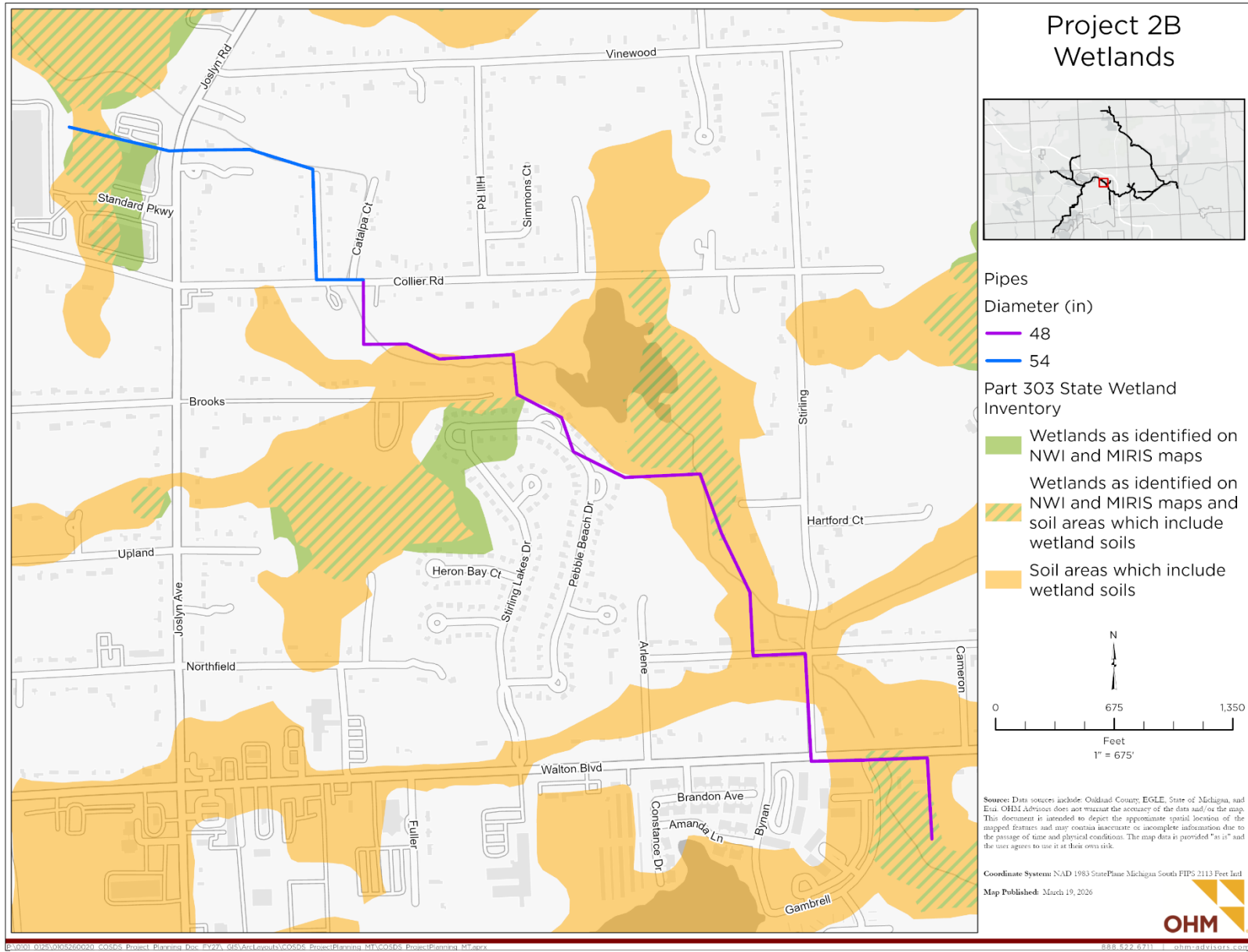


Figure 6. Area 2B – Between Joslyn and Walton Boulevard with Wetlands

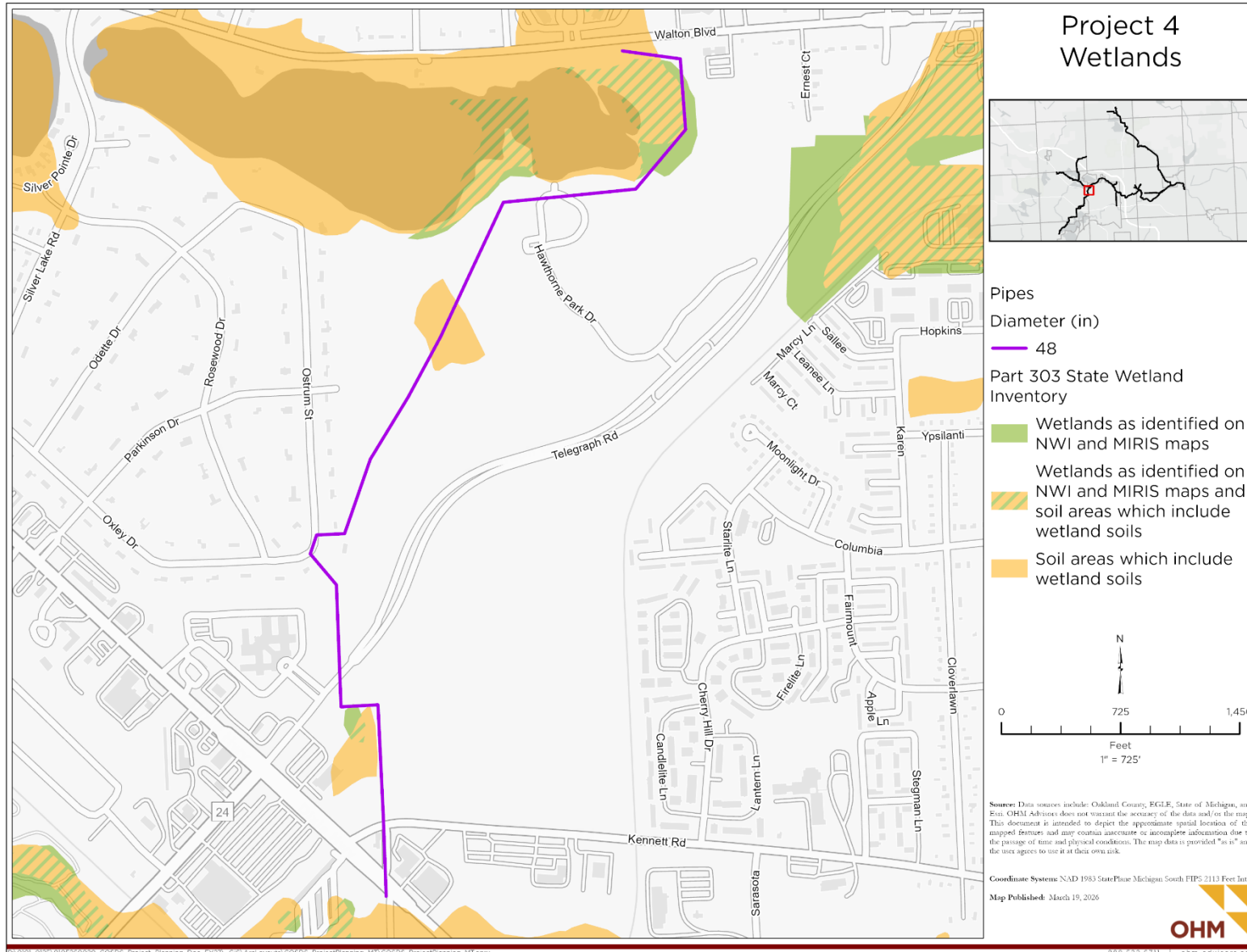


Figure 7. Area 4 – Between West Kennett Road and West Walton Boulevard with Wetlands

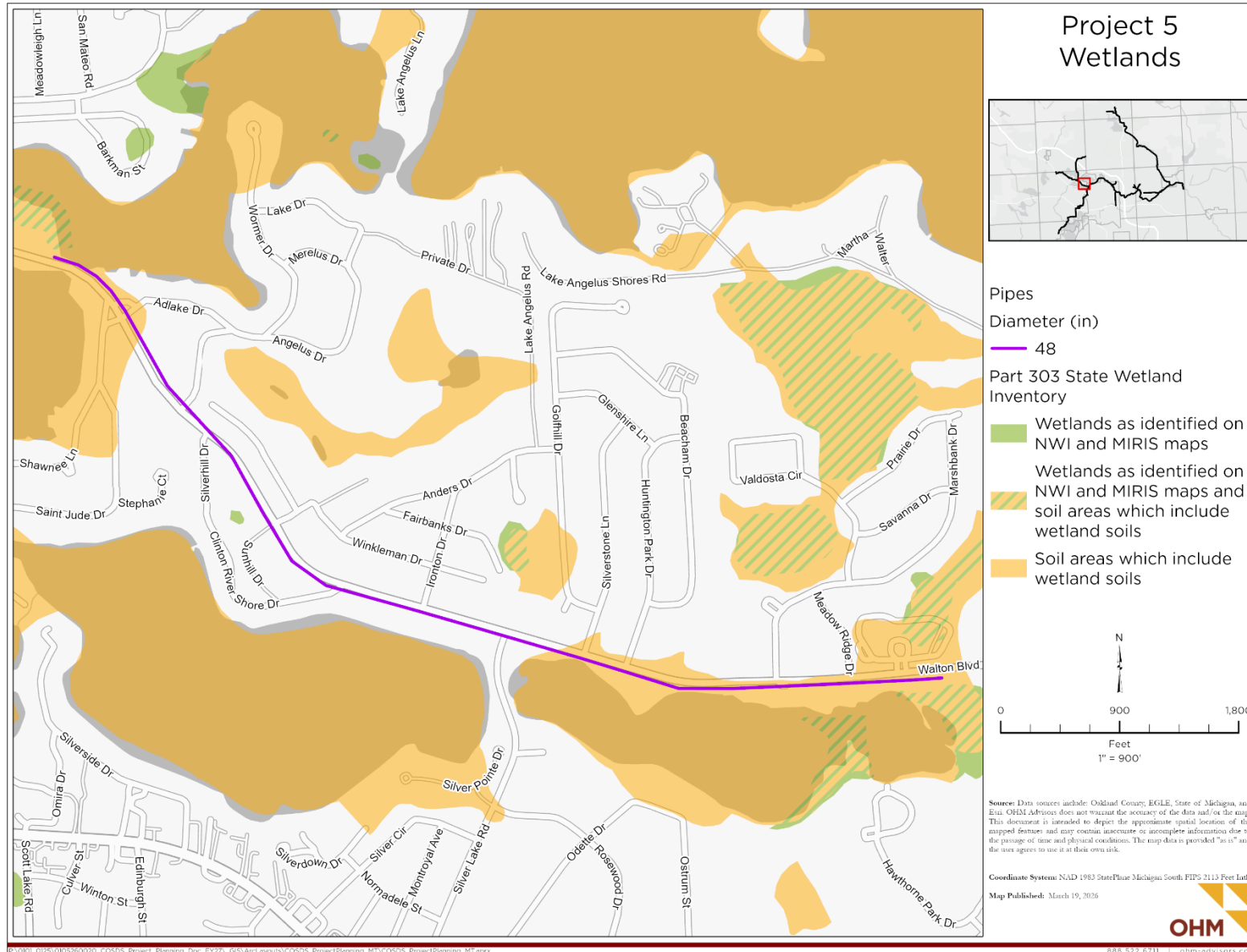


Figure 8. Area 5 - West Walton Boulevard Project Area with Wetlands

Appendix C contains the EGLE CSRF Sewer Structural Integrity Table containing the pipe lengths, pipe materials, PACP scores, and ratings from the asset management program. The intent of this project is to address a portion of the system's damage. The asset management program contains ratings for consequence of failure (CoF) and probability of failure (PoF). WRC uses a rating system from 1 to 5 for each parameter. The CoF and PoF are multiplied to develop a risk score, which can range from 1 to 25. The sewer segments in Project Areas 2b, 4, and 5 have a higher than average CoF. Many of the pipes also have a higher than average PoF, particularly in Project Areas 2b and 5. An average CoF and PoF would be 3, resulting in a risk score of 9. Sewer segments with risk scores above 9 would represent an above average risk of failure. Most of the pipe segments represent an above average risk based on this scoring, with many sewer segments exceeding values of 15, making them a high priority for WRC. The pipe segments that score less than 9 are in between pipe segments scoring greater than 9 and were included in this Amendment.

Two principal alternatives were considered to rehabilitate the three identified COSDS interceptor locations. The first principal alternative was replacement of the existing 48-inch, and 54-inch interceptors with new reinforced concrete pipe (RCP) via open cut. The second principal alternative was to rehabilitate the sewers. For cost purposes, cured-in-place pipe (CIPP) lining was used. The actual rehabilitation method(s) will be evaluated and selected during the design phase.

One principal alternative was costed to rehabilitate the existing Elizabeth Lake Pump Station. The no action alternative was not considered, as the pump station is a required part of the system. This could also lead to the need for emergency repairs, which in the current economic climate could be difficult to obtain. Replacing the existing pump station with a new pump station was not considered, as the existing pumps were replaced recently and the other assets have been maintained adequately. The use of resources to construct a new pump station would be more expensive than rehabilitating the existing Elizabeth Lake Pump Station.

The planned CIP improvements identified for the Elizabeth Lake Pump Station can be found in Appendix B. Projects that are included in this Amendment are as follows:

- Valves that may include discharge valves, isolation valves, and crossover valves
- Knife gate rehabilitation
- Portions of process piping and fittings
- Wetwell door
- Electric hoist
- Drain piping and pipe hangers
- Heaters
- Exhaust fans
- Electrical and control assets including lighting; MCCs; transformer; main service disconnect, switch, and breaker; and automatic transfer switch
- Generator

These assets are at or near the end of their useful life and are proposed for replacement as part of this project.

E. MONETARY EVALUATION

Capital costs were evaluated and are presented below. Certain cost factors such as sunk costs, as well as operation and maintenance (O&M) costs, are similar between the alternatives and have been excluded from the monetary evaluation. Opinions of probable costs were prepared for alternatives. These cost opinions are organized by sewer rehabilitation/replacement and pump station rehabilitation and are provided in Appendix D of this report.

Present worth analyses for the project were completed using a discount rate of 2%. A present worth analysis for the open cut with RCP and sewer rehabilitation work is presented in Table 2.

Table 2. Open Cut with RCP Pipe Replacement and Sewer Rehabilitation Present Worth Analysis

Category	Alternative 1: Open Cut with RCP Pipe Replacement	Alternative 2: Sewer Rehabilitation
Capital Cost	\$112,500,000	\$46,100,000
Salvage Value	\$8,450,000	\$12,330,000
Present Worth of Salvage Value	\$5,687,000	\$8,298,000
Total Present Worth	\$106,813,000	\$37,802,000

Alternative 2, sewer rehabilitation, has the lower capital cost and present worth.

The capital cost, salvage value, and present worth to replace the pump station assets nearing the end of their useful life are summarized in Table 3. The assets will be replaced in kind. Therefore, there is no anticipated change in operation and maintenance costs.

Table 3. Elizabeth Lake Pump Station Present Worth Analysis

Category	Elizabeth Lake Pump Station Rehabilitation Cost
Capital Cost	\$7,500,000
Salvage Value	\$ 34,000
Present Worth of Salvage Value	\$ 23,000
Total Present Worth	\$7,477,000

Rehabilitation and replacement of the assets at the Elizabeth Lake Pump Station is orders of magnitude lower than the cost to build a brand new pump station of equal capacity, therefore, no Present Worth comparison between the two was made.

The basis for the interceptor and pump station rehabilitation was described in the 2026 COSDS CIP Plan 2027-2031. Appendix B contains the CIP outlined in the AMP.

The user cost is contained under Section IV.J; Selected Alternatives.

F. ENVIRONMENTAL EVALUATION

1. Construction Impacts

The proposed projects will require limited excavation, and all work will be performed within the existing right-of-way or easements and on the existing Elizabeth Lake Pump Station property. There are no anticipated negative impacts to the appearance or structural integrity of homes and other buildings along the sewers to be rehabilitated. It is unlikely that cultural or historic resources will be negatively impacted during construction.

The proposed projects are not anticipated to significantly impact air quality, although construction equipment may generate limited emissions. Lane closures would be more extensive with the open cut sewer replacement alternative, which could result in additional traffic emissions due to slower movement of vehicles through the construction area. Open cut would also disturb many properties and result in more tree clearing.

Figures 6, 7, and 8 displayed the project areas relative to wetlands. Project Areas 2B and 5 are predominantly located within areas with wetland soils. Portions of Project Area 4 is also located within areas that have wetland soils. There will be less wetland impacts with the selected sewer rehabilitation method compared to open cut replacement. Dewatering, which would be required with sewer replacement, would risk harming the wetlands beyond those directly impacted from being along the sewer route. Most of the asset replacements within the Elizabeth Lake Pump Station will occur within the existing pump station building. Staging construction materials will need to be reviewed to minimize wetland disturbance on the pump station site.

Figures 9, 10, and 11 show the 100-year floodplain, as well as lakes and streams, in relation to Project Areas 2B, 4, and 5.

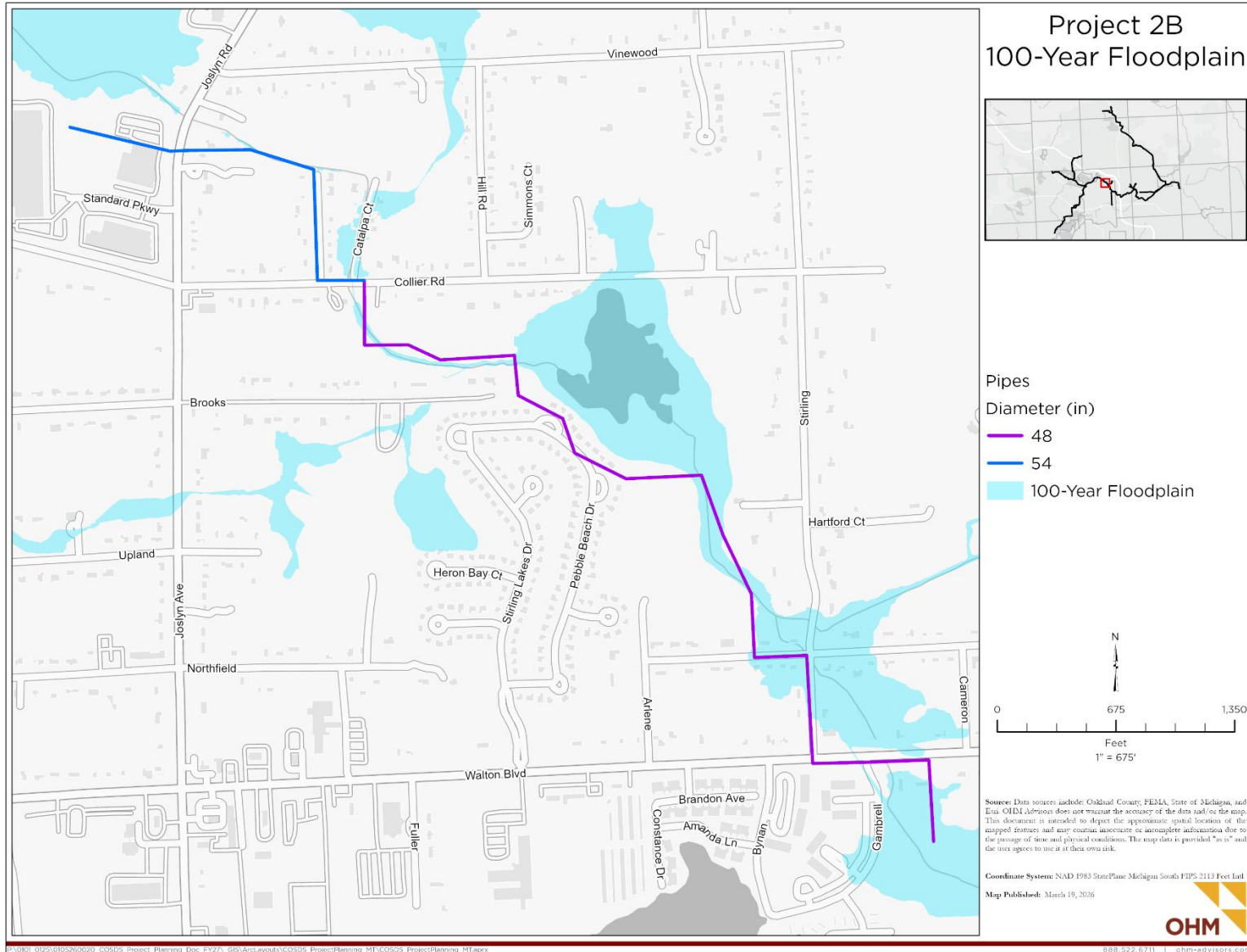


Figure 9. Area 2B – Between Joslyn and Walton Boulevard 100-Year Floodplain Map

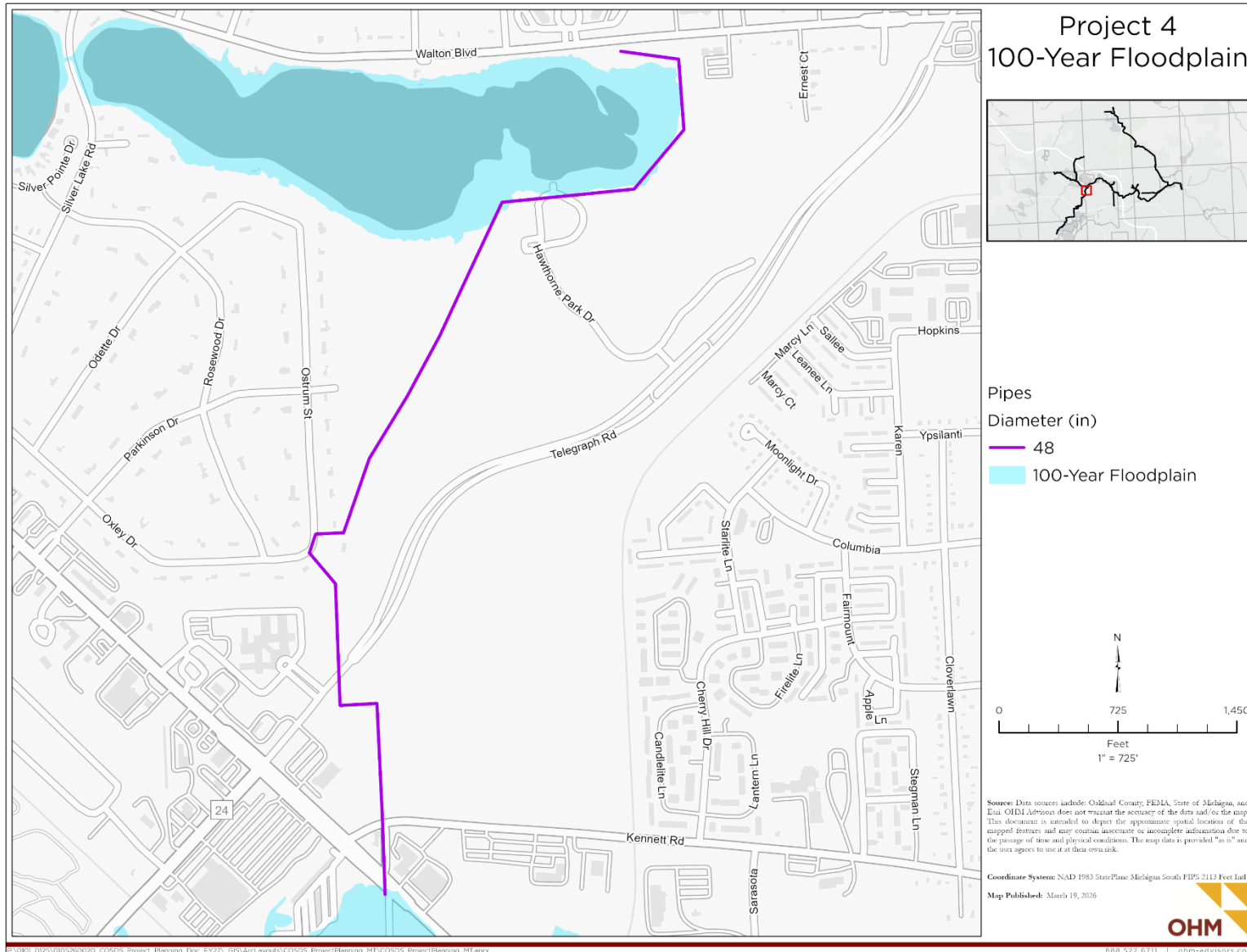


Figure 10. Area 4 – Between West Kennett Road and West Walton Boulevard 100-Year Floodplain Map

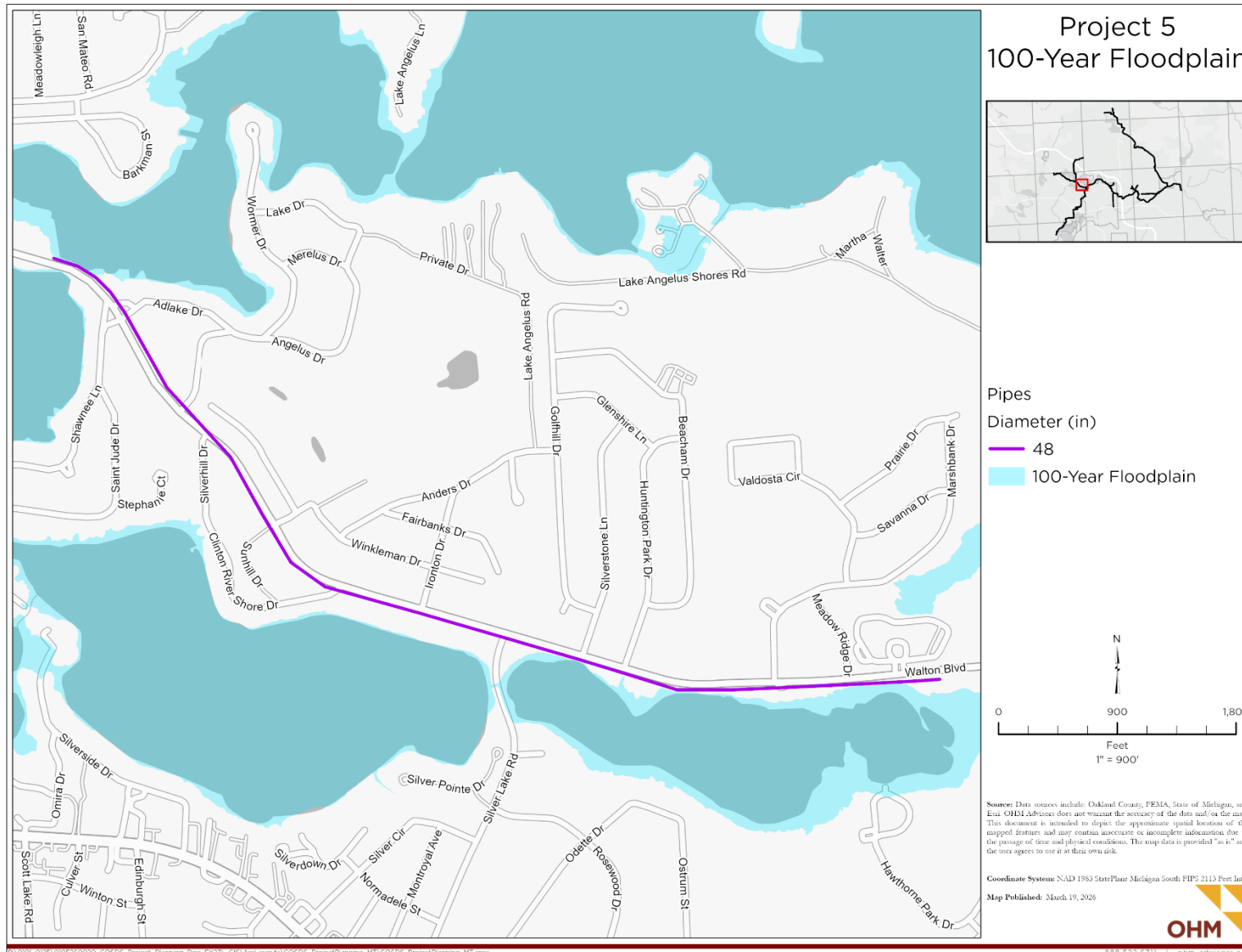


Figure 11. Area 5 – West Walton Boulevard 100-Year Floodplain Map

Project Area 2B passes underneath the streams several times and has sections in the 100-year flood plain, particularly in the southern portion of the project. Project Area 4 passes around Upper Silver Lake and borders or passes through the 100-year flood plain. The southern end of Project Area 4 also appears to be within the 100-year flood plain. Project 5 is within the 100-year floodplain at the western end of the project and along Silver Lake and Upper Silver Lake. Sewer replacement would have more of an impact on the floodplain and inland lakes and streams compared to sewer rehabilitation. The sewer replacement impact could be minimized by utilizing trenchless installation methods such as horizontal directional drilling in these sensitive areas. The Elizabeth Lake Pump Station rehabilitation should have minimal impact on the adjacent lake.

The review of the MNFI database identified five rare, endangered, and threatened species that may be present in the project areas. The MNFI database identifies the type of habitat that is needed to support individual endangered, threatened, or species of special concern. If the needed habitat is no longer present in the area due to changes and development in the area, the observation is considered historical, and the individual species is not anticipated to be present. Table 4 summarizes the species and possible impacts based on a desktop review of the originally proposed projects areas in 2023. As the MNFI review extends 1.5 miles beyond the boundaries of the projects, the proposed project areas for FY2027 were included in the original review.

Table 4. MNFI Rare Species Review Summary

Species	Potential Impact
Bastard pennyroyal	Historical; Needed habitat not present No effect
Hairy angelica	Historical; Needed habitat not present No effect
Lake herring	No work within identified habitat No effect
Pickerel frog	Additional field survey required Possible effect
Rainbow mussel	No work within identified habitat No effect

The USFWS identified seven additional species that may be present in the project areas, as summarized in Table 5.

Table 5. USFWS Rare Species Review Summary

Species	Potential Impact
Eastern Massasauga Rattlesnake	Not likely to adversely affect
Eastern Prairie Fringed Orchid	No effect
Indiana Bat	Not likely to adversely affect
Monarch Butterfly	No effect
Rayed Bean	No effect
Salamander Mussel	No effect
Snuffbox Mussel	No effect

Most of the work is proposed in already-developed areas where there is minimal habitat present for the listed species. The sewer replacement alternative would have a greater ground disturbance, which could impact threatened and endangered species that may be present.

Impacts at the Elizabeth Lake Pump Station should be minimal, as work will be limited to on-site work and within buildings. Work outside the pump station including equipment replacement will be performed on existing concrete pads.

2. Presence of Contamination

According to EGLE’s Inventory of Facilities accessible through the Remediation Information Data Exchange, there are four Part 201 sites within the COSDS project area. There are no leaky underground storage tanks listed under Part 213 in the vicinity of the project areas. There are no Part 201 sites in the vicinity of Project Area 4. A summary of the addresses is provided in Table 6, and the locations are shown on Figures 12 and 13.

Table 6. Part 201 Sites Located in the COSDS Project Areas

Site No.	Site Name	Address
1	Collier Road and Joslyn Road Property	800 Standard Parkway, Auburn Hills, MI 48236
2	Collier Road and Joslyn Road Property	800 Standard Parkway, Auburn Hills, MI 48236
3	--	724 West Walton Boulevard, Pontiac, MI 48340
4	--	1350 West Walton Boulevard, Pontiac, MI 48340

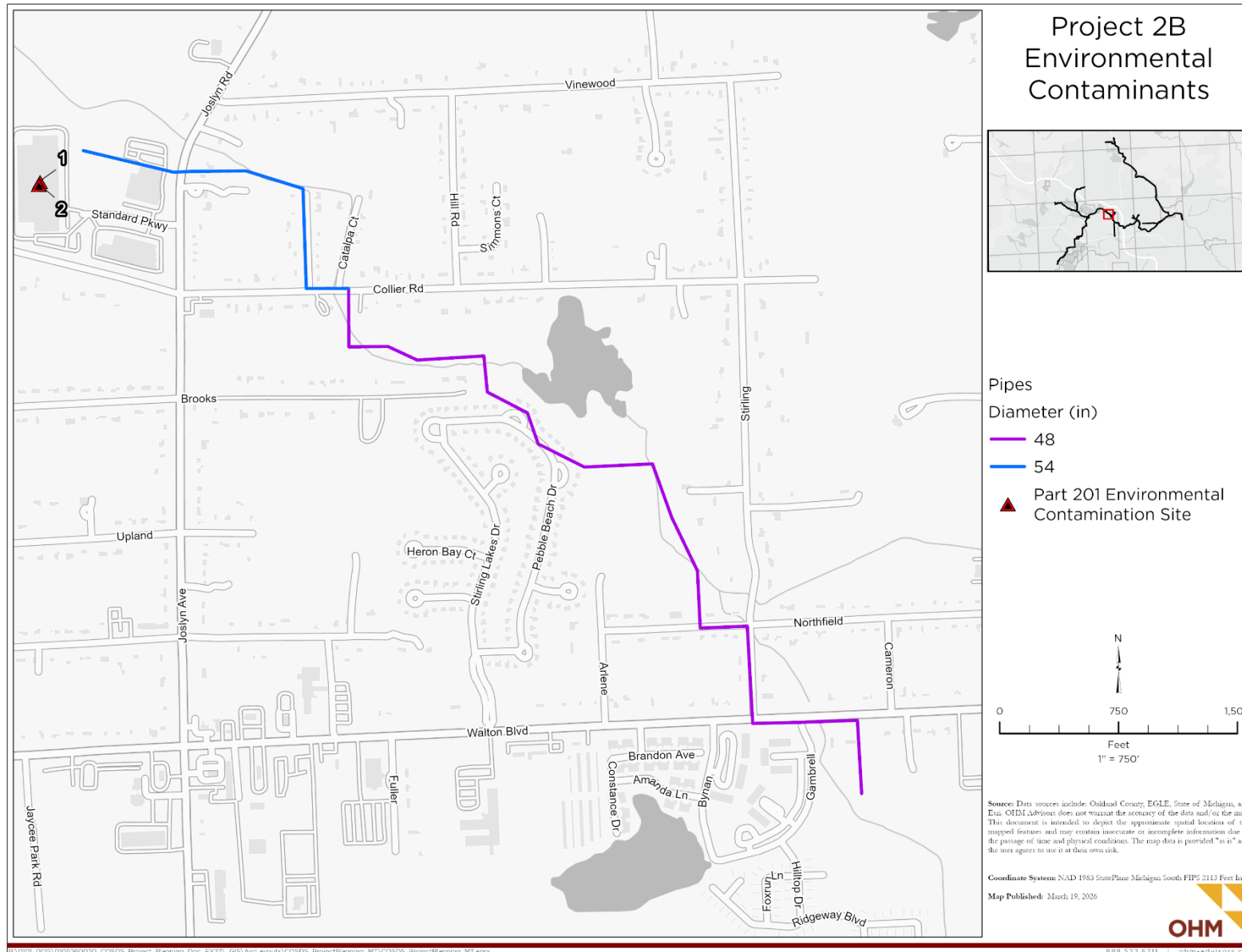


Figure 12. Area 2B – Between Joslyn and Walton Boulevard Contamination Sites Map

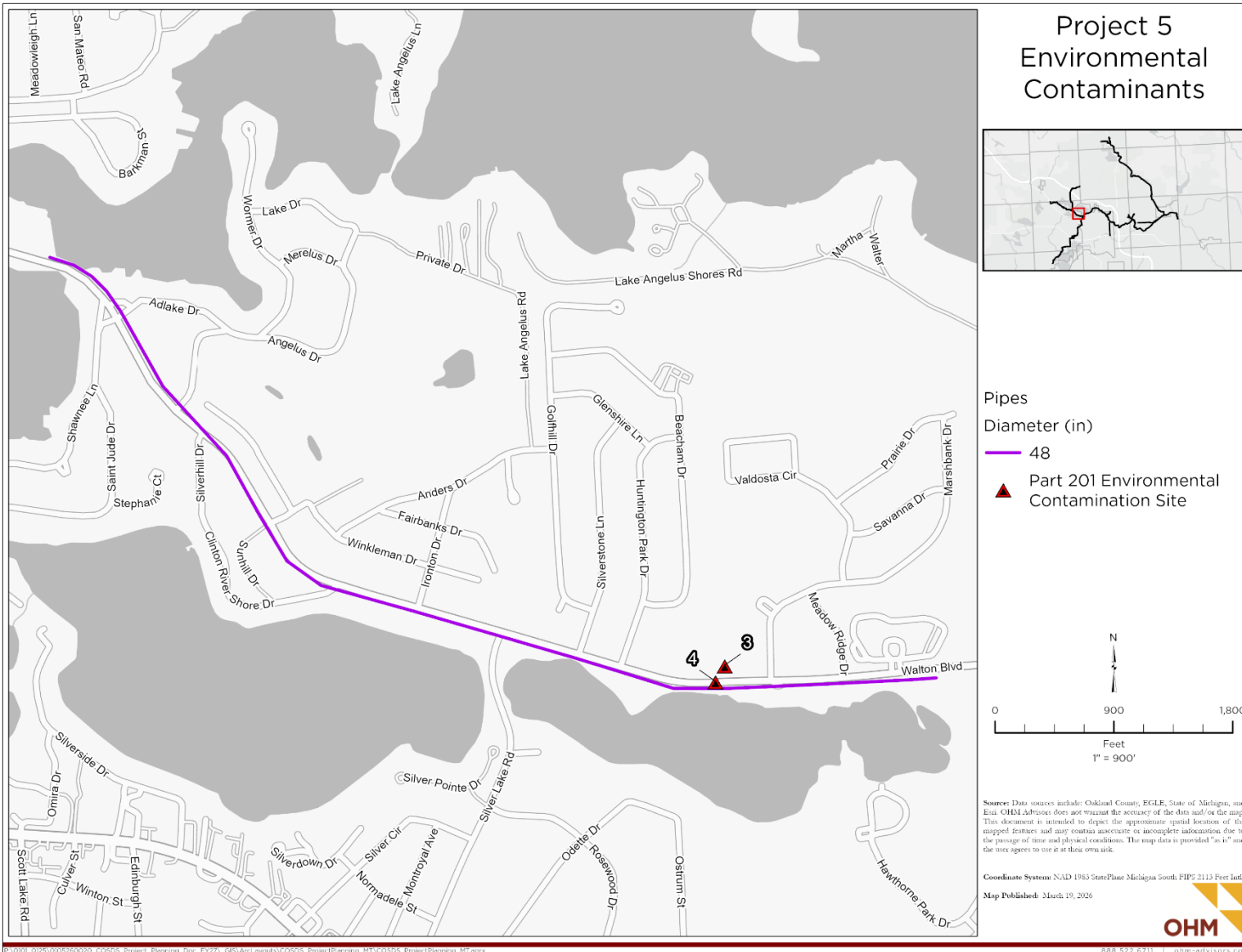


Figure 13. Area 5 – West Walton Boulevard Contamination Sites Map

Figure 12 shows that Sites 1 and 2 are at the western end of Project Area 2B. Sites 3 and 4 are north of Upper Silver Lake, adjacent to Project Area 5. Replacement of the sewer would have a greater possibility of disturbing contaminated soils compared to sewer rehabilitation. In addition, dewatering may be required for open trench replacement, which could involve contaminated groundwater. A review of the contaminants likely to be present and potential concentration levels would need to be determined to seek approval to discharge the groundwater to the CRWRRF or GLWA WRRF. If concentration levels were sufficiently high, a pretreatment system could be required by the control authorities. Sewer rehabilitation would have a lower possibility of disturbing contaminated sites.

IV. SELECTED ALTERNATIVE

Due to the larger potential environmental impact to wetlands, floodplains, inland lakes and streams, and the presence of potential contamination sites along the project areas, the selected alternative is sewer rehabilitation for Project Areas 2B, 4, and 5. The rehabilitation of Elizabeth Lake Pump Station will also be performed.

F. DESIGN PARAMETERS

A list of interceptors to be rehabilitated with the proposed diameter can be found in Appendix C.

The hydraulic model shall be updated with a new Manning’s n value for the selected sewer rehabilitation material and the hydraulic effects on the system shall be identified and evaluated. Despite minimal cross section reduction with sewer rehabilitation such as lining, the smoother Manning’s n value typically improves flow capacity.

A limited amount of wastewater residuals may be generated during the pre-rehabilitation sewer cleaning. The contract documents generated during design shall include a residual handling section. Solids will be disposed of at an authorized landfill, as applicable. Residue will be handled as a Liquid Industrial By-Product (Part 121). Contact shall be made with EGLE’s Materials Management Division for disposal.

The Elizabeth Lake Pump Station rehabilitation will comply with Ten State Standards requirements. No change to the pump station capacity is proposed and assets will be replaced in kind.

G. USEFUL LIFE

The weighted useful life for the selected projects was calculated as 33.4 years. The useful life for each asset included in the cost opinion was determined based on the values provided in the CWSRF Project Planning Document Preparation Guidance and Professional Engineer’s opinion in Appendix D. Table 7 includes the useful life that was assumed for each asset included in the cost opinion.

Table 7. Useful Life of Assets

Asset	Useful Life (years)
Conveyance (sewers, manholes, inlets, outfalls, weirs)	50
Process Equipment	20
Process Piping	50

H. SCHEDULE FOR DESIGN AND CONSTRUCTION

The WRC is requesting consideration for fiscal year 2027 fourth quarter funding under EGLE’s CWSRF program. The proposed design and construction schedule is summarized in Table 8.

Table 8. Design and Construction Schedule

Task	Submittal Date
Draft Documents Submittal to EGLE	February 19, 2027
Environmental Assessments Published No Later Than	April 23, 2027
Part I and Part II Application	May 15, 2027
Final Documents Submittal to EGLE	May 17, 2027
Finding of No Significant Impacts Clearance; Plans & Specs Approved	May 24, 2027
Bid Ad Published No Later Than	May 24, 2027
Part III of Application; Bid Data Submittal (With Tentative Contract Award)	July 8, 2027
EGLE Order of Approval Issued	August 6, 2027
Borrower's Pre-Closing with the Michigan Finance Authority (MFA)	August 20, 2027
MFA Closing	August 27, 2027
Notice to Proceed Issued	September 27, 2027
Construction Completed	December 17, 2029

I. WATER AND ENERGY EFFICIENCY

The sewer rehabilitation portion of the project will require water to clean the pipeline prior to sewer rehabilitation operations and may require water use during sewer rehabilitation operations. Potential water sources for cleaning and sewer rehabilitation include nearby water bodies or municipal water. The exact water source will be identified during the design and construction phase. If a municipal water source is selected, water use will be metered.

Most of the assets that will be replaced as part of the Elizabeth Lake Pump Station rehabilitation do not use energy. Energy efficient assets will be selected when feasible.

J. COST SUMMARY

A summary of the capital cost by project is presented in Table 9.

Table 9. Summary of Costs by Project

Category	Cost
Sewer Rehabilitation	\$46,100,000
Elizabeth Lake Pump Station Rehabilitation	\$7,500,000
Total Project Cost	\$53,600,000

User costs have been evaluated, and an analysis is provided in Table 10. Loan repayment is proposed using the WRC sewer fund. No added costs are expected for O&M activities. An interest rate of 2.75% was used to calculate user costs.

Table 10. User Cost Analysis

Project Area Name	Initial Capital Investment	Annual Debt Retirement	Annual Cost per Household*	Quarterly Cost per Household*
Sewer Rehabilitation	\$46,100,000	\$3,027,500	\$22.40	\$5.60
Elizabeth Lake Pump Station Rehabilitation	\$7,500,000	\$492,500	\$ 3.64	\$0.91
Total	\$53,600,000	\$3,520,000	\$26.04	\$6.51

*Average household size of 2.12 to 2.93 for each community in the COSDS service area per Southeastern Michigan Council of Governments (SEMCOG).

K. IMPLEMENTABILITY

The selected alternative will be implemented by WRC. All work is under the jurisdiction of the WRC and requires no inter-municipal agreements. The WRC has the legal, institutional, technical, financial, and managerial capacity to implement the project. All work will be performed in road right-of-way, easements, or on property owned by WRC.

V. ENVIRONMENTAL AND PUBLIC HEALTH IMPACTS

The main benefit of the proposed sewer rehabilitation project is to address a portion of the system's structural damage and to prevent future corrosion via sewer rehabilitation. Sewer rehabilitation will provide increased hydraulic capacity in the system. The main benefit of the proposed pump station improvements is to replace pump station assets at the end or near the end of their useful lives.

Adverse environmental and public health impacts for both the sewer rehabilitation and the pump station rehabilitation work are generally limited to short term construction impacts, such as temporary noise, dust, and traffic disruptions.

A. DIRECT IMPACTS

1. Construction Impacts

Normal construction activities have the potential to produce noise and dust. All applicable ordinances will be followed during construction.

The sewer rehabilitation operations will have some impact on traffic in the vicinity of where the construction is occurring. The project will require lane closures when access to the interceptor for lining operations is needed at manholes located within the roadway. Easements to access properties that are not along roadways will need to be obtained. The pump station rehabilitation work will have little impact on traffic unless limited lane closures are needed during equipment delivery.

An onsite wetland evaluation will be performed once the limits of construction are further refined during the design phase for the project and required permits will be submitted to EGLE for approval. There should be minimal disturbance of land within the floodplains, but bypass pumping equipment may need to be placed within the 100-year floodplain. Wetlands and adjacent lakes and streams would need to be protected during construction to minimize impacts.

During design, field visits will be scheduled to determine if suitable habitat is present for threatened or endangered species in the project areas.

2. Operational Impacts

There will be no adverse operational impacts associated with this project. Bypass pumping during sewer rehabilitation and pump station rehabilitation shall be provided to maintain continuous sanitary sewer service. The ability to pump the wastewater at the Elizabeth Pump Station must be maintained during construction.

3. Social Impacts

Impacts on materials, land, and energy will be minimized by selection of qualified contractors. All construction activities will take place in previously serviced areas. Construction will increase the number of temporary construction-related jobs and will help to retain existing positions.

No long-term impacts are expected as a result of the proposed project.

B. INDIRECT IMPACTS

There are no anticipated impacts to the rate, density, or type of development due to this project. There are no expected changes in land use. There are no expected changes in air quality due to primary or secondary development. Impacts related to air quality are limited to direct impacts due to traffic and construction equipment.

There are no anticipated changes to the natural setting or ecosystem. Threatened and endangered species are not anticipated to be impacted by the proposed projects. Tree clearing will be avoided to the extent possible.

Impacts on cultural, human, social, and economic sources are expected to be minimal, and occur during the construction phase as a result of the traffic control around the construction area. These impacts are expected to be short-term.

Impacts on area aesthetics will be limited to construction equipment and vehicles within the project area for the duration of construction. There are no anticipated permanent area aesthetic changes. Following construction, the project areas will be restored to their previous condition.

Resource consumption will be required for the manufacturing of the materials used during the sewer rehabilitation and pump station rehabilitation projects.

C. CUMULATIVE IMPACTS

Minimal cumulative impacts are anticipated as a result of the improvement projects.

Siltation will only occur during construction of the project and proper soil erosion and sedimentation control measures will be required and included in the bidding documents.

VI. MITIGATION

A. MITIGATION OF SHORT-TERM IMPACTS

Typical construction mitigation is expected for the proposed project.

Traffic control may be required for portions of the project where access to manholes within the roadway for sewer rehabilitation is needed. Access to some roads may be temporarily restricted to provide a safe working environment.

Dust control will be required during construction. Street sweeping in accordance with local standards shall be implemented.

Soil erosion and sedimentation control measures will be required during the construction process to mitigate siltation. The disposal of spoils in wetlands, floodplains, and other sensitive areas will be prohibited in the contract documents.

Vegetation disrupted by the construction process will be restored to its original condition. Limited tree clearing may be required. During design, if it is determined that tree clearing is required, tree clearing will be scheduled between October 1st and March 31st to avoid disturbing the bat species. If habitat or threatened and endangered species concerns are identified during the field visit, appropriate actions would be taken to avoid these areas and/or mitigate any disturbance so that the species are protected. Additionally, any observations will be reported to Oakland County and MDNR office within 24 hours.

Service will be maintained for residents during construction with the use of bypass pumping. Bypass pumping equipment shall follow all local noise ordinances.

Construction activities are anticipated to start in 2027 and to conclude in 2029.

B. MITIGATION OF LONG-TERM IMPACTS

Wetland disturbance is one long-term impact expected due to sewer rehabilitation construction activities. Manhole access within wetlands is anticipated to perform sewer rehabilitation. A wetland delineation will need to be performed prior to construction to identify exact wetland limits relative to the proposed project area. Temporary construction mats may be required for work within wetlands. Wetland mitigation will be required in areas where access manholes fall within delineated wetlands. All EGLE permit requirements for work within wetlands will be adhered to.

No other long-term impacts due to sewer rehabilitation or pump station rehabilitation are anticipated.

C. MITIGATION OF INDIRECT IMPACTS

The proposed project is intended to improve the reliability of the existing sewer system by replacing degrading sections of the interceptor and making pump station improvements to ensure continued uninterrupted pump station operations. While population growth within the COSDS service area is projected over the next 20-years, the project itself is not intended to induce growth within the COSDS service area.

VII. PUBLIC PARTICIPATION

A. PUBLIC MEETING

A public meeting will be held on April 8, 2026 to review the proposed projects.

B. PUBLIC MEETING ADVERTISEMENT

The public meeting notice was published on March 23, 2026. The public meeting notice was published on the WRC website along with a copy of the draft Project Planning Document for public review. A copy of the advertisement for the public meeting can be found in Appendix E.

C. PUBLIC MEETING SUMMARY

The public meeting presentation and summary will be included in Appendix E. A list of attendees will also be included in Appendix E.

D. ADOPTION OF THE PROJECT PLANNING DOCUMENT

WRC adopted a resolution following the public meeting on April XX, 2026. A signed copy of the resolution is included in Appendix F, along with the CWSRF Submittal Forms. These forms include:

- Clean Water State Revolving Funds (CWSRF/SWQIF) Project Planning Document Submittal Form
- Project Useful Life and Cost Analysis Certification Form
- Project Priority List Scoring Data Form
- Overburdened Form

The Fiscal Sustainability Plan Certification Form is included in Appendix G, as described in Section VIII, Technical Considerations.

VIII. TECHNICAL CONSIDERATIONS

A. INFILTRATION AND INFLOW

I/I is not a known problem within the COSDS system.

B. STRUCTURAL INTEGRITY

As previously discussed, WRC had sewers televised as part of the SAW Grant program. The videos were reviewed and scored in accordance with NAASCO PACP scoring requirements. All piping proposed for rehabilitation are based on a combination of Grade 4 or Grade 5 structural defects and the presence of hydrogen sulfide. Short sections of sewers that scored below a 4 were also included if they were between longer sections of piping that scored as 4s. Appendix C contains the structural defect integrity spreadsheet with associated PACP scores.

C. FISCAL SUSTAINABILITY PLAN

In 2014, the Water Resources Reform and Development Act (WRRDA) was passed, which required that CWSRF Project Planning Documents include a Fiscal Sustainability Plan (FSP). The required elements to be addressed in the FSP include:

- Inventory of critical assets that are part of the treatment works.
- Evaluation of the condition and performance of inventoried assets or asset groupings.
- Certification that the recipient has evaluated and will be implementing water and energy conservation efforts as part of the plan.
- A plan for maintaining, repairing, funding, and as necessary replacing the treatment works.

The asset inventory and condition of assets for the collection system sewer rehabilitation were described in the Structural Integrity Section. Appendix C includes the PACP scores for the collection system rehabilitation projects. In addition, the assets that are proposed to be replaced in the Elizabeth Lake Pump Station are included in Appendix G, along with a copy of the FSP.

APPENDIX A: THREATENED AND ENDANGERED SPECIES WEB DATABASE REVIEW



February 24, 2023

Michigan Natural Features Inventory (MNFI) Web Database Review – WRC COSDS, Oakland County, MI

OHM has reviewed the Threatened and Endangered Species list generated by the MNFI Web Database, conducted on February 24, 2023. During this Review, the project location was checked against known localities for rare species, and 5 State threatened, endangered, or species of special concern have been documented within the 1.5 mile project area buffer and it is possible that without proper management negative impacts may occur. The species listed include the following: Bastard pennyroyal (*Trichostema dichotomum*), Hairy angelica (*Angelica venenose*), Lake herring (*Coregonus artedi*), Pickerel frog (*Lithobates palustris*) and Rainbow mussel (*Villosa iris*). Additionally, ESA Section 7 species were generated via the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) website and comments were provided for 7 Federally listed threatened, endangered, or candidate species and included the Indiana Bat (*Myotis sodalis*), Northern Long-Eared Bat (*Myotis septentrionalis*), Tricolored Bat (*Perimyotis subflavus*), Eastern Massasauga Rattlesnake (*Sistrurus c. catenatus*), Snuffbox Mussel (*Epioblasma triquetra*), Rayed Bean (*Vilosa fabalis*) and the Monarch Butterfly (*Danaus plexipuss*). Determinations for Federally listed species will be made utilizing the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) website.

The WRC COSDS project involves pipe lining of the existing sanitary sewer system to reduce I&I within the sewer system.

For the 5 State listed species in the document provided OHM Advisors has made preliminary determinations related to potential field surveys for listed species. In response to the Rare Species Review provided by MNFI OHM Advisors has prepared the following strategy and documentation to ensure this project does not result in take of species listed in the review.

Bastard pennyroyal (*Trichostema dichotomum*) State Threatened. MNFI describes the habitat for this species as dry barrens and prairies and oak savanna areas in southern Lower Michigan. A desktop review of the surrounding landcover has determined that no suitable habitat is located within the project area. The last observation of this species in within 1.5 miles of the project area occurred in 1916 and is considered historical. OHM has determined no effect to this species. In the event Bastard pennyroyal is observed during project activities said observation will be reported to local county MDNR office within 24 hours.

Hairy angelica (*Angelica venenose*) State Species of Special Concern. MNFI describes the habitat for this species as open, upland oak forests, savanna and prairie remnants, and open, sandy woodlots. A desktop review of the surrounding landcover has determined that no suitable habitat is located within the project area. The last observation of this species in within 1.5 miles of the project area occurred in 1880 and is considered historical. OHM has determined no effect to this species. In the event Hairy angelical is observed during project activities said observation will be reported to local county MDNR office within 24 hours.

Lake herring (*Coregonus artedi*) State Threatened. MNFI describes the habitat for this species as deep inland lakes as well as the Great Lakes at depths ranging from 18 to 53 meters. They can be found in shallower depths (9-12 m) when spawning over rocky substrates. No in water work will occur during the project. The last observation of this species in within 1.5 miles of the project area occurred in 2014. OHM has determined no effect to this species. In the event Lake herring is observed during project activities said observation will be



reported to local county MDNR office within 24 hours.

Pickereel Frog (*Lithobates palustris*) State Species of Special Concern. MNFI describes the habitat for this species as freshwater aquatic and wetland habitats, including fens, bogs, marshes, shrubby/open wet meadows, forested wetlands, ponds, slow-moving streams, springs, and backwater sloughs or swamps. The last observation of this species in within 1.5 miles of the project area occurred in 1928. Additional field surveys will be needed to make a final determination of impact for this species.

Rainbow mussel (*Villosa iris*) State Species of Special Concern. MNFI describes the habitat for this species as coarse sand or gravel in small to medium streams. No in water work will occur during the project. The last observation of this species in within 1.5 miles of the project area occurred in 2004. OHM has determined no effect to this species. In the event False hop sedge is observed during project activities said observation will be reported to local county MDNR office within 24 hours.

If additional information is needed, please contact me via email at wade.rose@ohm-advisors.com.

Sincerely,

A handwritten signature in black ink, appearing to be 'Wade Rose', written over a horizontal line.

Wade Rose, OHM Advisors Ecologist



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Michigan Ecological Services Field Office
2651 Coolidge Road Suite 101
East Lansing, MI 48823-6360
Phone: (517) 351-2555 Fax: (517) 351-1443

In Reply Refer To:

03/19/2026 14:55:46 UTC

Project code: 2026-0064840

Project Name: WRC COSDS Segment 2B

Subject: Verification letter for the project named 'WRC COSDS Segment 2B' for specified threatened and endangered species that may occur in your proposed project location consistent with the Michigan Endangered Species Determination Key (Michigan DKey)

Dear Wade Rose:

The U.S. Fish and Wildlife Service (Service) received on **March 19, 2026** your effect determination(s) for the 'WRC COSDS Segment 2B' (the Action) using the Michigan DKey within the Information for Planning and Consultation (IPaC) system. The Service developed this system in accordance with the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based on your answers and the assistance of the Service's Michigan DKey, you made the following effect determination(s) for the proposed Action:

Species	Listing Status	Determination
Eastern Massasauga (=rattlesnake) (<i>Sistrurus catenatus</i>)	Threatened	NLAA
Eastern Prairie Fringed Orchid (<i>Platanthera leucophaea</i>)	Threatened	No effect
Indiana Bat (<i>Myotis sodalis</i>)	Endangered	NLAA
Monarch Butterfly (<i>Danaus plexippus</i>)	Proposed	No effect
	Threatened	
Salamander Mussel (<i>Simpsonaias ambigua</i>)	Proposed	No effect
	Endangered	
Snuffbox Mussel (<i>Epioblasma triquetra</i>)	Endangered	No effect

For additional information on these species and their life history, status, and our process for evaluating effects, please refer to the [Michigan Endangered Species Determination Key Standing Analysis](#).

The Service will notify you within 30 calendar days if we determine that this proposed Action does not meet the criteria for a “may affect, not likely to adversely affect” (NLAA) determination for Federally listed species in Michigan. If we do not notify you within that timeframe, you may proceed with the Action under the terms of the NLAA concurrence provided here. This verification period allows the Michigan Ecological Services Field Office to apply local knowledge to evaluation of the Action, as we may identify a small subset of actions having impacts that were unanticipated. In such instances, the Michigan Ecological Services Field Office may request additional information to verify the effects determination reached through the Michigan DKey.

Your agency has met consultation requirements by informing the Service of your “No Effect” determination(s). No consultation is required for species that you determined will not be affected by the Action.

Please provide sufficient project details on your project homepage in IPaC (Define Project, Project Description) to support your conclusions and the Service’s 30-day review period. Failure to disclose important aspects of your project that would influence the outcome of your effects determinations may negate your determinations and invalidate this letter. If you have site-specific information that leads you to believe a different determination is more appropriate for your project than what the Dkey concludes, you can and should proceed based on the best available information.

The Service recommends that you contact the Service or re-evaluate the project in IPaC if: 1) the scope or location of the proposed Action is changed; 2) new information reveals that the action may affect listed species or designated critical habitat in a manner or to an extent not previously considered; 3) the Action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation with the Service should take place before project changes are final or resources committed.

For non-Federal representatives: Please note that when a project requires consultation under section 7 of the Act, the Service must consult directly with the Federal action agency unless that agency formally designates a non-Federal representative (50 CFR 402.08). Non-Federal representatives may prepare analyses or conduct informal consultations; however, the ultimate responsibility for section 7 compliance under the Act remains with the Federal agency. Please include the Federal action agency in additional correspondence regarding this project.

Monarch Butterfly:

Monarch butterfly was proposed for listing as threatened on December 12, 2024. If listed, protections would only go into place after the final rule is published. The U.S. Fish and Wildlife Service continues to evaluate the monarch butterfly using the best available science and in accordance with all requirements of the Endangered Species Act. As reflected in the [Trump Administration’s Unified Agenda of Regulatory and Deregulatory Actions](#), the final listing determination for the monarch is included as a long-term action. The administration continues to emphasize voluntary, locally driven conservation as a proven tool for supporting species and reducing the need for additional federal regulation. To learn more about how to conserve

monarch, refer to the monarch section of the [Standing Analysis](#) and visit our [Save the Monarch website](#).

Bald and Golden Eagle Protection Act

Bald eagles, golden eagles, and their nests are protected under the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended, 16 U.S.C. 668a-d) (Eagle Act). The Eagle Act prohibits, except when authorized by an Eagle Act permit, the “taking” of bald and golden eagles and defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” The Eagle Act’s implementing regulations define disturb as “...to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

If the Action may impact bald or golden eagles, additional coordination with the Service under the Eagle Act may be required. For more information on eagles and conducting activities in the vicinity of an eagle nest, please visit our [Eagle Management webpage](#). In addition, the Service developed the [National Bald Eagle Management Guidelines \(May 2007\)](#) in order to assist landowners in avoiding the disturbance of bald eagles. If you have further questions regarding potential impacts to eagles, please contact Chris Mensing, Chris_Mensing@fws.gov or 517-351-2555.

Wetland Impacts:

Section 404 of the Clean Water Act of 1977 (CWA) regulates the discharge of dredged or fill material into waters (including wetlands) of the United States. Regulations require that activities permitted under the CWA (including wetland permits issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE)) not jeopardize the continued existence of species listed as endangered or threatened. Permits issued by the U.S. Army Corps of Engineers must also consider effects to listed species pursuant to section 7 of the Endangered Species Act. The Service provides comments to the agencies that may include permit conditions to help avoid or minimize impacts to wildlife resources including listed species. For this project, we consider the conservation measures you agreed to in the determination key and/or as part of your proposed action to be non-discretionary. Include a copy of this letter in your wetland permit application to streamline the threatened and endangered species review process.

Summary of conservation measures for your project You agreed to the following conservation measures to avoid adverse effects to listed species and our concurrence is only valid if the measures are fully implemented. These must be included as permit conditions if a permit is required and/or included in any contract language.

Eastern Massasauga: Materials used for erosion control and site restoration must be [wildlife-friendly](#). Do not use erosion control products containing plastic mesh netting or other similar material that could entangle eastern massasauga rattlesnake (EMR). Several products for soil erosion and control exist that do not contain plastic netting including net-less erosion control blankets (for example, made of excelsior), loose mulch, hydraulic mulch, soil binders, unreinforced silt fences, and straw bales. Others are made from natural fibers (such as jute) and loosely woven together in a manner that allows wildlife to wiggle free.

Eastern Massasauga: To increase human safety and awareness of EMR, those implementing the project must first review the EMR factsheet (available at <https://www.fws.gov/media/eastern-massasauga-rattlesnake-fact-sheet>), and watch MDNR's "60-Second Snakes: The Eastern Massasauga Rattlesnake" video (available at https://www.youtube.com/watch?v=-PFnXe_e02w).

Eastern Massasauga: During project implementation, report sightings of any federally listed species, including EMR, to the U.S. Fish and Wildlife Service within 24 hours.

Eastern Massasauga: The project will not result in permanent loss of more than one acre of wetland or conversion of more than 10 acres of EMR upland habitat (uplands associated with high quality wetland habitat) to other land uses.

Listed Bats: The action will not include temporary or permanent lighting of roadway(s), facility(ies), and/or parking lot(s).

Listed Bats: Tree cutting/trimming and/or prescribed burning will not clear ≥ 20 contiguous acres of forest (excluding narrow, linear corridors < 1000 feet wide) and will not fragment a connective corridor between 2 or more forest patches of at least 5 acres.

Listed Bats: Tree cutting/trimming and/or prescribed burning will not clear ≥ 10 contiguous acres of modeled forested habitat (excluding narrow, linear corridors < 1000 feet wide) and will not fragment a connective corridor between 2 or more forest patches of at least 5 acres.

Listed Bats: All tree cutting/trimming will be conducted outside the period of April 15 through September 30 (that is, limited to October 1 through April 14).

Listed Bats: The project will not include the application or potential drift of insecticides, fungicides, or rodenticides into forested habitats.

Listed Bats: The action will not include prescribed burning within or adjacent to (within 200 feet of) mature forest.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

WRC COSDS Segment 2B

2. Description

The following description was provided for the project 'WRC COSDS Segment 2B':

The project will involve the lining of existing sanitary sewer lines. The project has an anticipated start date of September 2027.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.6817587,-83.269489248324,14z>



QUALIFICATION INTERVIEW

1. Are there any possible effects to any listed species or to designated critical habitat from your project or effects from any other actions or projects subsequently made possible by your project?

Note: select "Yes" even if the expected effects to the species or critical habitat are expected to be 1) extremely unlikely (discountable), 2) can't meaningfully be measured, detected, or evaluated (insignificant), or 3) wholly beneficial. Select "No" to confirm that the project details and supporting information allow you to conclude that listed species and their habitats will not be exposed to any effects (including discountable, insignificant, or beneficial effects) and therefore, you have made a "no effect" determination for all species. If you are unsure, select YES to answer additional questions about your project.

Yes

2. This determination key is intended to assist the user in the evaluating the effects of their actions on Federally listed species in Michigan. It does not cover other prohibited activities under the Endangered Species Act (e.g., for wildlife: import/export, Interstate or foreign commerce, possession of illegally taken wildlife, purposeful take for scientific purposes or to enhance the survival of a species, etc.; for plants: import/export, reduce to possession, malicious destruction on Federal lands, commercial sale, etc.) or other statutes.

Click **yes** to acknowledge that you must consider other prohibitions of the ESA or other statutes outside of this determination key.

Yes

3. Is the action approval of a Federal Land Management Plan (e.g., USFS Land and Resource Management Plan), INRMP, FERC licenses/relicensing, NRC licenses/relicensing, or similar plan? These efforts are beyond the scope of this dkey; users should answer yes to this question and contact the Michigan Ecological Services Field Office for assistance with section 7 consultation requirements.

No

4. Is the action being funded, authorized, or carried out by a Federal agency?

Yes

5. Does the action require a Michigan EGLE/Army Corps of Engineers joint permit?

Yes

6. Is this an NRCS-funded Forest Management Plan?

No

7. Does the action involve wind energy?

No

8. Does the action involve solar energy?

No

9. Are there at least 30 days prior to your action occurring?

Endangered species consultation must be completed before taking any action that may have effects to listed species. **If you have already started some components of the project on the ground (e.g., removed vegetation) before completing this Dkey, answer “no” to this question.** The only exception is if you have received approval from the Michigan Field Office to use the Dkey less than 30 days before the action will occur. The U.S. Fish and Wildlife Service also needs time to review projects before we can verify conclusions in some dkey output letters.

Yes

10. Does the action involve constructing a new communications tower or modifying an existing communications tower?

No

11. Does the activity involve aerial or other large-scale application of any chemical (including insecticide, herbicide, lampricide, etc.)?

No

12. Does your project include water withdrawal (ground or surface water) greater than 10,000 gallons/day?

No

13. Will your action permanently affect hydrology?

No

14. Will your action temporarily affect hydrology?

No

15. Will your project have any direct impacts to a water body (including Horizontal Directional Drilling (HDD) due to potential for frac out, dredging, hydrostatic testing, stream/road crossings, new storm-water outfall discharge, dams, other in-stream work, changes to water quality or hydrology, etc.)?

No

16. Does your project have the potential to indirectly impact a waterbody or riparian zone (e.g., cut and fill, horizontal directional drilling due to the potential for frac out, hydrostatic testing, construction, vegetation removal, discharge, changes to water quality or hydrology, etc.)?

Yes

17. Will your action disturb the ground or existing vegetation?

Note: This includes any off road vehicle access, soil compaction, digging, seismic survey, directional drilling, heavy equipment, grading, trenching, placement of fill, pesticide application, vegetation management (including removal or maintenance using equipment or chemicals), tree clearing, cultivation, development, etc.

Yes

18. Does the action intersect the **monarch butterfly** species list area?

Automatically answered

Yes

19. Monarch butterfly was proposed for listing as threatened on December 12, 2024. Through May 19, 2025, we are gathering input through an extended public comment period to encourage the submission of any new information. We will review these comments and then will ultimately issue a final rule. If listed, protections would only go into place after the final rule is published. We encourage implementing measures that will remove or reduce threats to monarch. If your project will have no effect on monarch butterflies (for example, if your project won't affect their habitat or individuals), then you can make a "no effect" determination for this project.

Are you making a "**no effect**" determination for monarch? Please note that the FWS does not provide concurrence on "no effect" determinations.

Yes

20. Does the action intersect the **Eastern massasauga rattlesnake** species list area?

Automatically answered

Yes

21. Does your action involve prescribed fire?

No

22. Will this action occur entirely in the Eastern massasauga rattlesnake inactive season (October 16 through April 14)?

No

23. Will this action occur entirely in the Eastern massasauga rattlesnake active season (April 15 through October 15)?

No

24. Will the action result in permanent loss of more than one acre of wetland or conversion of more than 10 acres of uplands of potential Eastern massasauga rattlesnake habitat (uplands associated with high quality wetland habitat) to other land uses?

No

25. Will you use [wildlife safe materials](#) for erosion control and site restoration and eliminate the use of erosion control products containing plastic mesh netting or other similar material that could ensnare eastern massasauga rattlesnake? Please note that eastern massasauga rattlesnake have been ensnared in plastic erosion control netting outside known habitat.

Yes

26. Will you watch MDNR's ["60-Second Snakes: The Eastern Massasauga Rattlesnake \(EMR\)"](#) video or review the [EMR factsheet](#) to increase human safety and awareness of EMR?

Yes

27. Will all action personnel report any Eastern massasauga rattlesnake observations, or observation of any other listed threatened or endangered species, during action implementation to the Service within 24 hours?
Yes
28. Does the action area intersect the **snuffbox** species list area?
Automatically answered
Yes
29. Does the action area intersect the **Salamander mussel** species list area?
Automatically answered
Yes
30. Does the action area intersect the **Eastern prairie fringed orchid** species list area?
Automatically answered
Yes
31. Does the action area intersect the **Indiana bat** species list area?
Automatically answered
Yes
32. Does the action area contain [potential Indiana bat roost trees](#) (trees ≥ 5 inches in diameter [at breast height] with cracks, crevices and/or exfoliating bark)?
Yes
33. Does the action intersect the **tricolored bat** species list area?
Automatically answered
No
34. Does this project intersect the **Northern long-eared bat** species list area?
Automatically answered
No
35. Does the action area contain any known or potential hibernacula (natural caves, abandoned mines, or underground quarries)?
No
36. Has a presence/absence bat survey or field-based habitat assessment following the [USFWS Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines](#) been conducted within the action area?
No
37. Does the action involve removal/modification of a human structure (barn, house or other building) known to contain roosting bats?
No
38. [Semantic] Does the action area intersect the third county tier?
Automatically answered
Yes

39. Does the action include removal/modification of an existing bridge?

No

40. Does the action include temporary or permanent lighting of roadway(s), facility(ies), and/or parking lot(s)?

No

41. Does the action include herbicide application?

No

42. Does the action include the application or potential drift of insecticides, rodenticides, or fungicides (not including herbicides) into forested habitats?

Answer "Yes" if the application may result in transport (e.g., in water) or aerial drift of the pesticide into forested areas.

No

43. Does the action include tree cutting/trimming of any kind?

Yes

44. Does the action include prescribed burning within or adjacent to (within 200 feet of) mature forest?

No

45. Is tree cutting/trimming and/or prescribed burning limited to that associated with forest management (e.g., cutting and/or burning in forest habitat as a part of continuing forest land-use)?

Select "No" if the project includes cutting and/or burning for development or conversion of forested habitat other than forestry-related road/trail creation or maintenance.

No

46. Does the action include emergency cutting/trimming of hazard trees in order to prevent imminent loss of human life and/or property?

No

47. [Semantic] Is any portion of the action area within 5 miles of a known bat hibernaculum?

Automatically answered

No

48. Will the action clear or convert >20 acres of contiguous forest (i.e., connected by 1,000 feet or less) or fragment a riparian or other connective forested corridor (e.g., tree line) between 2 or more forest patches of at least 5 acres?

Select "No" if the clearing will be limited to a narrow, linear corridor (e.g., a right-of-way) <1000 feet wide.

For more information, see [Appendix II](#).

No

49. [Hidden Semantic] Does the action area intersect the SE_LP_S Michigan Modeled Bat Habitat?

Automatically answered

Yes

50. Your project intersected [modeled bat habitat](#). Will all tree cutting/trimming be restricted to the inactive (hibernation) season for listed bats (that is, conducted during October 1 through April 14)?

Yes

51. Will the action clear or convert >10 acres of forested, modeled bat habitat?

Select "No" if the tree clearing will be limited to a narrow, linear corridor (e.g., a right-of-way) <1000 feet wide.

No

52. The Michigan Field Office receives copies of all IPaC-generated output letters, and we routinely review all letters with the exception of May Affect Technical Assistance letters (which is one of five kinds of letters you may get depending on which determinations you receive). A biologist will reach out to you within 30 days via email (from MIFO_Dkey@fws.gov) if we have questions about your project description, answers to specific questions, or determinations.

If your agency has an urgent need for approval and would like to request our review more quickly than 30 days, you can request expedited review by selecting yes to this question. Based on your planning cycle, if you do not have an urgent need for concurrence (i.e., concurrence within 30 days is sufficient), please select no.

Are you requesting expedited review for this project?

No

PROJECT QUESTIONNAIRE

Enter the total estimated acres of tree cutting/trimming included in the project as part of forest management (e.g., cutting or harvesting trees as a part of continuing forest land-use). If tree cutting/trimming will not occur as part of forest management, enter "0".

0

Enter the date range during which tree cutting/trimming will be conducted as part of forest management . If tree cutting/trimming will not occur as part of forest management, enter "NA."

NA

Enter the total estimated acres of tree cutting/trimming included in the project that is NOT associated with forest management (e.g., tree clearing/conversion or right-of-way creation/maintenance). If tree cutting/trimming is limited to that associated with forest management, enter "0".

.0002

Enter the date range during which tree cutting/trimming will be conducted that is NOT part of forest management (e.g., tree clearing/conversion or right-of-way creation/maintenance). If tree cutting/trimming is limited to that associated with forest management, enter "NA."

October 15th - March 31st

IPAC USER CONTACT INFORMATION

Agency: County of Oakland
Name: Wade Rose
Address: 34000 Plymouth Rd
City: Livonia
State: MI
Zip: 48150
Email: wade.rose@ohm-advisors.com
Phone: 2482914573

LEAD AGENCY CONTACT INFORMATION

Lead Agency: County of Oakland



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Michigan Ecological Services Field Office
2651 Coolidge Road Suite 101
East Lansing, MI 48823-6360
Phone: (517) 351-2555 Fax: (517) 351-1443

In Reply Refer To:

03/19/2026 14:49:36 UTC

Project Code: 2026-0064840

Project Name: WRC COSDS Segment 2B

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Official Species List

The attached species list identifies any Federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Under 50 CFR 402.12(e) (the regulations that implement section 7 of the Endangered Species Act), the accuracy of this species list should be verified after 90 days. You may verify the list by visiting the IPaC website (<https://ipac.ecosphere.fws.gov/>) at regular intervals during project planning and implementation. To update an Official Species List in IPaC: from the My Projects page, find the project, expand the row, and click Project Home. In the What's Next box on the Project Home page, there is a Request Updated List button to update your species list. Be sure to select an "official" species list for all projects.

Consultation requirements and next steps

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize Federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-Federal representative) must consult with the Fish and Wildlife Service if they determine their project may affect listed species or critical habitat.

There are two approaches to evaluating the effects of a project on listed species.

Approach 1. Use the All-species Michigan determination key in IPaC. This tool can assist you in making determinations for listed species for some projects. In many cases, the determination key

will provide an automated concurrence that completes all or significant parts of the consultation process. Therefore, we strongly recommend screening your project with the **All-Species Michigan Determination Key (Dkey)**. For additional information on using IPaC and available Determination Keys, visit <https://www.fws.gov/media/mifo-ipac-instructions> (and click on the attachment), or for a video overview, please visit: <https://www.youtube.com/watch?v=FfcerNCiL0I>. Please carefully review your Dkey output letter to determine whether additional steps are needed to complete the consultation process.

Approach 2. Evaluate the effects to listed species on your own without utilizing a determination key. Once you obtain your official species list, you are not required to continue in IPaC, although in most cases using a determination key should expedite your review. If the project is a Federal action, you should review our section 7 step-by-step instructions before making your determinations: <https://www.fws.gov/office/midwest-region-headquarters/midwest-section-7-technical-assistance>. If you evaluate the details of your project and conclude “no effect,” document your findings, and your listed species review is complete; you do not need our concurrence on “no effect” determinations. If you cannot conclude “no effect,” you should coordinate/consult with the Michigan Ecological Services Field Office. The preferred method for submitting your project description and effects determination (if concurrence is needed) is electronically to EastLansing@fws.gov. Please include a copy of this official species list with your request.

For all **wind energy projects**, please contact this field office directly for assistance, even if no Federally listed plants, animals or critical habitat are present within your proposed project area or may be affected by your proposed project.

Migratory Birds

Please see the “Migratory Birds” section below for important information regarding incorporating migratory birds into your project planning. Our Migratory Bird Program has developed recommendations, best practices, and other tools to help project proponents voluntarily reduce impacts to birds and their habitats. The Bald and Golden Eagle Protection Act prohibits the take and disturbance of eagles without a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <https://www.fws.gov/program/eagle-management> to help you avoid impacting eagles or determine if a permit may be necessary.

Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your consideration of threatened and endangered species during your project

planning. Please include a copy of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Michigan Ecological Services Field Office

2651 Coolidge Road Suite 101

East Lansing, MI 48823-6360

(517) 351-2555

PROJECT SUMMARY

Project Code: 2026-0064840
Project Name: WRC COSDS Segment 2B
Project Type: Wastewater Pipeline - Maintenance / Modification - Below Ground
Project Description: The project will involve the lining of existing sanitary sewer lines. The project has an anticipated start date of September 2027.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.6817587,-83.269489248324,14z>



Counties: Oakland County, Michigan

ENDANGERED SPECIES ACT SPECIES

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered

REPTILES

NAME	STATUS
Eastern Massasauga (=rattlesnake) <i>Sistrurus catenatus</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> For all Projects: Project is within EMR Range Species profile: https://ecos.fws.gov/ecp/species/2202 General project design guidelines: https://ipac.ecosphere.fws.gov/project/ZBM2QIDHTZAOHLDMF4MSZPUS4Y/documents/generated/5280.pdf	Threatened

CLAMS

NAME	STATUS
Salamander Mussel <i>Simpsonaias ambigua</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6208	Proposed Endangered
Snuffbox Mussel <i>Epioblasma triquetra</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4135	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

FLOWERING PLANTS

NAME	STATUS
Eastern Prairie Fringed Orchid <i>Platanthera leucophaea</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/601	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act ² and the Migratory Bird Treaty Act (MBTA) ¹. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

-
1. The [Bald and Golden Eagle Protection Act](#) of 1940.
 2. The [Migratory Birds Treaty Act](#) of 1918.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your [project](#) area.

Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the [National Bald Eagle Management Guidelines](#). You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#).

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

If disturbance or take of eagles cannot be avoided, an [incidental take permit](#) may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the [Do I Need A Permit Tool](#). For

assistance making this determination for golden eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

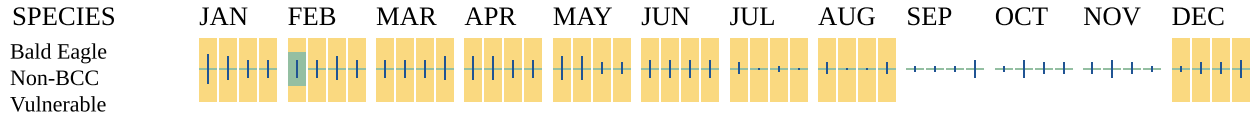
Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

■ probability of presence ■ breeding season | survey effort — no data



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) ¹ prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10

NAME	BREEDING SEASON
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454	Breeds May 20 to Jul 31
Canada Warbler <i>Cardellina canadensis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9643	Breeds May 20 to Aug 10
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Golden-winged Warbler <i>Vermivora chrysoptera</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8745	Breeds May 1 to Jul 20
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

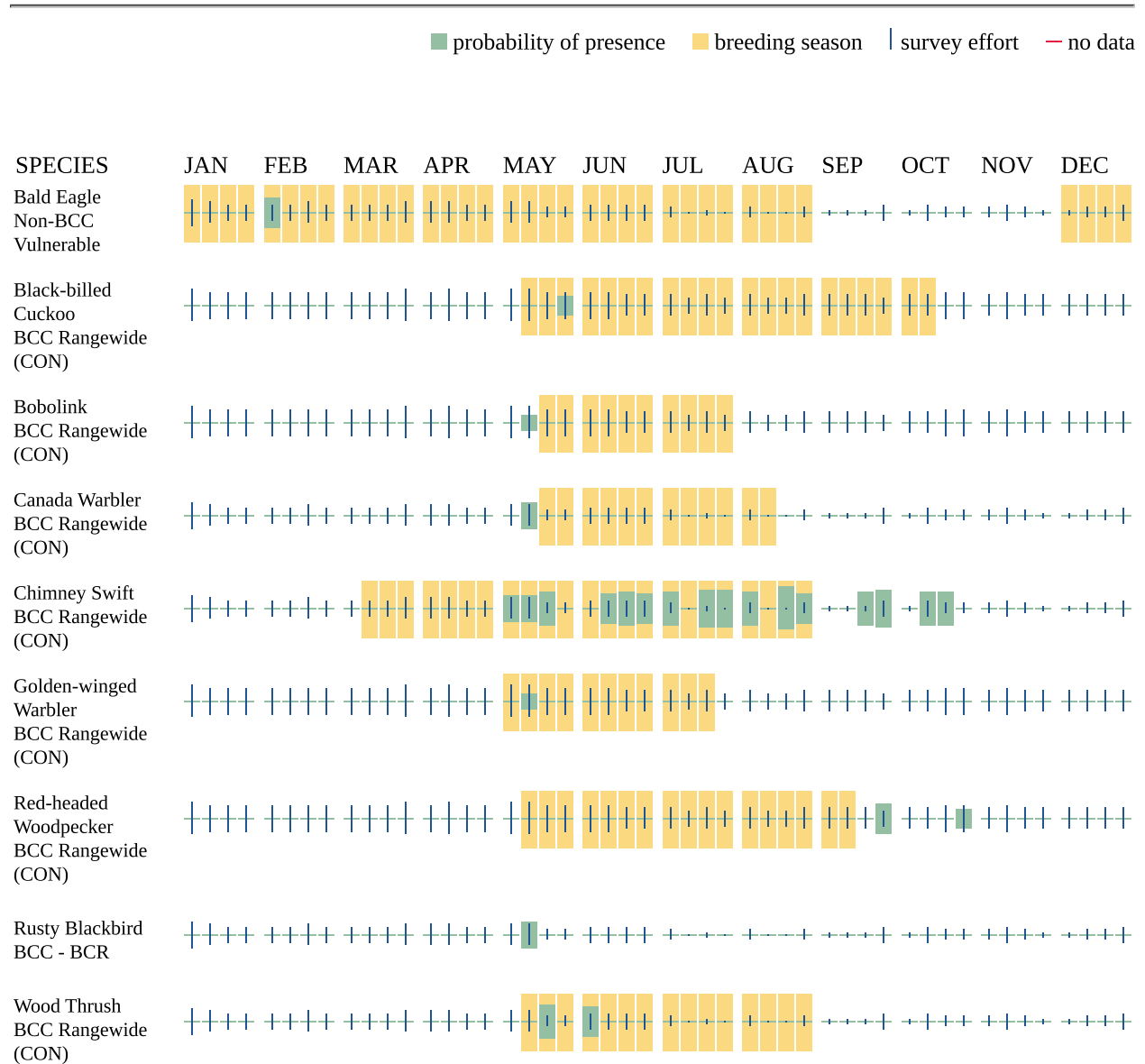
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (-)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>

- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R2UBFx
- R2UBHx

FRESHWATER EMERGENT WETLAND

- PEM1C

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1C

IPAC USER CONTACT INFORMATION

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City: Livonia
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LEAD AGENCY CONTACT INFORMATION

Lead Agency: County of Oakland



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Michigan Ecological Services Field Office
2651 Coolidge Road Suite 101
East Lansing, MI 48823-6360
Phone: (517) 351-2555 Fax: (517) 351-1443

In Reply Refer To:

03/19/2026 15:56:23 UTC

Project code: 2026-0064862

Project Name: WRC COSDS Segment 4

Subject: Verification letter for the project named 'WRC COSDS Segment 4' for specified threatened and endangered species that may occur in your proposed project location consistent with the Michigan Endangered Species Determination Key (Michigan DKey)

Dear Wade Rose:

The U.S. Fish and Wildlife Service (Service) received on **March 19, 2026** your effect determination(s) for the 'WRC COSDS Segment 4' (the Action) using the Michigan DKey within the Information for Planning and Consultation (IPaC) system. The Service developed this system in accordance with the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based on your answers and the assistance of the Service's Michigan DKey, you made the following effect determination(s) for the proposed Action:

Species	Listing Status	Determination
Eastern Massasauga (=rattlesnake) (<i>Sistrurus catenatus</i>)	Threatened	NLAA
Eastern Prairie Fringed Orchid (<i>Platanthera leucophaea</i>)	Threatened	No effect
Indiana Bat (<i>Myotis sodalis</i>)	Endangered	NLAA
Monarch Butterfly (<i>Danaus plexippus</i>)	Proposed	No effect
	Threatened	
Rayed Bean (<i>Villosa fabalis</i>)	Endangered	No effect
Salamander Mussel (<i>Simpsonaias ambigua</i>)	Proposed	No effect
	Endangered	
Snuffbox Mussel (<i>Epioblasma triquetra</i>)	Endangered	No effect

For additional information on these species and their life history, status, and our process for evaluating effects, please refer to the [Michigan Endangered Species Determination Key Standing Analysis](#).

The Service will notify you within 30 calendar days if we determine that this proposed Action does not meet the criteria for a “may affect, not likely to adversely affect” (NLAA) determination for Federally listed species in Michigan. If we do not notify you within that timeframe, you may proceed with the Action under the terms of the NLAA concurrence provided here. This verification period allows the Michigan Ecological Services Field Office to apply local knowledge to evaluation of the Action, as we may identify a small subset of actions having impacts that were unanticipated. In such instances, the Michigan Ecological Services Field Office may request additional information to verify the effects determination reached through the Michigan DKey.

Your agency has met consultation requirements by informing the Service of your “No Effect” determination(s). No consultation is required for species that you determined will not be affected by the Action.

Please provide sufficient project details on your project homepage in IPaC (Define Project, Project Description) to support your conclusions and the Service’s 30-day review period. Failure to disclose important aspects of your project that would influence the outcome of your effects determinations may negate your determinations and invalidate this letter. If you have site-specific information that leads you to believe a different determination is more appropriate for your project than what the Dkey concludes, you can and should proceed based on the best available information.

The Service recommends that you contact the Service or re-evaluate the project in IPaC if: 1) the scope or location of the proposed Action is changed; 2) new information reveals that the action may affect listed species or designated critical habitat in a manner or to an extent not previously considered; 3) the Action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation with the Service should take place before project changes are final or resources committed.

For non-Federal representatives: Please note that when a project requires consultation under section 7 of the Act, the Service must consult directly with the Federal action agency unless that agency formally designates a non-Federal representative (50 CFR 402.08). Non-Federal representatives may prepare analyses or conduct informal consultations; however, the ultimate responsibility for section 7 compliance under the Act remains with the Federal agency. Please include the Federal action agency in additional correspondence regarding this project.

Monarch Butterfly:

Monarch butterfly was proposed for listing as threatened on December 12, 2024. If listed, protections would only go into place after the final rule is published. The U.S. Fish and Wildlife Service continues to evaluate the monarch butterfly using the best available science and in accordance with all requirements of the Endangered Species Act. As reflected in the [Trump Administration’s Unified Agenda of Regulatory and Deregulatory Actions](#), the final listing determination for the monarch is included as a long-term action. The administration continues to emphasize voluntary, locally driven conservation as a proven tool for supporting species and reducing the need for additional federal regulation. To learn more about how to conserve

monarch, refer to the monarch section of the [Standing Analysis](#) and visit our [Save the Monarch website](#).

Bald and Golden Eagle Protection Act

Bald eagles, golden eagles, and their nests are protected under the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended, 16 U.S.C. 668a-d) (Eagle Act). The Eagle Act prohibits, except when authorized by an Eagle Act permit, the “taking” of bald and golden eagles and defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” The Eagle Act’s implementing regulations define disturb as “...to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

If the Action may impact bald or golden eagles, additional coordination with the Service under the Eagle Act may be required. For more information on eagles and conducting activities in the vicinity of an eagle nest, please visit our [Eagle Management webpage](#). In addition, the Service developed the [National Bald Eagle Management Guidelines \(May 2007\)](#) in order to assist landowners in avoiding the disturbance of bald eagles. If you have further questions regarding potential impacts to eagles, please contact Chris Mensing, Chris_Mensing@fws.gov or 517-351-2555.

Wetland Impacts:

Section 404 of the Clean Water Act of 1977 (CWA) regulates the discharge of dredged or fill material into waters (including wetlands) of the United States. Regulations require that activities permitted under the CWA (including wetland permits issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE)) not jeopardize the continued existence of species listed as endangered or threatened. Permits issued by the U.S. Army Corps of Engineers must also consider effects to listed species pursuant to section 7 of the Endangered Species Act. The Service provides comments to the agencies that may include permit conditions to help avoid or minimize impacts to wildlife resources including listed species. For this project, we consider the conservation measures you agreed to in the determination key and/or as part of your proposed action to be non-discretionary. Include a copy of this letter in your wetland permit application to streamline the threatened and endangered species review process.

Summary of conservation measures for your project You agreed to the following conservation measures to avoid adverse effects to listed species and our concurrence is only valid if the measures are fully implemented. These must be included as permit conditions if a permit is required and/or included in any contract language.

Eastern Massasauga: Materials used for erosion control and site restoration must be [wildlife-friendly](#). Do not use erosion control products containing plastic mesh netting or other similar material that could entangle eastern massasauga rattlesnake (EMR). Several products for soil erosion and control exist that do not contain plastic netting including net-less erosion control blankets (for example, made of excelsior), loose mulch, hydraulic mulch, soil binders, unreinforced silt fences, and straw bales. Others are made from natural fibers (such as jute) and loosely woven together in a manner that allows wildlife to wiggle free.

Eastern Massasauga: To increase human safety and awareness of EMR, those implementing the project must first review the EMR factsheet (available at <https://www.fws.gov/media/eastern-massasauga-rattlesnake-fact-sheet>), and watch MDNR's "60-Second Snakes: The Eastern Massasauga Rattlesnake" video (available at https://www.youtube.com/watch?v=-PFnXe_e02w).

Eastern Massasauga: During project implementation, report sightings of any federally listed species, including EMR, to the U.S. Fish and Wildlife Service within 24 hours.

Eastern Massasauga: The project will not result in permanent loss of more than one acre of wetland or conversion of more than 10 acres of EMR upland habitat (uplands associated with high quality wetland habitat) to other land uses.

Listed Bats: The action will not include temporary or permanent lighting of roadway(s), facility(ies), and/or parking lot(s).

Listed Bats: Tree cutting/trimming and/or prescribed burning will not clear ≥ 20 contiguous acres of forest (excluding narrow, linear corridors < 1000 feet wide) and will not fragment a connective corridor between 2 or more forest patches of at least 5 acres.

Listed Bats: Tree cutting/trimming and/or prescribed burning will not clear ≥ 10 contiguous acres of modeled forested habitat (excluding narrow, linear corridors < 1000 feet wide) and will not fragment a connective corridor between 2 or more forest patches of at least 5 acres.

Listed Bats: All tree cutting/trimming will be conducted outside the period of April 15 through September 30 (that is, limited to October 1 through April 14).

Listed Bats: The project will not include the application or potential drift of insecticides, fungicides, or rodenticides into forested habitats.

Listed Bats: The action will not include prescribed burning within or adjacent to (within 200 feet of) mature forest.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

WRC COSDS Segment 4

2. Description

The following description was provided for the project 'WRC COSDS Segment 4':

The project will involve the lining of existing sanitary sewer lines. The project has an anticipated start date of September 2027.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.67088125,-83.32770505433379,14z>



QUALIFICATION INTERVIEW

1. Are there any possible effects to any listed species or to designated critical habitat from your project or effects from any other actions or projects subsequently made possible by your project?

Note: select "Yes" even if the expected effects to the species or critical habitat are expected to be 1) extremely unlikely (discountable), 2) can't meaningfully be measured, detected, or evaluated (insignificant), or 3) wholly beneficial. Select "No" to confirm that the project details and supporting information allow you to conclude that listed species and their habitats will not be exposed to any effects (including discountable, insignificant, or beneficial effects) and therefore, you have made a "no effect" determination for all species. If you are unsure, select YES to answer additional questions about your project.

Yes

2. This determination key is intended to assist the user in the evaluating the effects of their actions on Federally listed species in Michigan. It does not cover other prohibited activities under the Endangered Species Act (e.g., for wildlife: import/export, Interstate or foreign commerce, possession of illegally taken wildlife, purposeful take for scientific purposes or to enhance the survival of a species, etc.; for plants: import/export, reduce to possession, malicious destruction on Federal lands, commercial sale, etc.) or other statutes.

Click **yes** to acknowledge that you must consider other prohibitions of the ESA or other statutes outside of this determination key.

Yes

3. Is the action approval of a Federal Land Management Plan (e.g., USFS Land and Resource Management Plan), INRMP, FERC licenses/relicensing, NRC licenses/relicensing, or similar plan? These efforts are beyond the scope of this dkey; users should answer yes to this question and contact the Michigan Ecological Services Field Office for assistance with section 7 consultation requirements.

No

4. Is the action being funded, authorized, or carried out by a Federal agency?

Yes

5. Does the action require a Michigan EGLE/Army Corps of Engineers joint permit?

Yes

6. Is this an NRCS-funded Forest Management Plan?

No

7. Does the action involve wind energy?

No

8. Does the action involve solar energy?

No

9. Are there at least 30 days prior to your action occurring?

Endangered species consultation must be completed before taking any action that may have effects to listed species. **If you have already started some components of the project on the ground (e.g., removed vegetation) before completing this Dkey, answer “no” to this question.** The only exception is if you have received approval from the Michigan Field Office to use the Dkey less than 30 days before the action will occur. The U.S. Fish and Wildlife Service also needs time to review projects before we can verify conclusions in some dkey output letters.

Yes

10. Does the action involve constructing a new communications tower or modifying an existing communications tower?

No

11. Does the activity involve aerial or other large-scale application of any chemical (including insecticide, herbicide, lampricide, etc.)?

No

12. Does your project include water withdrawal (ground or surface water) greater than 10,000 gallons/day?

No

13. Will your action permanently affect hydrology?

No

14. Will your action temporarily affect hydrology?

No

15. Will your project have any direct impacts to a water body (including Horizontal Directional Drilling (HDD) due to potential for frac out, dredging, hydrostatic testing, stream/road crossings, new storm-water outfall discharge, dams, other in-stream work, changes to water quality or hydrology, etc.)?

No

16. Does your project have the potential to indirectly impact a waterbody or riparian zone (e.g., cut and fill, horizontal directional drilling due to the potential for frac out, hydrostatic testing, construction, vegetation removal, discharge, changes to water quality or hydrology, etc.)?

Yes

17. Will your action disturb the ground or existing vegetation?

Note: This includes any off road vehicle access, soil compaction, digging, seismic survey, directional drilling, heavy equipment, grading, trenching, placement of fill, pesticide application, vegetation management (including removal or maintenance using equipment or chemicals), tree clearing, cultivation, development, etc.

Yes

18. Does the action intersect the **monarch butterfly** species list area?

Automatically answered

Yes

19. Monarch butterfly was proposed for listing as threatened on December 12, 2024. Through May 19, 2025, we are gathering input through an extended public comment period to encourage the submission of any new information. We will review these comments and then will ultimately issue a final rule. If listed, protections would only go into place after the final rule is published. We encourage implementing measures that will remove or reduce threats to monarch. If your project will have no effect on monarch butterflies (for example, if your project won't affect their habitat or individuals), then you can make a "no effect" determination for this project.

Are you making a "**no effect**" determination for monarch? Please note that the FWS does not provide concurrence on "no effect" determinations.

Yes

20. Does the action intersect the **Eastern massasauga rattlesnake** species list area?

Automatically answered

Yes

21. Does your action involve prescribed fire?

No

22. Will this action occur entirely in the Eastern massasauga rattlesnake inactive season (October 16 through April 14)?

No

23. Will this action occur entirely in the Eastern massasauga rattlesnake active season (April 15 through October 15)?

No

24. Will the action result in permanent loss of more than one acre of wetland or conversion of more than 10 acres of uplands of potential Eastern massasauga rattlesnake habitat (uplands associated with high quality wetland habitat) to other land uses?

No

25. Will you use [wildlife safe materials](#) for erosion control and site restoration and eliminate the use of erosion control products containing plastic mesh netting or other similar material that could ensnare eastern massasauga rattlesnake? Please note that eastern massasauga rattlesnake have been ensnared in plastic erosion control netting outside known habitat.

Yes

26. Will you watch MDNR's ["60-Second Snakes: The Eastern Massasauga Rattlesnake \(EMR\)"](#) video or review the [EMR factsheet](#) to increase human safety and awareness of EMR?

Yes

27. Will all action personnel report any Eastern massasauga rattlesnake observations, or observation of any other listed threatened or endangered species, during action implementation to the Service within 24 hours?
Yes
28. Does the action area intersect the **rayed bean** species list area?
Automatically answered
Yes
29. Does the action area intersect the **snuffbox** species list area?
Automatically answered
Yes
30. Does the action area intersect the **Salamander mussel** species list area?
Automatically answered
Yes
31. Does the action area intersect the **Eastern prairie fringed orchid** species list area?
Automatically answered
Yes
32. Does the action area intersect the **Indiana bat** species list area?
Automatically answered
Yes
33. Does the action area contain [potential Indiana bat roost trees](#) (trees ≥ 5 inches in diameter [at breast height] with cracks, crevices and/or exfoliating bark)?
Yes
34. Does the action intersect the **tricolored bat** species list area?
Automatically answered
No
35. Does this project intersect the **Northern long-eared bat** species list area?
Automatically answered
No
36. Does the action area contain any known or potential hibernacula (natural caves, abandoned mines, or underground quarries)?
No
37. Has a presence/absence bat survey or field-based habitat assessment following the [USFWS Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines](#) been conducted within the action area?
No
38. Does the action involve removal/modification of a human structure (barn, house or other building) known to contain roosting bats?
No

39. [Semantic] Does the action area intersect the third county tier?

Automatically answered

Yes

40. Does the action include removal/modification of an existing bridge?

No

41. Does the action include temporary or permanent lighting of roadway(s), facility(ies), and/or parking lot(s)?

No

42. Does the action include herbicide application?

No

43. Does the action include the application or potential drift of insecticides, rodenticides, or fungicides (not including herbicides) into forested habitats?

Answer "Yes" if the application may result in transport (e.g., in water) or aerial drift of the pesticide into forested areas.

No

44. Does the action include tree cutting/trimming of any kind?

Yes

45. Does the action include prescribed burning within or adjacent to (within 200 feet of) mature forest?

No

46. Is tree cutting/trimming and/or prescribed burning limited to that associated with forest management (e.g., cutting and/or burning in forest habitat as a part of continuing forest land-use)?

Select "No" if the project includes cutting and/or burning for development or conversion of forested habitat other than forestry-related road/trail creation or maintenance.

No

47. Does the action include emergency cutting/trimming of hazard trees in order to prevent imminent loss of human life and/or property?

No

48. [Semantic] Is any portion of the action area within 5 miles of a known bat hibernaculum?

Automatically answered

No

49. Will the action clear or convert >20 acres of contiguous forest (i.e., connected by 1,000 feet or less) or fragment a riparian or other connective forested corridor (e.g., tree line) between 2 or more forest patches of at least 5 acres?

Select "No" if the clearing will be limited to a narrow, linear corridor (e.g., a right-of-way) <1000 feet wide.

For more information, see [Appendix II](#).

No

50. [Hidden Semantic] Does the action area intersect the SE_LP_S Michigan Modeled Bat Habitat?

Automatically answered

Yes

51. Your project intersected [modeled bat habitat](#). Will all tree cutting/trimming be restricted to the inactive (hibernation) season for listed bats (that is, conducted during October 1 through April 14)?

Yes

52. Will the action clear or convert >10 acres of forested, modeled bat habitat?

Select "No" if the tree clearing will be limited to a narrow, linear corridor (e.g., a right-of-way) <1000 feet wide.

No

53. The Michigan Field Office receives copies of all IPaC-generated output letters, and we routinely review all letters with the exception of May Affect Technical Assistance letters (which is one of five kinds of letters you may get depending on which determinations you receive). A biologist will reach out to you within 30 days via email (from MIFO_Dkey@fws.gov) if we have questions about your project description, answers to specific questions, or determinations.

If your agency has an urgent need for approval and would like to request our review more quickly than 30 days, you can request expedited review by selecting yes to this question. Based on your planning cycle, if you do not have an urgent need for concurrence (i.e., concurrence within 30 days is sufficient), please select no.

Are you requesting expedited review for this project?

No

PROJECT QUESTIONNAIRE

Enter the total estimated acres of tree cutting/trimming included in the project as part of forest management (e.g., cutting or harvesting trees as a part of continuing forest land-use). If tree cutting/trimming will not occur as part of forest management, enter "0".

0

Enter the date range during which tree cutting/trimming will be conducted as part of forest management . If tree cutting/trimming will not occur as part of forest management, enter "NA."

Na

Enter the total estimated acres of tree cutting/trimming included in the project that is NOT associated with forest management (e.g., tree clearing/conversion or right-of-way creation/maintenance). If tree cutting/trimming is limited to that associated with forest management, enter "0".

.0002

Enter the date range during which tree cutting/trimming will be conducted that is NOT part of forest management (e.g., tree clearing/conversion or right-of-way creation/maintenance). If tree cutting/trimming is limited to that associated with forest management, enter "NA."

October 15th - March 31st

IPAC USER CONTACT INFORMATION

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State: MI
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Phone: 2482914573

LEAD AGENCY CONTACT INFORMATION

Lead Agency: County of Oakland



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Michigan Ecological Services Field Office
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Phone: (517) 351-2555 Fax: (517) 351-1443

In Reply Refer To:
Project Code: 2026-0064862
Project Name: WRC COSDS Segment 4

03/19/2026 15:05:00 UTC

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Official Species List

The attached species list identifies any Federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Under 50 CFR 402.12(e) (the regulations that implement section 7 of the Endangered Species Act), the accuracy of this species list should be verified after 90 days. You may verify the list by visiting the IPaC website (<https://ipac.ecosphere.fws.gov/>) at regular intervals during project planning and implementation. To update an Official Species List in IPaC: from the My Projects page, find the project, expand the row, and click Project Home. In the What's Next box on the Project Home page, there is a Request Updated List button to update your species list. Be sure to select an "official" species list for all projects.

Consultation requirements and next steps

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize Federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-Federal representative) must consult with the Fish and Wildlife Service if they determine their project may affect listed species or critical habitat.

There are two approaches to evaluating the effects of a project on listed species.

Approach 1. Use the All-species Michigan determination key in IPaC. This tool can assist you in making determinations for listed species for some projects. In many cases, the determination key

will provide an automated concurrence that completes all or significant parts of the consultation process. Therefore, we strongly recommend screening your project with the **All-Species Michigan Determination Key (Dkey)**. For additional information on using IPaC and available Determination Keys, visit <https://www.fws.gov/media/mifo-ipac-instructions> (and click on the attachment), or for a video overview, please visit: <https://www.youtube.com/watch?v=FfcerNCiL0I>. Please carefully review your Dkey output letter to determine whether additional steps are needed to complete the consultation process.

Approach 2. Evaluate the effects to listed species on your own without utilizing a determination key. Once you obtain your official species list, you are not required to continue in IPaC, although in most cases using a determination key should expedite your review. If the project is a Federal action, you should review our section 7 step-by-step instructions before making your determinations: <https://www.fws.gov/office/midwest-region-headquarters/midwest-section-7-technical-assistance>. If you evaluate the details of your project and conclude “no effect,” document your findings, and your listed species review is complete; you do not need our concurrence on “no effect” determinations. If you cannot conclude “no effect,” you should coordinate/consult with the Michigan Ecological Services Field Office. The preferred method for submitting your project description and effects determination (if concurrence is needed) is electronically to EastLansing@fws.gov. Please include a copy of this official species list with your request.

For all **wind energy projects**, please contact this field office directly for assistance, even if no Federally listed plants, animals or critical habitat are present within your proposed project area or may be affected by your proposed project.

Migratory Birds

Please see the “Migratory Birds” section below for important information regarding incorporating migratory birds into your project planning. Our Migratory Bird Program has developed recommendations, best practices, and other tools to help project proponents voluntarily reduce impacts to birds and their habitats. The Bald and Golden Eagle Protection Act prohibits the take and disturbance of eagles without a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <https://www.fws.gov/program/eagle-management> to help you avoid impacting eagles or determine if a permit may be necessary.

Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your consideration of threatened and endangered species during your project

planning. Please include a copy of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Michigan Ecological Services Field Office

2651 Coolidge Road Suite 101

East Lansing, MI 48823-6360

(517) 351-2555

PROJECT SUMMARY

Project Code: 2026-0064862
Project Name: WRC COSDS Segment 4
Project Type: Wastewater Pipeline - Maintenance / Modification - Below Ground
Project Description: The project will involve the lining of existing sanitary sewer lines. The project has an anticipated start date of September 2027.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.67088125,-83.32770505433379,14z>



Counties: Oakland County, Michigan

ENDANGERED SPECIES ACT SPECIES

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered

REPTILES

NAME	STATUS
Eastern Massasauga (=rattlesnake) <i>Sistrurus catenatus</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> For all Projects: Project is within EMR Range Species profile: https://ecos.fws.gov/ecp/species/2202 General project design guidelines: https://ipac.ecosphere.fws.gov/project/GJZ5Z5DZKJFXZL6NVVLRWJVIAAY/documents/generated/5280.pdf	Threatened

CLAMS

NAME	STATUS
Rayed Bean <i>Villosa fabalis</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5862	Endangered
Salamander Mussel <i>Simpsonaias ambigua</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6208	Proposed Endangered
Snuffbox Mussel <i>Epioblasma triquetra</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4135	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

FLOWERING PLANTS

NAME	STATUS
Eastern Prairie Fringed Orchid <i>Platanthera leucophaea</i>	Threatened

NAME	STATUS
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No critical habitat has been designated for this species.
Species profile: <https://ecos.fws.gov/ecp/species/601>

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act ² and the Migratory Bird Treaty Act (MBTA) ¹. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

1. The [Bald and Golden Eagle Protection Act](#) of 1940.
2. The [Migratory Birds Treaty Act](#) of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your [project](#) area.

Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the [National Bald Eagle Management Guidelines](#). You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#).

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

If disturbance or take of eagles cannot be avoided, an [incidental take permit](#) may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the [Do I Need A Permit Tool](#). For assistance making this determination for golden eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

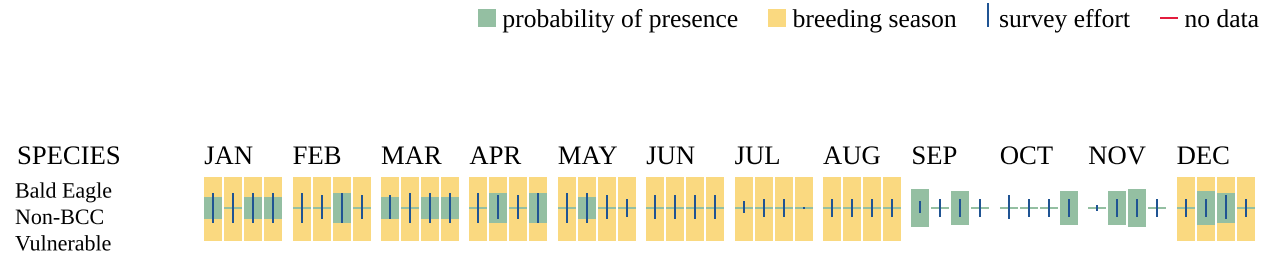
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) ¹ prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31

NAME	BREEDING SEASON
<p>Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399</p>	Breeds May 15 to Oct 10
<p>Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454</p>	Breeds May 20 to Jul 31
<p>Canada Warbler <i>Cardellina canadensis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9643</p>	Breeds May 20 to Aug 10
<p>Cerulean Warbler <i>Setophaga cerulea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974</p>	Breeds Apr 22 to Jul 20
<p>Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406</p>	Breeds Mar 15 to Aug 25
<p>Eastern Whip-poor-will <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10678</p>	Breeds May 1 to Aug 20
<p>Golden-winged Warbler <i>Vermivora chrysoptera</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8745</p>	Breeds May 1 to Jul 20
<p>Grasshopper Sparrow <i>Ammodramus savannarum perpallidus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329</p>	Breeds Jun 1 to Aug 20
<p>Henslow's Sparrow <i>Centronyx henslowii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941</p>	Breeds May 1 to Aug 31
<p>Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679</p>	Breeds elsewhere

NAME	BREEDING SEASON
<p>Pectoral Sandpiper <i>Calidris melanotos</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/9561</p>	Breeds elsewhere
<p>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/9398</p>	Breeds May 10 to Sep 10
<p>Rusty Blackbird <i>Euphagus carolinus</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p> <p>https://ecos.fws.gov/ecp/species/9478</p>	Breeds elsewhere
<p>Semipalmated Sandpiper <i>Calidris pusilla</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p> <p>https://ecos.fws.gov/ecp/species/9603</p>	Breeds elsewhere
<p>Short-billed Dowitcher <i>Limnodromus griseus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/9480</p>	Breeds elsewhere
<p>Wood Thrush <i>Hylocichla mustelina</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/9431</p>	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

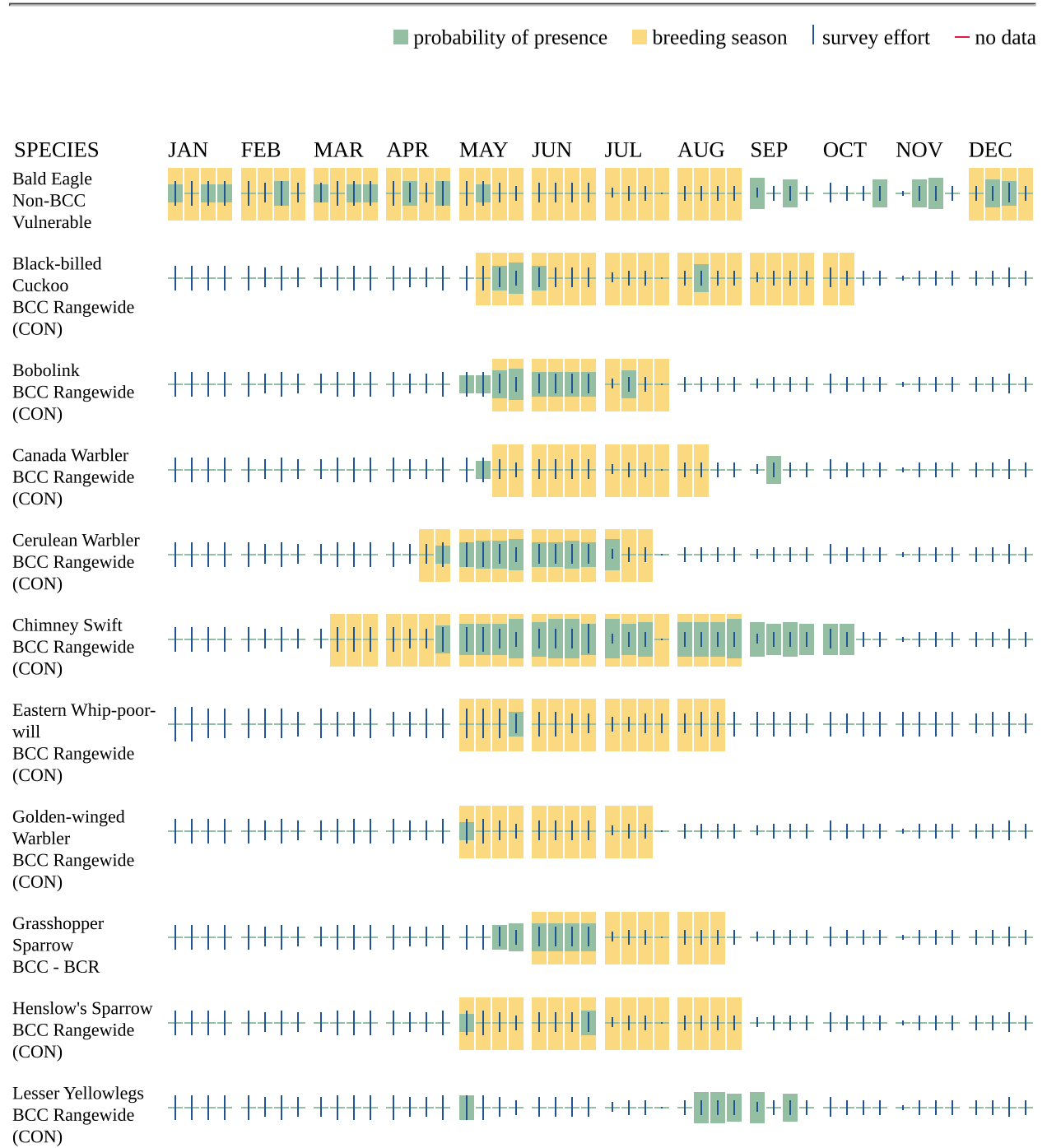
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

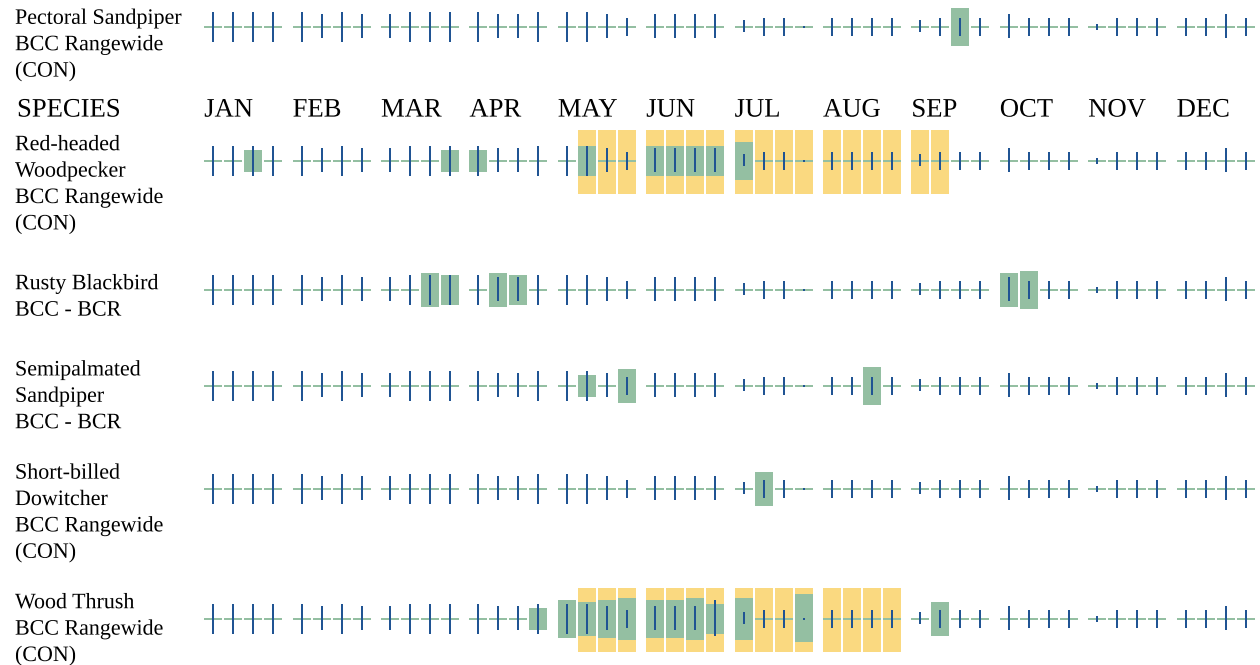
Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (-)

A week is marked as having no data if there were no survey events for that week.





Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT [HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML](https://www.fws.gov/wetlands/data/mapper.html) OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPAC USER CONTACT INFORMATION

Agency: County of Oakland
Name: Wade Rose
Address: 34000 Plymouth Rd
City: Livonia
State: MI
Zip: 48150
Email: wade.rose@ohm-advisors.com
Phone: 2482914573

LEAD AGENCY CONTACT INFORMATION

Lead Agency: County of Oakland



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Michigan Ecological Services Field Office
2651 Coolidge Road Suite 101
East Lansing, MI 48823-6360
Phone: (517) 351-2555 Fax: (517) 351-1443

In Reply Refer To:

03/19/2026 16:17:12 UTC

Project code: 2026-0064951

Project Name: WRC COSDS Segment 5

Subject: Verification letter for the project named 'WRC COSDS Segment 5' for specified threatened and endangered species that may occur in your proposed project location consistent with the Michigan Endangered Species Determination Key (Michigan DKey)

Dear Wade Rose:

The U.S. Fish and Wildlife Service (Service) received on **March 19, 2026** your effect determination(s) for the 'WRC COSDS Segment 5' (the Action) using the Michigan DKey within the Information for Planning and Consultation (IPaC) system. The Service developed this system in accordance with the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based on your answers and the assistance of the Service's Michigan DKey, you made the following effect determination(s) for the proposed Action:

Species	Listing Status	Determination
Eastern Massasauga (=rattlesnake) (<i>Sistrurus catenatus</i>)	Threatened	NLAA
Eastern Prairie Fringed Orchid (<i>Platanthera leucophaea</i>)	Threatened	No effect
Indiana Bat (<i>Myotis sodalis</i>)	Endangered	NLAA
Monarch Butterfly (<i>Danaus plexippus</i>)	Proposed	No effect
	Threatened	
Salamander Mussel (<i>Simpsonaias ambigua</i>)	Proposed	No effect
	Endangered	
Snuffbox Mussel (<i>Epioblasma triquetra</i>)	Endangered	No effect

For additional information on these species and their life history, status, and our process for evaluating effects, please refer to the [Michigan Endangered Species Determination Key Standing Analysis](#).

The Service will notify you within 30 calendar days if we determine that this proposed Action does not meet the criteria for a “may affect, not likely to adversely affect” (NLAA) determination for Federally listed species in Michigan. If we do not notify you within that timeframe, you may proceed with the Action under the terms of the NLAA concurrence provided here. This verification period allows the Michigan Ecological Services Field Office to apply local knowledge to evaluation of the Action, as we may identify a small subset of actions having impacts that were unanticipated. In such instances, the Michigan Ecological Services Field Office may request additional information to verify the effects determination reached through the Michigan DKey.

Your agency has met consultation requirements by informing the Service of your “No Effect” determination(s). No consultation is required for species that you determined will not be affected by the Action.

Please provide sufficient project details on your project homepage in IPaC (Define Project, Project Description) to support your conclusions and the Service’s 30-day review period. Failure to disclose important aspects of your project that would influence the outcome of your effects determinations may negate your determinations and invalidate this letter. If you have site-specific information that leads you to believe a different determination is more appropriate for your project than what the Dkey concludes, you can and should proceed based on the best available information.

The Service recommends that you contact the Service or re-evaluate the project in IPaC if: 1) the scope or location of the proposed Action is changed; 2) new information reveals that the action may affect listed species or designated critical habitat in a manner or to an extent not previously considered; 3) the Action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation with the Service should take place before project changes are final or resources committed.

For non-Federal representatives: Please note that when a project requires consultation under section 7 of the Act, the Service must consult directly with the Federal action agency unless that agency formally designates a non-Federal representative (50 CFR 402.08). Non-Federal representatives may prepare analyses or conduct informal consultations; however, the ultimate responsibility for section 7 compliance under the Act remains with the Federal agency. Please include the Federal action agency in additional correspondence regarding this project.

Monarch Butterfly:

Monarch butterfly was proposed for listing as threatened on December 12, 2024. If listed, protections would only go into place after the final rule is published. The U.S. Fish and Wildlife Service continues to evaluate the monarch butterfly using the best available science and in accordance with all requirements of the Endangered Species Act. As reflected in the [Trump Administration’s Unified Agenda of Regulatory and Deregulatory Actions](#), the final listing determination for the monarch is included as a long-term action. The administration continues to emphasize voluntary, locally driven conservation as a proven tool for supporting species and reducing the need for additional federal regulation. To learn more about how to conserve

monarch, refer to the monarch section of the [Standing Analysis](#) and visit our [Save the Monarch website](#).

Bald and Golden Eagle Protection Act

Bald eagles, golden eagles, and their nests are protected under the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended, 16 U.S.C. 668a-d) (Eagle Act). The Eagle Act prohibits, except when authorized by an Eagle Act permit, the “taking” of bald and golden eagles and defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” The Eagle Act’s implementing regulations define disturb as “...to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

If the Action may impact bald or golden eagles, additional coordination with the Service under the Eagle Act may be required. For more information on eagles and conducting activities in the vicinity of an eagle nest, please visit our [Eagle Management webpage](#). In addition, the Service developed the [National Bald Eagle Management Guidelines \(May 2007\)](#) in order to assist landowners in avoiding the disturbance of bald eagles. If you have further questions regarding potential impacts to eagles, please contact Chris Mensing, Chris_Mensing@fws.gov or 517-351-2555.

Wetland Impacts:

Section 404 of the Clean Water Act of 1977 (CWA) regulates the discharge of dredged or fill material into waters (including wetlands) of the United States. Regulations require that activities permitted under the CWA (including wetland permits issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE)) not jeopardize the continued existence of species listed as endangered or threatened. Permits issued by the U.S. Army Corps of Engineers must also consider effects to listed species pursuant to section 7 of the Endangered Species Act. The Service provides comments to the agencies that may include permit conditions to help avoid or minimize impacts to wildlife resources including listed species. For this project, we consider the conservation measures you agreed to in the determination key and/or as part of your proposed action to be non-discretionary. Include a copy of this letter in your wetland permit application to streamline the threatened and endangered species review process.

Summary of conservation measures for your project You agreed to the following conservation measures to avoid adverse effects to listed species and our concurrence is only valid if the measures are fully implemented. These must be included as permit conditions if a permit is required and/or included in any contract language.

Eastern Massasauga: Materials used for erosion control and site restoration must be [wildlife-friendly](#). Do not use erosion control products containing plastic mesh netting or other similar material that could entangle eastern massasauga rattlesnake (EMR). Several products for soil erosion and control exist that do not contain plastic netting including net-less erosion control blankets (for example, made of excelsior), loose mulch, hydraulic mulch, soil binders, unreinforced silt fences, and straw bales. Others are made from natural fibers (such as jute) and loosely woven together in a manner that allows wildlife to wiggle free.

Eastern Massasauga: To increase human safety and awareness of EMR, those implementing the project must first review the EMR factsheet (available at <https://www.fws.gov/media/eastern-massasauga-rattlesnake-fact-sheet>), and watch MDNR's "60-Second Snakes: The Eastern Massasauga Rattlesnake" video (available at https://www.youtube.com/watch?v=-PFnXe_e02w).

Eastern Massasauga: During project implementation, report sightings of any federally listed species, including EMR, to the U.S. Fish and Wildlife Service within 24 hours.

Eastern Massasauga: The project will not result in permanent loss of more than one acre of wetland or conversion of more than 10 acres of EMR upland habitat (uplands associated with high quality wetland habitat) to other land uses.

Listed Bats: The action will not include temporary or permanent lighting of roadway(s), facility(ies), and/or parking lot(s).

Listed Bats: Tree cutting/trimming and/or prescribed burning will not clear ≥ 20 contiguous acres of forest (excluding narrow, linear corridors < 1000 feet wide) and will not fragment a connective corridor between 2 or more forest patches of at least 5 acres.

Listed Bats: Tree cutting/trimming and/or prescribed burning will not clear ≥ 10 contiguous acres of modeled forested habitat (excluding narrow, linear corridors < 1000 feet wide) and will not fragment a connective corridor between 2 or more forest patches of at least 5 acres.

Listed Bats: All tree cutting/trimming will be conducted outside the period of April 15 through September 30 (that is, limited to October 1 through April 14).

Listed Bats: The project will not include the application or potential drift of insecticides, fungicides, or rodenticides into forested habitats.

Listed Bats: The action will not include prescribed burning within or adjacent to (within 200 feet of) mature forest.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

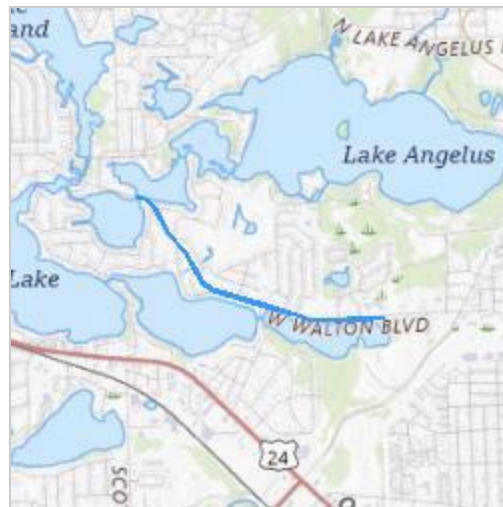
WRC COSDS Segment 5

2. Description

The following description was provided for the project 'WRC COSDS Segment 5':

The project will involve the lining of existing sanitary sewer lines. The project has an anticipated start date of September 2027.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.6824674,-83.3410625525022,14z>



QUALIFICATION INTERVIEW

1. Are there any possible effects to any listed species or to designated critical habitat from your project or effects from any other actions or projects subsequently made possible by your project?

Note: select "Yes" even if the expected effects to the species or critical habitat are expected to be 1) extremely unlikely (discountable), 2) can't meaningfully be measured, detected, or evaluated (insignificant), or 3) wholly beneficial. Select "No" to confirm that the project details and supporting information allow you to conclude that listed species and their habitats will not be exposed to any effects (including discountable, insignificant, or beneficial effects) and therefore, you have made a "no effect" determination for all species. If you are unsure, select YES to answer additional questions about your project.

Yes

2. This determination key is intended to assist the user in the evaluating the effects of their actions on Federally listed species in Michigan. It does not cover other prohibited activities under the Endangered Species Act (e.g., for wildlife: import/export, Interstate or foreign commerce, possession of illegally taken wildlife, purposeful take for scientific purposes or to enhance the survival of a species, etc.; for plants: import/export, reduce to possession, malicious destruction on Federal lands, commercial sale, etc.) or other statutes.

Click **yes** to acknowledge that you must consider other prohibitions of the ESA or other statutes outside of this determination key.

Yes

3. Is the action approval of a Federal Land Management Plan (e.g., USFS Land and Resource Management Plan), INRMP, FERC licenses/relicensing, NRC licenses/relicensing, or similar plan? These efforts are beyond the scope of this dkey; users should answer yes to this question and contact the Michigan Ecological Services Field Office for assistance with section 7 consultation requirements.

No

4. Is the action being funded, authorized, or carried out by a Federal agency?

Yes

5. Does the action require a Michigan EGLE/Army Corps of Engineers joint permit?

Yes

6. Is this an NRCS-funded Forest Management Plan?

No

7. Does the action involve wind energy?

No

8. Does the action involve solar energy?

No

9. Are there at least 30 days prior to your action occurring?

Endangered species consultation must be completed before taking any action that may have effects to listed species. **If you have already started some components of the project on the ground (e.g., removed vegetation) before completing this Dkey, answer “no” to this question.** The only exception is if you have received approval from the Michigan Field Office to use the Dkey less than 30 days before the action will occur. The U.S. Fish and Wildlife Service also needs time to review projects before we can verify conclusions in some dkey output letters.

Yes

10. Does the action involve constructing a new communications tower or modifying an existing communications tower?

No

11. Does the activity involve aerial or other large-scale application of any chemical (including insecticide, herbicide, lampricide, etc.)?

No

12. Does your project include water withdrawal (ground or surface water) greater than 10,000 gallons/day?

No

13. Will your action permanently affect hydrology?

No

14. Will your action temporarily affect hydrology?

No

15. Will your project have any direct impacts to a water body (including Horizontal Directional Drilling (HDD) due to potential for frac out, dredging, hydrostatic testing, stream/road crossings, new storm-water outfall discharge, dams, other in-stream work, changes to water quality or hydrology, etc.)?

No

16. Does your project have the potential to indirectly impact a waterbody or riparian zone (e.g., cut and fill, horizontal directional drilling due to the potential for frac out, hydrostatic testing, construction, vegetation removal, discharge, changes to water quality or hydrology, etc.)?

Yes

17. Will your action disturb the ground or existing vegetation?

Note: This includes any off road vehicle access, soil compaction, digging, seismic survey, directional drilling, heavy equipment, grading, trenching, placement of fill, pesticide application, vegetation management (including removal or maintenance using equipment or chemicals), tree clearing, cultivation, development, etc.

Yes

18. Does the action intersect the **monarch butterfly** species list area?

Automatically answered

Yes

19. Monarch butterfly was proposed for listing as threatened on December 12, 2024. Through May 19, 2025, we are gathering input through an extended public comment period to encourage the submission of any new information. We will review these comments and then will ultimately issue a final rule. If listed, protections would only go into place after the final rule is published. We encourage implementing measures that will remove or reduce threats to monarch. If your project will have no effect on monarch butterflies (for example, if your project won't affect their habitat or individuals), then you can make a "no effect" determination for this project.

Are you making a "**no effect**" determination for monarch? Please note that the FWS does not provide concurrence on "no effect" determinations.

Yes

20. Does the action intersect the **Eastern massasauga rattlesnake** species list area?

Automatically answered

Yes

21. Does your action involve prescribed fire?

No

22. Will this action occur entirely in the Eastern massasauga rattlesnake inactive season (October 16 through April 14)?

No

23. Will this action occur entirely in the Eastern massasauga rattlesnake active season (April 15 through October 15)?

No

24. Will the action result in permanent loss of more than one acre of wetland or conversion of more than 10 acres of uplands of potential Eastern massasauga rattlesnake habitat (uplands associated with high quality wetland habitat) to other land uses?

No

25. Will you use [wildlife safe materials](#) for erosion control and site restoration and eliminate the use of erosion control products containing plastic mesh netting or other similar material that could ensnare eastern massasauga rattlesnake? Please note that eastern massasauga rattlesnake have been ensnared in plastic erosion control netting outside known habitat.

Yes

26. Will you watch MDNR's ["60-Second Snakes: The Eastern Massasauga Rattlesnake \(EMR\)"](#) video or review the [EMR factsheet](#) to increase human safety and awareness of EMR?

Yes

27. Will all action personnel report any Eastern massasauga rattlesnake observations, or observation of any other listed threatened or endangered species, during action implementation to the Service within 24 hours?
Yes
28. Does the action area intersect the **snuffbox** species list area?
Automatically answered
Yes
29. Will your project result in a direct (e.g., drawdown, chemical application, substrate disturbance, water withdrawal, etc.) or indirect (e.g., increase in sedimentation, changes to water quality) effect to a lake or reservoir?
No
30. Does the action area intersect the **Salamander mussel** species list area?
Automatically answered
Yes
31. Does the action area intersect the **Eastern prairie fringed orchid** species list area?
Automatically answered
Yes
32. Does the action area intersect the **Indiana bat** species list area?
Automatically answered
Yes
33. Does the action area contain [potential Indiana bat roost trees](#) (trees ≥ 5 inches in diameter [at breast height] with cracks, crevices and/or exfoliating bark)?
Yes
34. Does the action intersect the **tricolored bat** species list area?
Automatically answered
No
35. Does this project intersect the **Northern long-eared bat** species list area?
Automatically answered
No
36. Does the action area contain any known or potential hibernacula (natural caves, abandoned mines, or underground quarries)?
No
37. Has a presence/absence bat survey or field-based habitat assessment following the [USFWS Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines](#) been conducted within the action area?
No
38. Does the action involve removal/modification of a human structure (barn, house or other building) known to contain roosting bats?
No

39. [Semantic] Does the action area intersect the third county tier?

Automatically answered

Yes

40. Does the action include removal/modification of an existing bridge?

No

41. Does the action include temporary or permanent lighting of roadway(s), facility(ies), and/or parking lot(s)?

No

42. Does the action include herbicide application?

No

43. Does the action include the application or potential drift of insecticides, rodenticides, or fungicides (not including herbicides) into forested habitats?

Answer "Yes" if the application may result in transport (e.g., in water) or aerial drift of the pesticide into forested areas.

No

44. Does the action include tree cutting/trimming of any kind?

Yes

45. Does the action include prescribed burning within or adjacent to (within 200 feet of) mature forest?

No

46. Is tree cutting/trimming and/or prescribed burning limited to that associated with forest management (e.g., cutting and/or burning in forest habitat as a part of continuing forest land-use)?

Select "No" if the project includes cutting and/or burning for development or conversion of forested habitat other than forestry-related road/trail creation or maintenance.

No

47. Does the action include emergency cutting/trimming of hazard trees in order to prevent imminent loss of human life and/or property?

No

48. [Semantic] Is any portion of the action area within 5 miles of a known bat hibernaculum?

Automatically answered

No

49. Will the action clear or convert >20 acres of contiguous forest (i.e., connected by 1,000 feet or less) or fragment a riparian or other connective forested corridor (e.g., tree line) between 2 or more forest patches of at least 5 acres?

Select "No" if the clearing will be limited to a narrow, linear corridor (e.g., a right-of-way) <1000 feet wide.

For more information, see [Appendix II](#).

No

50. [Hidden Semantic] Does the action area intersect the SE_LP_S Michigan Modeled Bat Habitat?

Automatically answered

Yes

51. Your project intersected [modeled bat habitat](#). Will all tree cutting/trimming be restricted to the inactive (hibernation) season for listed bats (that is, conducted during October 1 through April 14)?

Yes

52. Will the action clear or convert >10 acres of forested, modeled bat habitat?

Select "No" if the tree clearing will be limited to a narrow, linear corridor (e.g., a right-of-way) <1000 feet wide.

No

53. The Michigan Field Office receives copies of all IPaC-generated output letters, and we routinely review all letters with the exception of May Affect Technical Assistance letters (which is one of five kinds of letters you may get depending on which determinations you receive). A biologist will reach out to you within 30 days via email (from MIFO_Dkey@fws.gov) if we have questions about your project description, answers to specific questions, or determinations.

If your agency has an urgent need for approval and would like to request our review more quickly than 30 days, you can request expedited review by selecting yes to this question. Based on your planning cycle, if you do not have an urgent need for concurrence (i.e., concurrence within 30 days is sufficient), please select no.

Are you requesting expedited review for this project?

No

PROJECT QUESTIONNAIRE

Enter the total estimated acres of tree cutting/trimming included in the project as part of forest management (e.g., cutting or harvesting trees as a part of continuing forest land-use). If tree cutting/trimming will not occur as part of forest management, enter "0".

0

Enter the date range during which tree cutting/trimming will be conducted as part of forest management . If tree cutting/trimming will not occur as part of forest management, enter "NA."

NA

Enter the total estimated acres of tree cutting/trimming included in the project that is NOT associated with forest management (e.g., tree clearing/conversion or right-of-way creation/maintenance). If tree cutting/trimming is limited to that associated with forest management, enter "0".

.0002

Enter the date range during which tree cutting/trimming will be conducted that is NOT part of forest management (e.g., tree clearing/conversion or right-of-way creation/maintenance). If tree cutting/trimming is limited to that associated with forest management, enter "NA."

October 15th - March 31st

IPAC USER CONTACT INFORMATION

Agency: County of Oakland
Name: Wade Rose
Address: 34000 Plymouth Rd
City: Livonia
State: MI
Zip: 48150
Email: wade.rose@ohm-advisors.com
Phone: 2482914573

LEAD AGENCY CONTACT INFORMATION

Lead Agency: County of Oakland



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Michigan Ecological Services Field Office
2651 Coolidge Road Suite 101
East Lansing, MI 48823-6360
Phone: (517) 351-2555 Fax: (517) 351-1443

In Reply Refer To:
Project Code: 2026-0064951
Project Name: WRC COSDS Segment 5

03/19/2026 16:10:55 UTC

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Official Species List

The attached species list identifies any Federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Under 50 CFR 402.12(e) (the regulations that implement section 7 of the Endangered Species Act), the accuracy of this species list should be verified after 90 days. You may verify the list by visiting the IPaC website (<https://ipac.ecosphere.fws.gov/>) at regular intervals during project planning and implementation. To update an Official Species List in IPaC: from the My Projects page, find the project, expand the row, and click Project Home. In the What's Next box on the Project Home page, there is a Request Updated List button to update your species list. Be sure to select an "official" species list for all projects.

Consultation requirements and next steps

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize Federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-Federal representative) must consult with the Fish and Wildlife Service if they determine their project may affect listed species or critical habitat.

There are two approaches to evaluating the effects of a project on listed species.

Approach 1. Use the All-species Michigan determination key in IPaC. This tool can assist you in making determinations for listed species for some projects. In many cases, the determination key

will provide an automated concurrence that completes all or significant parts of the consultation process. Therefore, we strongly recommend screening your project with the **All-Species Michigan Determination Key (Dkey)**. For additional information on using IPaC and available Determination Keys, visit <https://www.fws.gov/media/mifo-ipac-instructions> (and click on the attachment), or for a video overview, please visit: <https://www.youtube.com/watch?v=FfcerNCiL0I>. Please carefully review your Dkey output letter to determine whether additional steps are needed to complete the consultation process.

Approach 2. Evaluate the effects to listed species on your own without utilizing a determination key. Once you obtain your official species list, you are not required to continue in IPaC, although in most cases using a determination key should expedite your review. If the project is a Federal action, you should review our section 7 step-by-step instructions before making your determinations: <https://www.fws.gov/office/midwest-region-headquarters/midwest-section-7-technical-assistance>. If you evaluate the details of your project and conclude “no effect,” document your findings, and your listed species review is complete; you do not need our concurrence on “no effect” determinations. If you cannot conclude “no effect,” you should coordinate/consult with the Michigan Ecological Services Field Office. The preferred method for submitting your project description and effects determination (if concurrence is needed) is electronically to EastLansing@fws.gov. Please include a copy of this official species list with your request.

For all **wind energy projects**, please contact this field office directly for assistance, even if no Federally listed plants, animals or critical habitat are present within your proposed project area or may be affected by your proposed project.

Migratory Birds

Please see the “Migratory Birds” section below for important information regarding incorporating migratory birds into your project planning. Our Migratory Bird Program has developed recommendations, best practices, and other tools to help project proponents voluntarily reduce impacts to birds and their habitats. The Bald and Golden Eagle Protection Act prohibits the take and disturbance of eagles without a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <https://www.fws.gov/program/eagle-management> to help you avoid impacting eagles or determine if a permit may be necessary.

Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your consideration of threatened and endangered species during your project

planning. Please include a copy of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Michigan Ecological Services Field Office

2651 Coolidge Road Suite 101

East Lansing, MI 48823-6360

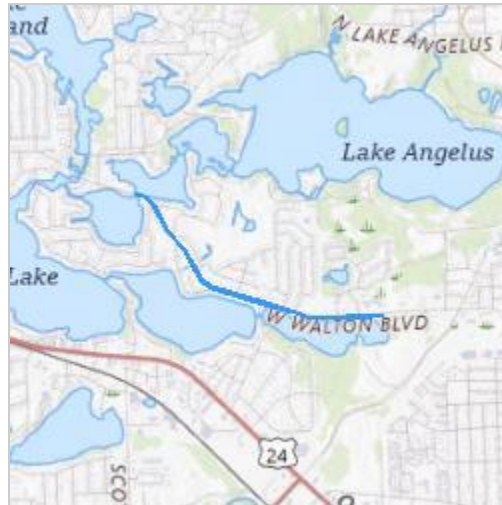
(517) 351-2555

PROJECT SUMMARY

Project Code: 2026-0064951
Project Name: WRC COSDS Segment 5
Project Type: Wastewater Pipeline - Maintenance / Modification - Below Ground
Project Description: The project will involve the lining of existing sanitary sewer lines. The project has an anticipated start date of September 2027.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.6824674,-83.3410625525022,14z>



Counties: Oakland County, Michigan

ENDANGERED SPECIES ACT SPECIES

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered

REPTILES

NAME	STATUS
Eastern Massasauga (=rattlesnake) <i>Sistrurus catenatus</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> ▪ For all Projects: Project is within EMR Range Species profile: https://ecos.fws.gov/ecp/species/2202 General project design guidelines: https://ipac.ecosphere.fws.gov/project/54DDJRN5FDCFCP772XY6XCYFM/documents/generated/5280.pdf	Threatened

CLAMS

NAME	STATUS
Salamander Mussel <i>Simpsonaias ambigua</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6208	Proposed Endangered
Snuffbox Mussel <i>Epioblasma triquetra</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4135	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

FLOWERING PLANTS

NAME	STATUS
Eastern Prairie Fringed Orchid <i>Platanthera leucophaea</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/601	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act ² and the Migratory Bird Treaty Act (MBTA) ¹. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

-
1. The [Bald and Golden Eagle Protection Act](#) of 1940.
 2. The [Migratory Birds Treaty Act](#) of 1918.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your [project](#) area.

Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the [National Bald Eagle Management Guidelines](#). You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#).

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

If disturbance or take of eagles cannot be avoided, an [incidental take permit](#) may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the [Do I Need A Permit Tool](#). For

assistance making this determination for golden eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

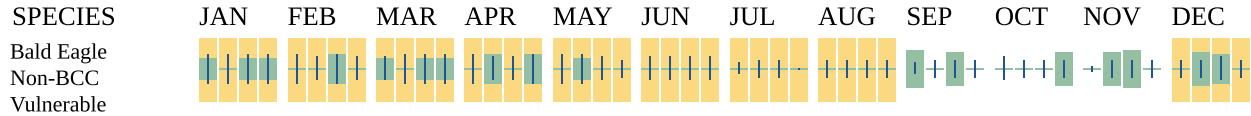
Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

■ probability of presence ■ breeding season | survey effort — no data



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) ¹ prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10

NAME	BREEDING SEASON
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454	Breeds May 20 to Jul 31
Canada Warbler <i>Cardellina canadensis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9643	Breeds May 20 to Aug 10
Cerulean Warbler <i>Setophaga cerulea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 22 to Jul 20
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will <i>Antrastomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10678	Breeds May 1 to Aug 20
Golden-winged Warbler <i>Vermivora chrysoptera</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8745	Breeds May 1 to Jul 20
Grasshopper Sparrow <i>Ammodramus savannarum perpallidus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329	Breeds Jun 1 to Aug 20
Henslow's Sparrow <i>Centronyx henslowii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds May 1 to Aug 31
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Pectoral Sandpiper <i>Calidris melanotos</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere

NAME	BREEDING SEASON
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere
Semipalmated Sandpiper <i>Calidris pusilla</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9603	Breeds elsewhere
Short-billed Dowitcher <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

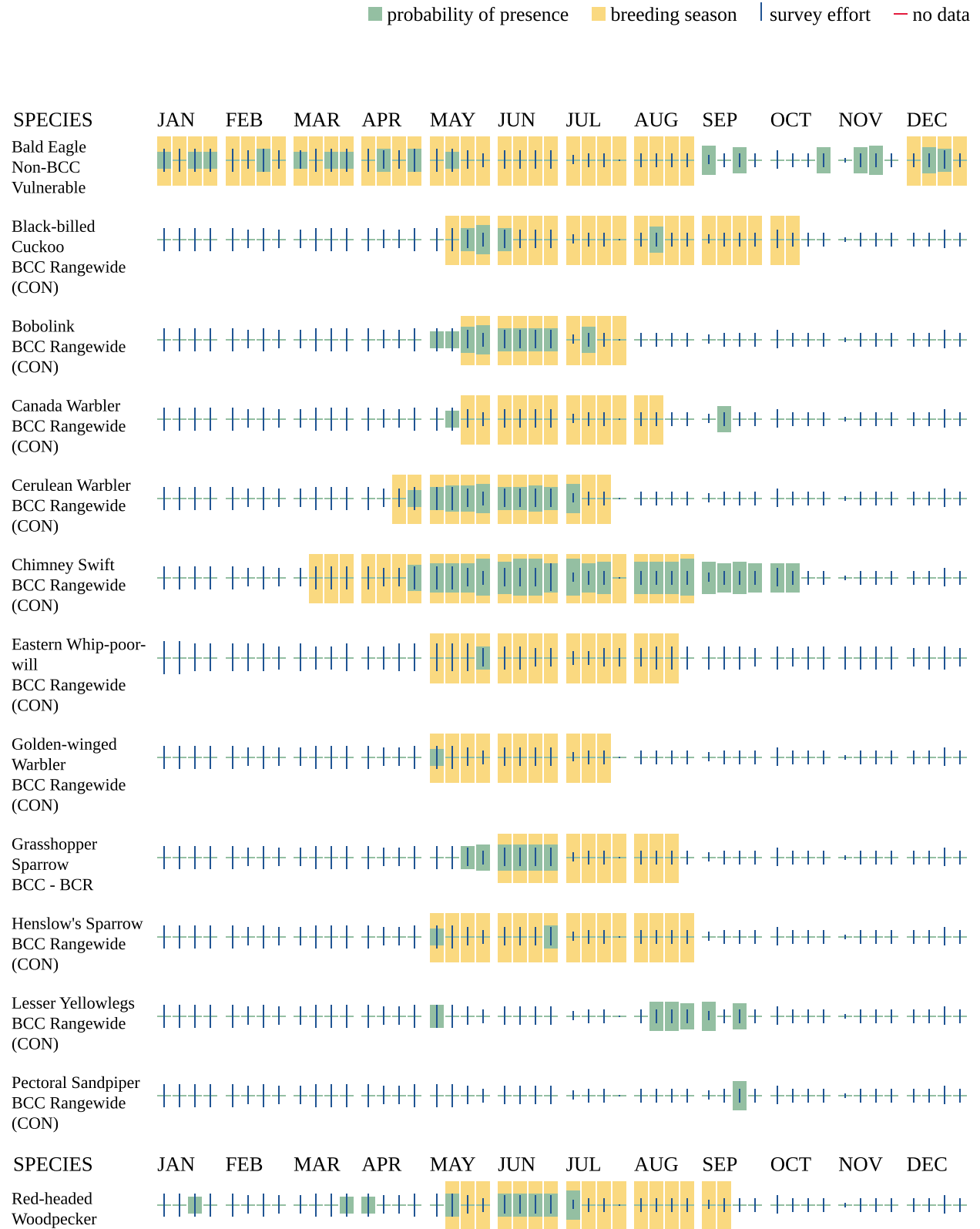
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

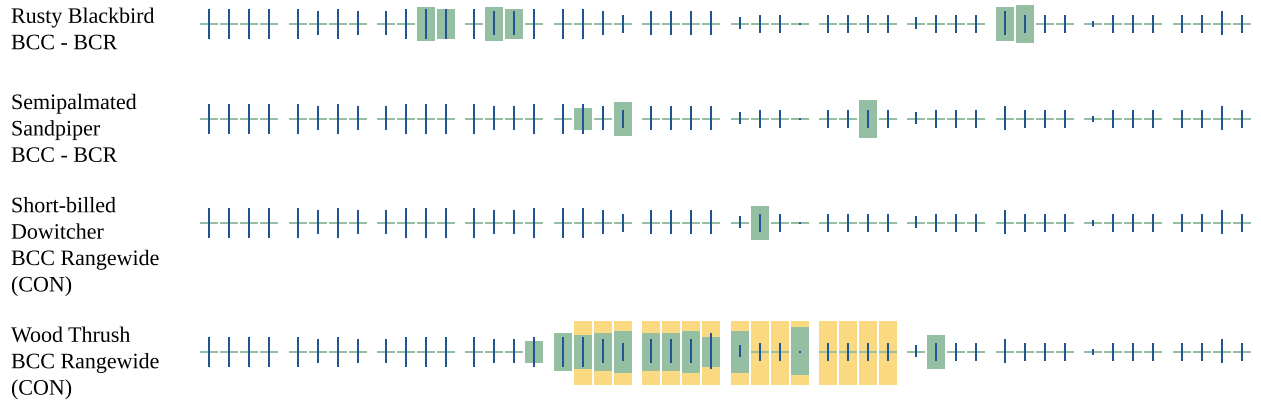
Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.



BCC Rangewide
(CON)

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

LAKE

- L2UBH

RIVERINE

- R2UBFx

FRESHWATER EMERGENT WETLAND

- PEM1C

IPAC USER CONTACT INFORMATION

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LEAD AGENCY CONTACT INFORMATION

Lead Agency: County of Oakland

APPENDIX B: CAPITAL IMPROVEMENT PLAN



Jim Nash

CLINTON-OAKLAND SEWAGE DISPOSAL
SYSTEM

CAPITAL IMPROVEMENT PLAN

2027-2031

Capital and Major Maintenance Report

March 3, 2026

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Appendices

- Appendix A: Gravity Main and Manhole Condition and Risk Maps
- Appendix B: Detailed Asset Inventory
- Appendix C: Risk Matrix
- Appendix D: High Risk Assets Prioritized for Repair/Replacement or Inspection
- Appendix E: Project Summary
- Appendix F: Budget vs Actual Expense Comparison



Overview

This document presents the proposed five-year Capital Improvement Plan (CIP) for fiscal years 2027 through 2031 (October 1, 2026, through September 30, 2031) for the Clinton-Oakland Sewage Disposal System (COSDS). The CIP includes anticipated capital and major maintenance work for the period and provides recommendations for the revenue requirements of the major maintenance and capital rate components and system reserves. This forecast of the system’s recommended investment is intended to establish long-term budget needs to support future rate stability. The goal is to utilize revenue-based financing where possible, however, forecasts include necessary bond financing. State Revolving Fund loan opportunities and possible state and federal grant options will be pursued to maintain the desired levels of service.

Asset Condition

The condition of the assets in this system is determined by either physical inspection or estimated by useful life where an inspection has not been performed. Strategies related to the future inspection, rehabilitation and replacement are based on the asset’s expected performance. These produce intervention recommendations which are reviewed by engineers and field supervisors who select the appropriate action. In this way, capital investment and major maintenance activities address the highest risk assets and maintain the lowest lifecycle cost. The activities may include additional inspection, rehabilitation, repair or replacement.

One of the primary factors used in the system investment strategy is condition of the assets. The overall condition (measured as current Probability of Failure) for all assets in the system is summarized by Replacement Cost in Figure 1, with over 78% of the system categorized in good condition and approximately 13% categorized in poor condition.

Condition
(by % of Replacement Cost)

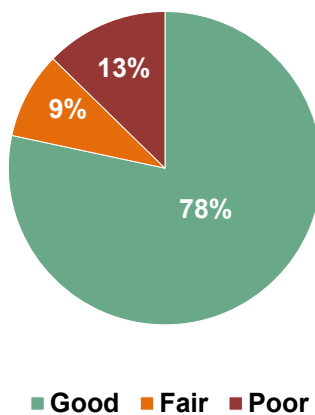


Figure 1: Overall System Condition, by Replacement Cost



To address the rehabilitation, repair, or replacement of the assets categorized in poor condition, a five-year plan has been developed for both capital improvement and major maintenance activities. In some cases, where inspection information is lacking, a re-inspection of the asset is indicated. Details of the investment needed to address these assets are presented in the “Recommendations” section of this report. Condition and risk maps of the gravity main and manhole assets can be found in Appendix A.

Work history is tracked at the asset level. Table 1 provides a summary of the previous year’s inspection, maintenance and corrective action activities. The goal of optimized maintenance is for an 80/20 balance between Predictive/Preventive work and Corrective work. Figure 2 shows a desirable trend for this system.

Table 1: FY2025 Work Order Summary

Clinton-Oakland Sewage Disposal System			
Work Order Type	Work Order Quantity	Work Distribution	Goal
Predictive Maintenance*	82	16.6%	80%
Preventive Maintenance	250	50.7%	
Corrective Maintenance	161	32.7%	20%

*Collection system inspections are included in Predictive Maintenance

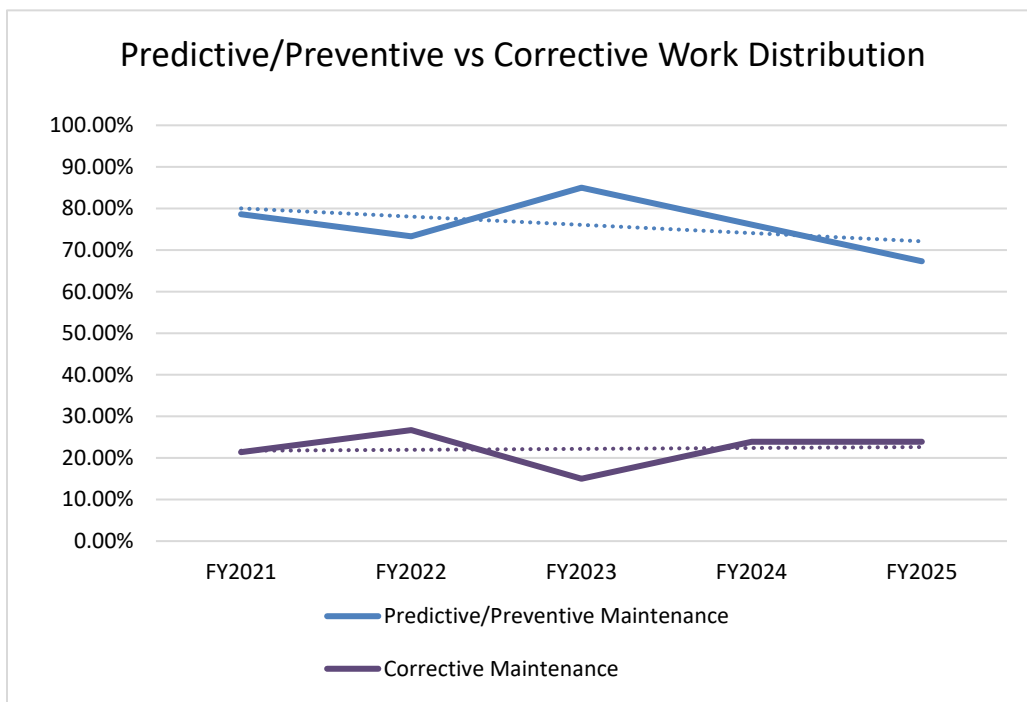


Figure 2: Work Distribution



Level of Service

Level of Service (LOS) is asset management terminology that refers to the quality of service provided to meet customer expectations. It defines the way in which a utility owner wants their system to perform over the long term and is a fundamental part of how the utility is operated and the planned investment is determined. In other words, level of service refers to the operation and investment in the system to provide customer and users the desired quality of service. There is a direct link between the LOS provided and the cost to the customer.

In determining the LOS for the Clinton-Oakland Sewage Disposal System, a risk-based approach is used. Inspections are based on strategies that consider age, condition and other factors to recommend an efficient and cost-effective cycle. This risk-based approach to condition assessment is applied to horizontal assets (pipe and manholes) and vertical assets (equipment within a facility such as pumps, electrical equipment, structures and buildings), and is performed on a frequency determined by asset type.

The frequency and type of capital and major maintenance activities are also based on a desired LOS. This involves performing asset rehabilitations and replacements to maintain acceptable risk and optimal lifecycle costs. Acceptable risk can vary by system based upon the resources available to operate and maintain a particular utility. Delaying capital and/or major maintenance activities increases the risk of service interruptions and reduces the quality of service to customers.

The financial health of a system is also a measurable component of LOS. Each system develops a long range plan (LRP) and an accompanying rate structure to ensure adequate revenues are collected for budgeted and anticipated future needs. The LRP includes multiple reserve accounts used to fund activities including an Emergency Repair Reserve, Capital Improvement Reserve, Major Maintenance Reserve and Operating Reserve.

Asset Inventory

A Geographic Information System (GIS) geodatabase is the primary means to inventory and map the assets in the system. The geodatabase captures key attributes associated with each asset, such as installation date (age), size and material. There are over 2,160 assets in the Clinton-Oakland Sewage Disposal System valued at or with a replacement value of over \$600 million as of 2026. A more detailed asset inventory can be found in Appendix B.

Assets include:

- 303,017 feet of sanitary gravity main
- 17,924 feet of sanitary non-gravity main
- 829 sanitary manholes
- 2 sanitary sewage lift stations
- 57 sewer flow meters; 51 for billing, 5 for control, 1 for system information
- 341 vertical assets



High Risk Assets

Not all assets are equally important to a utility's operation. Some assets are highly critical to maintaining operations while others could be out of service for a period of time without a negative impact due to redundancy or efficiencies. Critical assets are assets that provide extremely important functions, especially those for which there is no available redundancy or substitution. The consequences of failure of critical assets are serious, having potential to significantly impact customer services. We have analyzed the system and determined which assets are critical.

The overall criticality is an asset prioritization measure and is determined by the consequence of failure. The Consequence of Failure estimates the impact of an assets failure and considers not only the financial impacts but also public safety, service interruption, regulatory requirements and impacts to the public. Generally, the Consequence of Failure does not change throughout the life of an asset. For example, static attributes such as depth and proximity to surface waters and large roadways will affect Consequence of Failure.

The Risk of failure for a critical asset is determined by the Probability of Failure multiplied by the Consequence of Failure. The Probability of Failure is determined by measures such as asset age, condition, failure history, maintenance records, etc. Probability of Failure typically increases as an asset ages or continues to operate. Risk is used to prioritize repairs, replacements and asset inspections. For a more detailed explanation of asset risk, see Appendix C.

At this time, there are 150 assets falling into the high risk category in the COSDS system and are therefore prioritized for attention in the 2026-2031 window. These assets are listed in Appendix D. The plan to address these assets is part of planned improvements presented below in the Capital Improvement and Major Maintenance Expense Budget tables. To summarize the action plan for these assets:

- 91 are in planned projects
- 59 to be inspected in the 2026-2031 window



Major Maintenance Expense Budget

Major maintenance work occurs to support an asset in a variety of ways, allowing it to reach its intended useful life. For horizontal assets this includes pipe cleaning, televised inspection, pipe spot repair, joint grouting, and other activities. For vertical assets this includes rehabilitation or rebuilding of equipment. This table describes current and recommended work through FY2031. A summarized list of Projects can be found in Appendix E. A comparison of Budgeted and Actual Costs can be found in Appendix F.

Table 2: Major Maintenance Expense Budget

Expense Description	Funding	Program/ Project	FY2026 In Progress	FY2027	FY2028	FY2029	FY2030	FY2031	5 Year Total
COSDS 2023 Regional Sampling	Reserve	PRJ-17300	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$250,000
COSDS CCTV Program	Reserve	149127	\$150,000	\$150,000	\$400,000	\$150,000	\$150,000	\$450,000	\$1,300,000
COSDS FOG Dashboard	Reserve	149119	\$0	\$30,000	\$0	\$0	\$0	\$0	\$30,000
COSDS Force Main Inspections	Reserve	149662	\$0	\$200,000	\$0	\$0	\$0	\$0	\$200,000
COSDS Manhole Inspection Program	Reserve	149128	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$200,000
COSDS Manhole Repair Program	Reserve	149131	\$0	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$500,000
COSDS Pipe Grouting Program	Reserve	149124	\$150,000	\$150,000	\$250,000	\$150,000	\$300,000	\$150,000	\$1,000,000
COSDS PowerPlan Support Cost	Reserve	149669	\$205,767	\$291,272	\$300,010	\$309,010	\$318,280	\$327,828	\$1,546,400
COSDS Spot Repair Program	Reserve	149126	\$0	\$100,000	\$0	\$100,000	\$0	\$100,000	\$300,000
COSDS Evaluate Sewage Flow Meter Sites	Reserve	149664	\$50,000	\$0	\$0	\$0	\$0	\$100,000	\$100,000
COSDS System Wide Cleaning Program	Reserve	149137	\$750,000	\$0	\$0	\$0	\$150,000	\$150,000	\$300,000
COSDS Wastewater Standards Update	Reserve	PRJ-17937	\$33,875	\$0	\$0	\$0	\$0	\$0	\$0
Elizabeth Lake PS Improvements	Reserve	149662	\$0	\$50,000	\$25,000	\$50,000	\$0	\$15,000	\$140,000
Lacota Level Monitor Improvements	Reserve	149662	\$0	\$0	\$0	\$6,000	\$0	\$0	\$6,000
Oakland Avenue Level Monitor Improvements	Reserve	149662	\$50,000	\$0	\$0	\$15,000	\$0	\$0	\$15,000
Perry Street PS Improvements	Reserve	149662	\$14,000	\$50,000	\$50,000	\$0	\$0	\$0	\$100,000
Perry Street PS Replace Generator 2 Radiator	Reserve	PRJ-17929	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		Rate Funded	\$1,493,642	\$1,211,272	\$1,215,010	\$970,010	\$1,108,280	\$1,482,828	\$5,987,400
		Bond/Grant Funded	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		Total	\$1,493,642	\$1,211,272	\$1,215,010	\$970,010	\$1,108,280	\$1,482,828	\$5,987,400



Capital Improvement Expense Budget

Capital activities either add new assets, replace an existing asset or modify an existing asset in such a way as to extend its useful life beyond the original expectation. For horizontal assets, useful life can be extended by lining and other structural rehabilitations. For vertical assets, useful life is also extended by rehabilitation, rebuilding or modification of equipment. This table describes current and recommended work through FY2031. A summarized list of Projects can be found in Appendix E. A comparison of Budgeted and Actual Costs can be found in Appendix F.

Table 3: Capital Improvement Expense Budget

Expense Description	Funding	Program/ Project	FY2026 In Progress	FY2027	FY2028	FY2029	FY2030	FY2031	5 Year Total
Collection System Improvements	Reserve	149125	\$2,050,000	\$2,000,000	\$1,000,000	\$0	\$0	\$0	\$3,000,000
Collection System Improvements	Bond/Grant	149125	\$11,000,000	\$51,500,000	\$25,950,000	\$750,000	\$0	\$0	\$78,200,000
COSDS Asset Mgmt Software Implementation	Reserve	PRJ-17302	\$195,000	\$195,000	\$0	\$0	\$0	\$0	\$195,000
COSDS Lining Engineering	Reserve	PRJ-17167	\$500,000	\$500,000	\$105,687	\$0	\$0	\$0	\$605,687
COSDS Odor and Corrosion Study	Reserve	PRJ-17362	\$239,989	\$0	\$0	\$0	\$0	\$0	\$0
COSDS Sewage Meter Replacements	Reserve	149664	\$300,000	\$80,000	\$70,000	\$70,000	\$0	\$0	\$220,000
COSDS Pipe Lining/Replacement	Reserve	149125	\$0	\$0	\$4,000,000	\$1,000,000	\$500,000	\$500,000	\$6,000,000
COSDS Rehab, Diversion & Sewer Replacement	Bond/Grant	PRJ-17949	\$2,979,000	\$0	\$0	\$0	\$0	\$0	\$0
COSDS W. Walton Boulevard Lining Project (Area 3)	Bond/Grant	PRJ-17948	\$7,200,000	\$0	\$0	\$0	\$0	\$0	\$0
COSDS Rain Gauge Replacements	Reserve	149664	\$20,000	\$5,000	\$0	\$10,000	\$0	\$0	\$15,000
Elizabeth Lake PS 2023 Rehabilitation	Reserve	PRJ-17524	\$3,500,000	\$0	\$1,000,000	\$0	\$0	\$0	\$1,000,000
Elizabeth Lake PS Improvements	Reserve	149667	\$100,000	\$195,000	\$250,000	\$30,000	\$140,000	\$2,000,000	\$2,615,000
Elizabeth Lake PS Replace Sewage Pump 3 & Motor	Reserve	PRJ-17716	\$219,000	\$0	\$0	\$0	\$0	\$0	\$0
Perry Street PS Improvements	Reserve	149667	\$0	\$30,000	\$30,000	\$30,000	\$0	\$420,000	\$510,000
Perry Street PS Replace VFD Pump 1	Reserve	PRJ-17965	\$30,000	\$0	\$0	\$0	\$0	\$0	\$0
		Rate Funded	\$7,053,989	\$3,005,000	\$6,455,687	\$1,140,000	\$640,000	\$3,020,000	\$14,260,687
		Bond/Grant Funded	\$21,179,000	\$51,500,000	\$25,950,000	\$750,000	\$0	\$0	\$78,200,000
		Total	\$28,332,989	\$54,505,000	\$32,405,687	\$1,890,000	\$640,000	\$3,020,000	\$92,460,687



Recommendations

Major Maintenance

The recommendation is for the system to increase major maintenance funding over the next few years to allow for rehabilitation and ongoing inspection of the horizontal and vertical assets in the system. For FY2027, the recommendation is to invest \$1.2 million on Major Maintenance work. Output from the asset management software indicates that over the next 20 years investment could be as high as \$29.0 million to maintain the desired level of service. This equates to an annual average major maintenance investment of \$1.5 million. At this time there is a backlog of horizontal asset requiring re-inspection, which is anticipated to be addressed over the next five years.

Capital Improvements

While the latest condition assessment indicates the overall system is in good condition, it is important to recognize the assets of the Clinton-Oakland Sewage Disposal System have utilized 76% of their useful life. The system is estimated to have a replacement value exceeding \$600 million. It is the recommendation for the system to invest \$55.0 million on capital improvements in FY2027 with \$3.0 million funded through rates and the remainder through bonds. The average projected capital investment over the five year planning window is \$18.5 million. Output from the asset management software indicates that over the next 20 years investment could be as high as \$156.0 million to maintain the desired level of service. This equates to an annual average capital investment of \$7.8 million.

Summary

The Stormwater, Asset Management, and Wastewater (SAW) Program was established in 2013 to help agencies develop, update, and improve asset management plans for their wastewater and stormwater systems. This program provided grants and/or matching funds to assist with this work and move towards financial sustainability.

The majority of assets in the system were inspected between 2016 and 2018 through the SAW Grant program. These inspections identified numerous assets in need of improvement. Critical issues have been addressed while less serious issues have been prioritized and are being resolved. Budgets are based on an evaluation of overall risk and address assets with an unacceptable level of risk or require intervention to ensure risk does not become unacceptable in the near term. To maintain the existing level of service within the system, forecasts indicate that an average of \$7.5 million/year is invested in capital improvements and \$1.5 million/year is invested in major maintenance items for each of the next 20 years. This is a projected annual spend of \$9.0 million.

A general rule of thumb is to budget for 1% of a system's replacement value on an annual basis. This assumes all assets to have a 100 year useful life. Since this is not the case, the 1% number will underestimate the needs of vertical assets and overestimate the needs of some horizontal assets. However, this number is useful in guiding discussion on future budget needs during the rate setting process. 1% of the replacement value of the system is currently estimated at \$5.5 million.

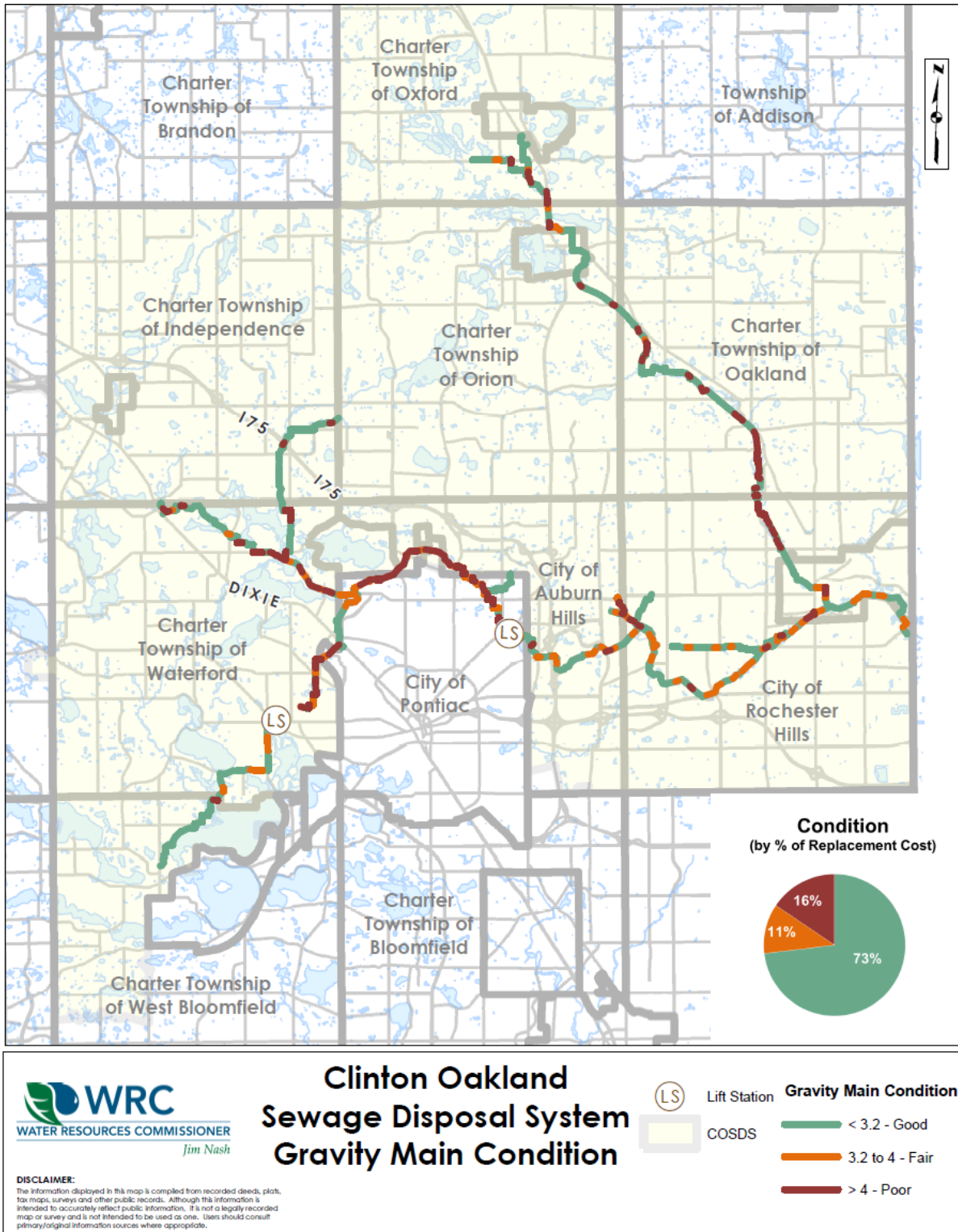
It is recommended the system approve the proposed \$1.2 million for Major Maintenance and \$3.0 million for rate-financed Capital for FY2027. Additionally, it is recommended that the system continue to pursue outside funding opportunities to complete the approximately \$78.2 million in planned sewer lining. The comprehensive workplan outlined for this five-year planning window, as detailed in Tables 2 and 3 above, is designed to support both ongoing projects and future initiatives, ensuring the system remains well-maintained and capable of meeting evolving needs.



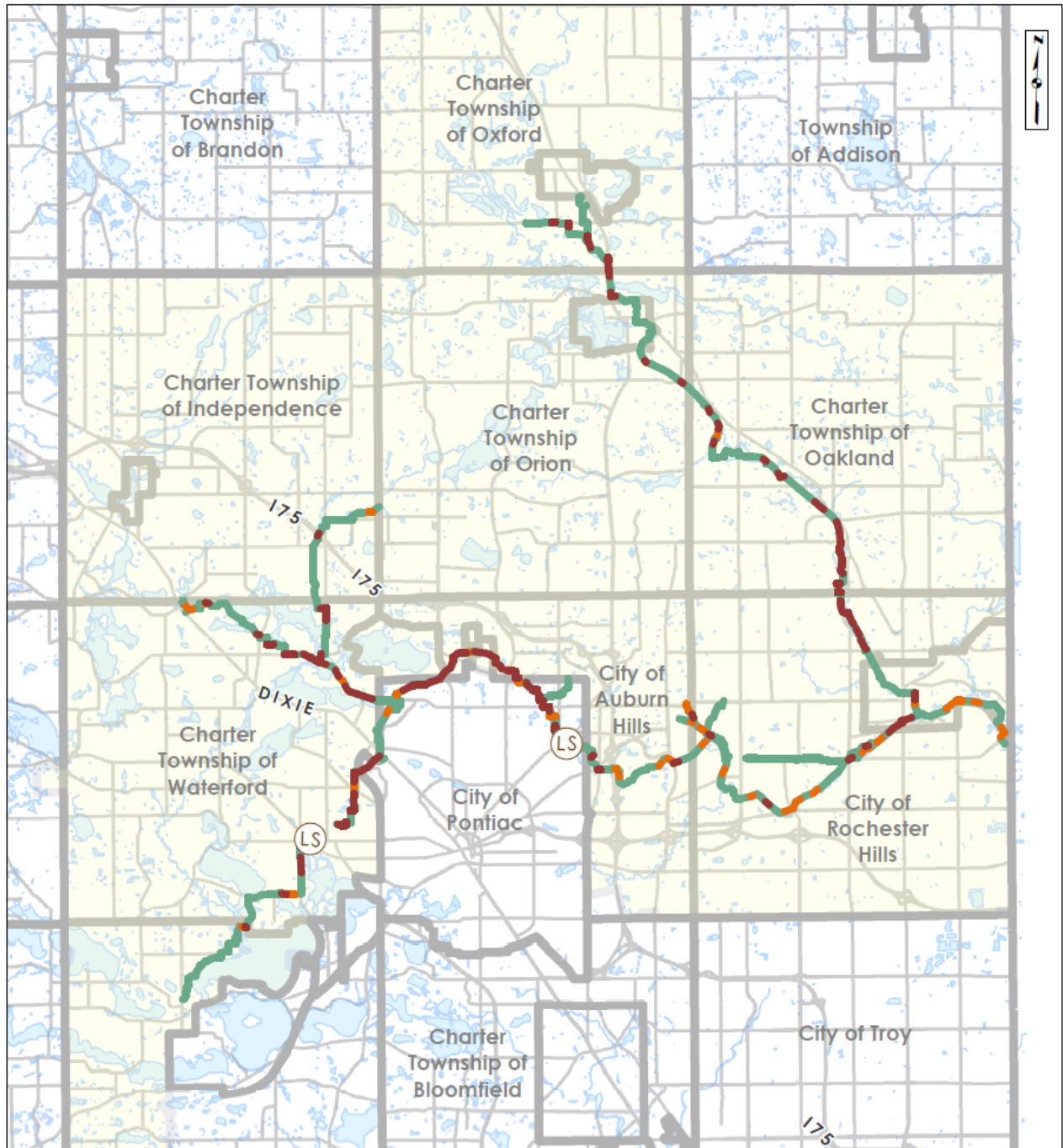
Appendix A

Gravity Main and Manhole Condition and Risk Maps


A. Gravity Main Condition Map



B. Gravity Main Risk Map



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WRC
WATER RESOURCES COMMISSIONER
Jim Nash

Clinton Oakland Sewage Disposal System Gravity Main Risk

Gravity Main Risk

- Tolerable Risk
- Significant Risk
- High Risk

LS Lift Station

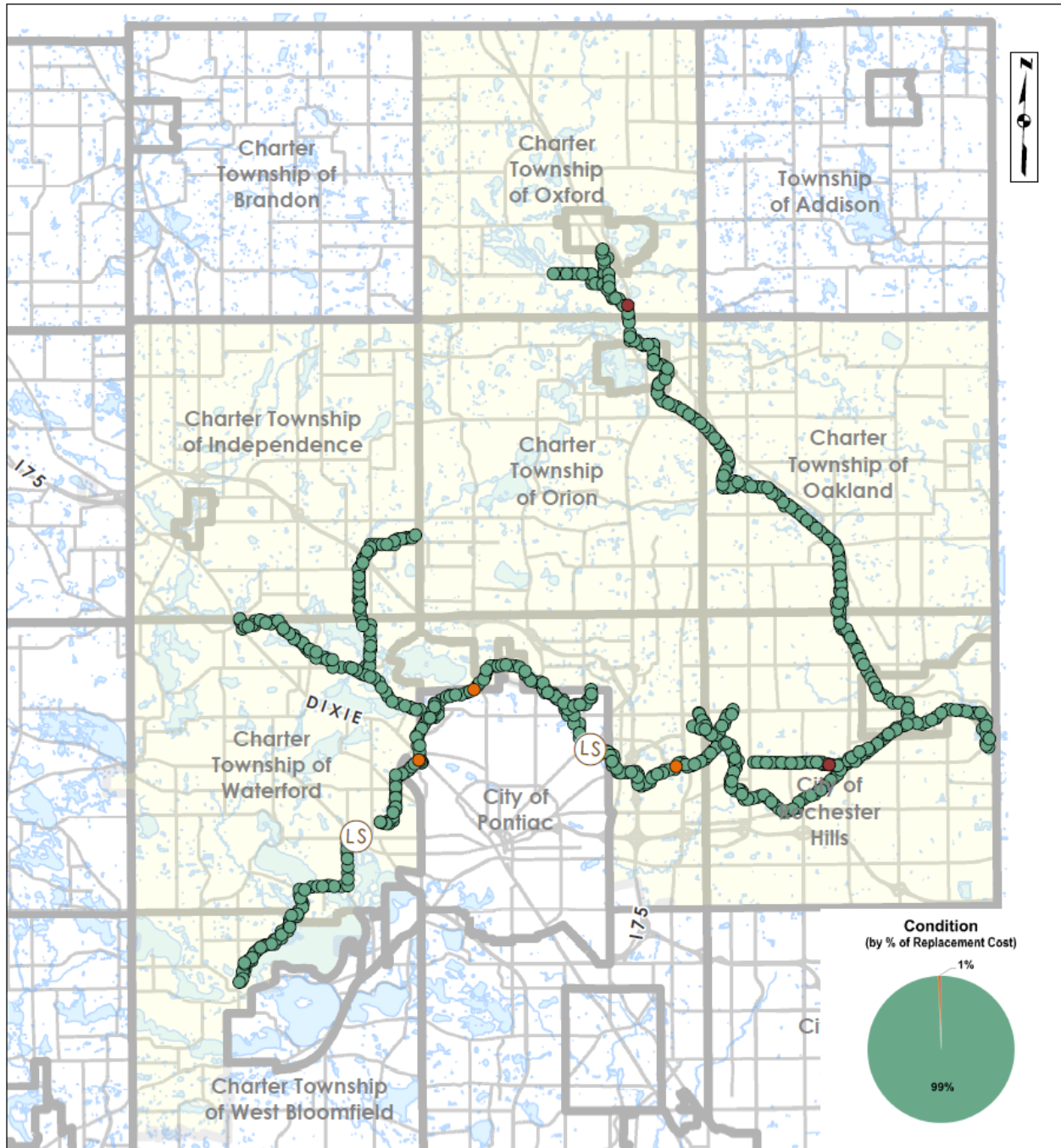
COSDS

DISCLAIMER:
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Date: 2/4/2026



C. Manhole Condition Map



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WATER RESOURCES COMMISSIONER
Jim Nash

Clinton Oakland Sewage Disposal System Manhole Condition

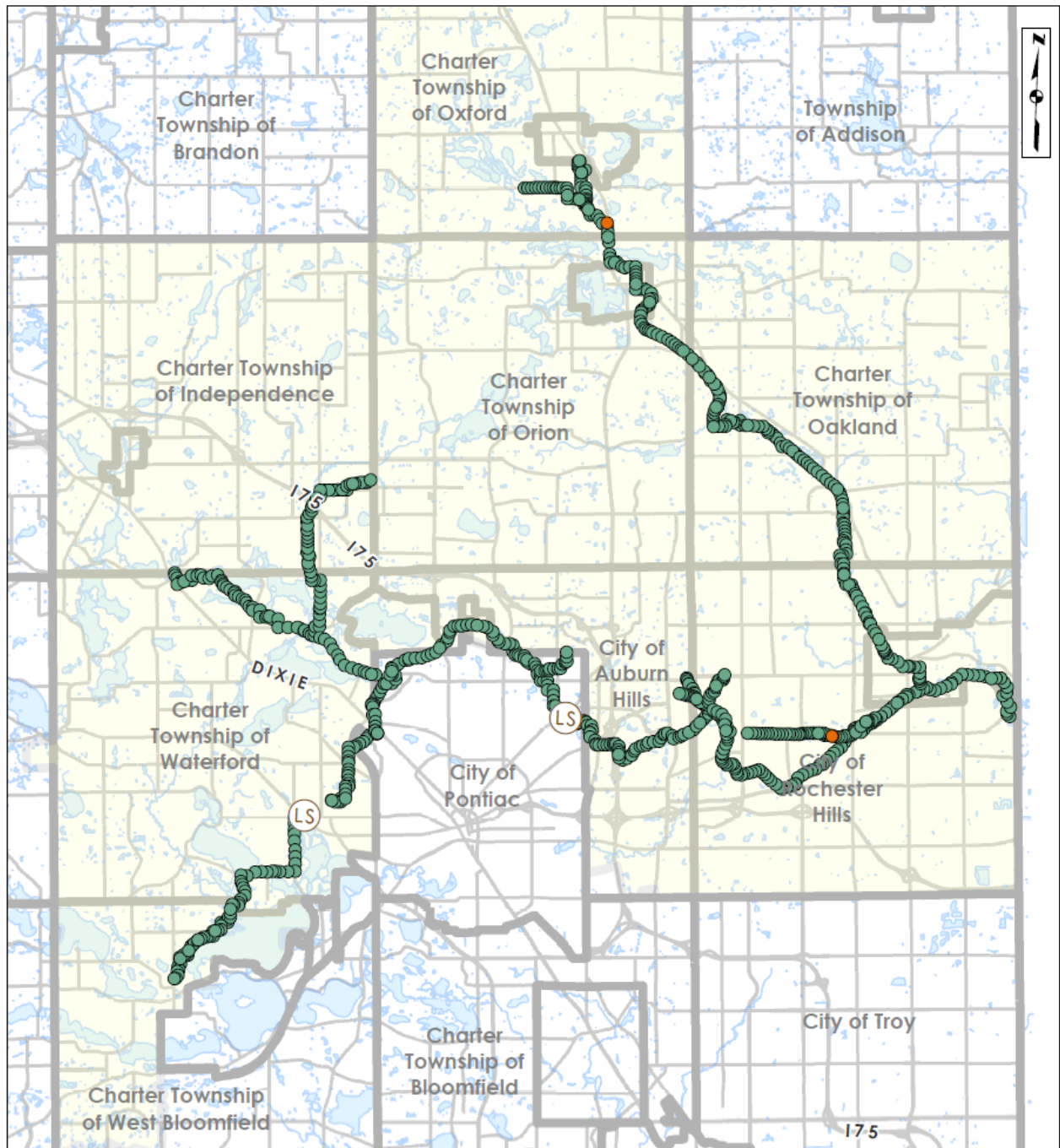
LS	Lift Station	Manhole Condition
	COSDS	
	< 3.2 - Good	
	3.2 to 4 - Fair	
	> 4 - Poor	

DISCLAIMER:
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Date: 2/19/2026



D. Manhole Risk Map



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Clinton Oakland Sewage Disposal System Manhole Risk

Manhole Risk

- Tolerable Risk
- Significant Risk
- High Risk

LS Lift Station

COSDS

DISCLAIMER:
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Date: 2/4/2026



Appendix B

Detailed Asset Inventory



ASSET SUMMARY Clinton-Oakland SDS - 58600

Structures		Sites	
Type	Count	Type	Count
Sewer Access Manhole	20	Sewage Dump Site	1
Sewer Cleanout	12	Sewage Lift Station	2
Sewer Flow Regulator - Passive	2	Sewer Flow Meter	58
Sewer Manhole	829	Sewer Level Monitoring Site	2
Sewer System Valve	2		

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Sanitary		
Sewer Gravity Main	303,017	860
Non-Gravity - Sanitary		
Force Main	17,924	32
Totals:	320,941	892

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Sanitary		
Clay	483	4
Concrete	301,110	840
Metal	92	2
Plastic	1,332	14
Non-Gravity - Sanitary		
Concrete	4,327	4
Metal	4,414	18
Plastic	9,183	10

Report Date: 02/03/2026



ASSET SUMMARY

Clinton-Oakland SDS - 58600

Vertical Assets Summary	
Type	Count
ActuatorNS	21
AntennaStructureNS	2
ComminutorGrinderNS	2
CommunicationEquipmentNS	23
CompressorNS	3
DriveShaftNS	5
ElectricEquipmentNS	44
ElevatorHoistNS	5
FlowMeterNS	57
GeneratorNS	3
HeatingAndCoolingNS	8
InstrumentationNS	59
MotorNS	5
PipingNS	4
PlantValveNS	42
PumpNS	14
SafetySecurityNS	3
SewerOdorControlNS	1
StorageTankNS	2
StructureNS	15
VariableSpeedControlNS	11
VentilationNS	8
WaterWellNS	1
WetWellNS	3
Total:	341

Report Date: 02/03/2026



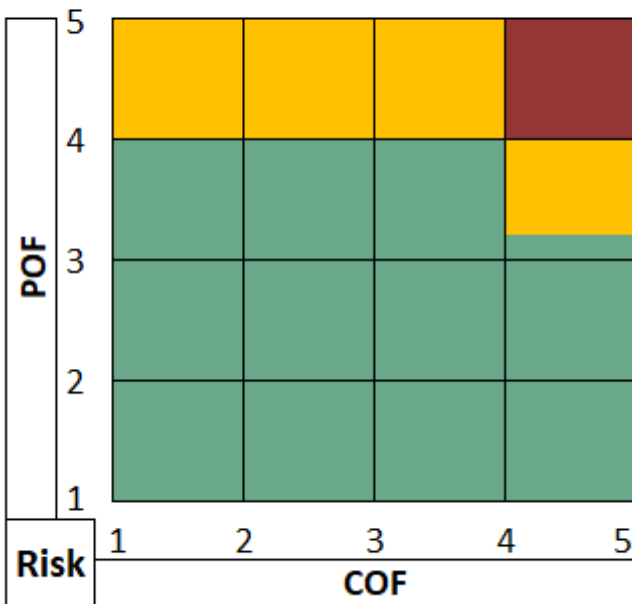
Appendix C

Risk Matrix

Risk can be assessed by identifying assets that do not meet the required Minimum Acceptable Condition (MAC), which is measured as the minimum acceptable Probability of Failure score. The MAC can be adjusted to reflect the determined Level of Service. Systems where financial hardships exist and/or there is a significant amount of previously deferred maintenance may set a higher MAC to better prioritize work within their current budgets, but also carry a higher level of risk. In this way, assets with higher criticality can be prioritized over those with lower criticality, which allows for the most cost-effective means to budget work.

The MAC varies depending on an individual asset's COF. The standard for this system is an MAC of 3.2 for assets that have a COF equal to or greater than 4.0 and an MAC of 4.0 for assets with a COF less than 4.0. The following graphic shows the relationship between POF, COF and Risk.

$$\text{Risk} = \text{COF Total} * \text{POF Total}$$



Scale	
Type	Color
High Risk	Critical assets requiring short-term action. Consider for Current thru Year 2 Projects. Consider use of Emergency Reserve funding.
Significant Risk	Assets requiring medium-term action. Consider for Year 1 -5 Projects.
Tolerable Risk	Assets to be managed using routine procedures. Increase frequency of inspection and/or rehabilitation with rising COF or POF.



Appendix D

High Risk Assets Prioritized for Repair/Replacement or Inspection

Risk	Description	Site	Asset ID	Action/Recommendation
25.0	Sanitary - Flow Regulator	N/A	405959	COSDS 2025 Manhole Inspection Program
23.1	Sanitary Gravity Main	N/A	20427	COSDS 2026 Spot Repair Program
22.2	Sanitary Gravity Main	N/A	19800	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
22.2	Sanitary Gravity Main	N/A	19816	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
21.8	Sanitary Gravity Main	N/A	19796	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
21.6	Sanitary Gravity Main	N/A	19708	2027 COSDS Downstream W. Walton Blvd Lining Project (Area 5)
21.5	Sanitary Gravity Main	N/A	19782	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
21.5	Sanitary Gravity Main	N/A	18971	COSDS 2029 Pipe Lining/Replacement
21.3	Sanitary Gravity Main	N/A	19553	2025 COSDS W. Walton Blvd Lining Project (Area 3)
21.0	Sanitary Gravity Main	N/A	20470	COSDS 2030 CCTV Program
21.0	Sanitary Gravity Main	N/A	21194	COSDS 2029 Pipe Lining/Replacement
20.9	Sanitary Gravity Main	N/A	19791	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
20.7	Sanitary Gravity Main	N/A	19556	2025 COSDS W. Walton Blvd Lining Project (Area 3)
20.5	Sanitary Gravity Main	N/A	19851	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
20.4	Sanitary Gravity Main	N/A	19546	COSDS 2025 CCTV Program
20.3	Sanitary Gravity Main	N/A	19550	2025 COSDS W. Walton Blvd Lining Project (Area 3)
20.3	Sanitary Gravity Main	N/A	19795	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
20.2	Sanitary Gravity Main	N/A	19688	COSDS 2028 CCTV Program
20.1	Sanitary Gravity Main	N/A	19548	2025 COSDS W. Walton Blvd Lining Project (Area 3)
20.0	Sanitary Gravity Main	N/A	19811	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
20.0	Sanitary Gravity Main	N/A	36107	2025 COSDS W. Walton Blvd Lining Project (Area 3)
19.9	Sanitary Gravity Main	N/A	19852	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
19.9	Sanitary Gravity Main	N/A	17814	COSDS 2030 CCTV Program
19.7	Sanitary Gravity Main	N/A	19687	COSDS 2028 CCTV Program
19.7	Sanitary Gravity Main	N/A	19689	COSDS 2028 CCTV Program
19.7	Sanitary Gravity Main	N/A	21031	COSDS 2028 CCTV Program
19.6	Sanitary Gravity Main	N/A	21008	COSDS 2030 CCTV Program
19.6	Sanitary Gravity Main	N/A	20468	COSDS 2030 CCTV Program
19.4	Sanitary Gravity Main	N/A	36108	COSDS 2025 CCTV Program
19.4	Sanitary Gravity Main	N/A	19813	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
19.4	Sanitary Gravity Main	N/A	19821	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
19.4	Sanitary Gravity Main	N/A	19824	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
19.4	Sanitary Gravity Main	N/A	19826	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
19.4	Sanitary Gravity Main	N/A	17820	COSDS 2030 CCTV Program
19.3	Sanitary Gravity Main	N/A	20428	COSDS 2028 CCTV Program
19.3	Sanitary Gravity Main	N/A	20353	COSDS 2028 CCTV Program
19.2	Sanitary Gravity Main	N/A	20474	COSDS 2030 CCTV Program



Risk	Description	Site	Asset ID	Action/Recommendation
19.0	Sanitary Gravity Main	N/A	20350	COSDS 2028 CCTV Program
19.0	Sanitary Gravity Main	N/A	20352	COSDS 2028 CCTV Program
19.0	Sanitary Gravity Main	N/A	20744	2025 COSDS Paint Creek Arm - Orion Township Lining
19.0	Sanitary Gravity Main	N/A	20469	COSDS 2030 CCTV Program
19.0	Sanitary Gravity Main	N/A	19557	2025 COSDS W. Walton Blvd Lining Project (Area 3)
19.0	Sanitary Gravity Main	N/A	19709	2027 COSDS Downstream W. Walton Blvd Lining Project (Area 5)
18.9	Sanitary Gravity Main	N/A	19847	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
18.8	Sanitary Gravity Main	N/A	19661	COSDS 2028 CCTV Program
18.8	Sanitary Gravity Main	N/A	18656	COSDS 2025 Pipe Grouting Program
18.8	Sanitary Gravity Main	N/A	19880	COSDS 2028 CCTV Program
18.8	Sanitary Gravity Main	N/A	19797	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
18.7	Sanitary Gravity Main	N/A	19870	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
18.7	Sanitary Gravity Main	N/A	19789	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
18.7	Sanitary Gravity Main	N/A	19815	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
18.7	Sanitary Gravity Main	N/A	19714	2027 COSDS Downstream W. Walton Blvd Lining Project (Area 5)
18.7	Sanitary Gravity Main	N/A	18973	2025 COSDS Paint Creek Arm - Oxford Township Lining
18.7	Sanitary Gravity Main	N/A	18869	COSDS 2028 CCTV Program
18.7	Sanitary Gravity Main	N/A	20375	COSDS 2030 CCTV Program
18.5	Sanitary Gravity Main	N/A	19792	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
18.5	Sanitary Gravity Main	N/A	19798	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
18.5	Sanitary Gravity Main	N/A	20377	COSDS 2030 CCTV Program
18.5	Sanitary Gravity Main	N/A	18925	COSDS 2028 Pipe Lining/Replacement
18.4	Sanitary Gravity Main	N/A	19713	2027 COSDS Downstream W. Walton Blvd Lining Project (Area 5)
18.4	Sanitary Gravity Main	N/A	19841	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
18.4	Sanitary Gravity Main	N/A	16938	COSDS 2028 CCTV Program
18.4	Sanitary Gravity Main	N/A	17812	COSDS 2030 CCTV Program
18.4	Sanitary Gravity Main	N/A	17813	COSDS 2030 CCTV Program
18.4	Sanitary Gravity Main	N/A	20373	COSDS 2030 CCTV Program
18.3	Sanitary Gravity Main	N/A	19465	2026 COSDS Eliz. Lk PS to County Campus Lining Project (Area 1)
18.2	Sanitary Gravity Main	N/A	19793	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
18.2	Sanitary Gravity Main	N/A	19700	2027 COSDS Downstream W. Walton Blvd Lining Project (Area 5)
18.2	Sanitary Gravity Main	N/A	18972	COSDS 2027 Spot Repair Program
18.2	Sanitary Gravity Main	N/A	20473	COSDS 2030 CCTV Program
18.2	Sanitary Gravity Main	N/A	20351	COSDS 2028 CCTV Program
18.2	Sanitary Gravity Main	N/A	19829	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
18.2	Sanitary Gravity Main	N/A	16824	COSDS 2030 CCTV Program
18.2	Sanitary Gravity Main	N/A	16825	COSDS 2028 CCTV Program
18.2	Sanitary Gravity Main	N/A	16983	COSDS 2030 CCTV Program
18.2	Sanitary Gravity Main	N/A	16989	COSDS 2026 Spot Repair Program



Risk	Description	Site	Asset ID	Action/Recommendation
18.2	Sanitary Gravity Main	N/A	16993	COSDS 2030 CCTV Program
18.2	Sanitary Gravity Main	N/A	17811	COSDS 2030 CCTV Program
18.2	Sanitary Gravity Main	N/A	21032	COSDS 2026 Spot Repair Program
18.1	Sanitary Gravity Main	N/A	19819	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
18.1	Sanitary Gravity Main	N/A	19853	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
18.1	Sanitary Gravity Main	N/A	16985	COSDS 2030 CCTV Program
18.0	Sanitary Gravity Main	N/A	19812	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
18.0	Sanitary Gravity Main	N/A	19822	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
18.0	Sanitary Gravity Main	N/A	20467	COSDS 2030 CCTV Program
18.0	Sanitary Gravity Main	N/A	21036	COSDS 2030 CCTV Program
17.9	Sanitary Gravity Main	N/A	20218	COSDS 2028 CCTV Program
17.9	Sanitary Gravity Main	N/A	20354	COSDS 2028 CCTV Program
17.9	Sanitary Gravity Main	N/A	16984	COSDS 2030 CCTV Program
17.9	Sanitary Gravity Main	N/A	20472	COSDS 2030 CCTV Program
17.8	Sanitary Gravity Main	N/A	17262	COSDS 2030 CCTV Program
17.7	Sanitary Gravity Main	N/A	20466	COSDS 2026 Spot Repair Program
17.6	Sanitary Gravity Main	N/A	19875	COSDS 2028 CCTV Program
17.6	Sanitary Gravity Main	N/A	16987	COSDS 2030 CCTV Program
17.6	Sanitary Gravity Main	N/A	19828	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
17.6	Sanitary Gravity Main	N/A	19469	2026 COSDS Eliz. Lk PS to County Campus Lining Project (Area 1)
17.6	Sanitary Gravity Main	N/A	19474	2026 COSDS Eliz. Lk PS to County Campus Lining Project (Area 1)
17.6	Sanitary Gravity Main	N/A	19490	2026 COSDS Eliz. Lk PS to County Campus Lining Project (Area 1)
17.6	Sanitary Gravity Main	N/A	19492	2026 COSDS Eliz. Lk PS to County Campus Lining Project (Area 1)
17.5	Sanitary Gravity Main	N/A	16981	COSDS 2030 CCTV Program
17.5	Sanitary Gravity Main	N/A	19736	COSDS 2025 System Wide Cleaning Program
17.5	Sanitary Gravity Main	N/A	20746	2025 COSDS Paint Creek Arm - Orion Township Lining
17.5	Sanitary Gravity Main	N/A	19790	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
17.4	Sanitary Gravity Main	N/A	20374	COSDS 2030 CCTV Program
17.4	Sanitary Gravity Main	N/A	1130848	2025 COSDS Cass Lake Crossing Pipe Lining
17.3	Sanitary Gravity Main	N/A	19470	2026 COSDS Eliz. Lk PS to County Campus Lining Project (Area 1)
17.2	Sanitary Gravity Main	N/A	19735	COSDS 2025 System Wide Cleaning Program
17.2	Sanitary Gravity Main	N/A	19609	2026 COSDS Eliz. Lk PS to County Campus Lining Project (Area 1)
17.2	Sanitary Gravity Main	N/A	20271	COSDS 2028 Spot Repair Program
17.1	Sanitary Gravity Main	N/A	19848	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
17.1	Sanitary Gravity Main	N/A	20379	COSDS 2030 CCTV Program
17.1	Sanitary Gravity Main	N/A	19746	COSDS 2025 System Wide Cleaning Program
17.1	Sanitary Gravity Main	N/A	19487	2026 COSDS Eliz. Lk PS to County Campus Lining Project (Area 1)
17.1	Sanitary Gravity Main	N/A	19843	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
17.0	Sanitary Gravity Main	N/A	20702	COSDS 2030 CCTV Program



Risk	Description	Site	Asset ID	Action/Recommendation
17.0	Sanitary Gravity Main	N/A	20741	COSDS 2028 Pipe Lining/Replacement
16.9	Sanitary Gravity Main	N/A	19711	2027 COSDS Downstream W. Walton Blvd Lining Project (Area 5)
16.9	Sanitary Gravity Main	N/A	19727	2026 COSDS Eliz. Lk PS to County Campus Lining Project (Area 1)
16.9	Sanitary Gravity Main	N/A	19801	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
16.9	Sanitary Gravity Main	N/A	17963	COSDS 2027 Spot Repair Program
16.8	Sanitary Gravity Main	N/A	19901	COSDS 2028 CCTV Program
16.8	Sanitary Gravity Main	N/A	19040	COSDS 2027 Spot Repair Program
16.8	Sanitary Gravity Main	N/A	17261	COSDS 2025 Pipe Grouting Program
16.7	Sanitary Gravity Main	N/A	18118	COSDS 2030 CCTV Program
16.7	Sanitary Gravity Main	N/A	19892	COSDS 2028 CCTV Program
16.7	Sanitary Gravity Main	N/A	19504	COSDS 2025 System Wide Cleaning Program
16.7	Sanitary Gravity Main	N/A	19794	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
16.6	Sanitary Gravity Main	N/A	19467	2026 COSDS Eliz. Lk PS to County Campus Lining Project (Area 1)
16.5	Sanitary Gravity Main	N/A	19787	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
16.5	Sanitary Gravity Main	N/A	19849	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
16.5	Sanitary Gravity Main	N/A	19850	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
16.5	Sanitary Gravity Main	N/A	19486	2026 COSDS Eliz. Lk PS to County Campus Lining Project (Area 1)
16.5	Sanitary Gravity Main	N/A	20395	COSDS 2028 CCTV Program
16.4	Sanitary Gravity Main	N/A	20342	COSDS 2030 CCTV Program
16.4	Sanitary Gravity Main	N/A	19846	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
16.4	Sanitary Gravity Main	N/A	17039	COSDS 2033 CCTV Program
16.4	Sanitary Gravity Main	N/A	17271	COSDS 2029 Pipe Lining/Replacement
16.3	Sanitary Gravity Main	N/A	19026	COSDS 2028 CCTV Program
16.3	Sanitary Gravity Main	N/A	19433	COSDS 2030 CCTV Program
16.3	Sanitary Gravity Main	N/A	18864	COSDS 2026 Pipe Grouting Program
16.2	Sanitary Gravity Main	N/A	19028	2025 COSDS Paint Creek Arm - Oxford Township Lining
16.2	Sanitary Gravity Main	N/A	20414	COSDS 2028 CCTV Program
16.2	Sanitary Gravity Main	N/A	19823	2026 COSDS N. Pontiac Lining Project (Area 2A) - W. Side
16.2	Sanitary Gravity Main	N/A	19625	COSDS 2028 CCTV Program
16.2	Sanitary Gravity Main	N/A	19615	2026 COSDS Eliz. Lk PS to County Campus Lining Project (Area 1)
16.2	Sanitary Gravity Main	N/A	19618	2025 COSDS Rehab, Diversion & Sewer Replacement
16.1	Sanitary Gravity Main	N/A	19468	2026 COSDS Eliz. Lk PS to County Campus Lining Project (Area 1)
16.1	Sanitary Gravity Main	N/A	19698	2025 COSDS W. Walton Blvd Lining Project (Area 3)
16.0	Sanitary Gravity Main	N/A	19483	2026 COSDS Eliz. Lk PS to County Campus Lining Project (Area 1)
16.0	Sanitary Gravity Main	N/A	20648	COSDS 2033 CCTV Program



Appendix E

Project Summary

Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
COSDS Lining Engineering	Project Mgmt	Scott Schultz, P.E.	Active	PRJ-17167	2022	2027	\$ 3,438,000
COSDS 2023 Regional Sampling	Environmental	Joel Kohn	Active	PRJ-17300	2023	2031	\$ 50,000
COSDS Odor and Corrosion Study	Project Mgmt	Scott Schultz, P.E.	Active	PRJ-17362	2023	2026	\$ 780,000
Oakland Avenue Septage Facility Improvements	Sewer Maint	Drew Sandahl, P.E.	Budgeted		2023	2026	\$ 310,000
COSDS Asset Mgmt Software Implementation	Asset Mgmt	Jenny Shaw	Active	PRJ-17302	2024	2027	\$ 115,000
COSDS Evaluate Sewage Flow Meter Sites	Systems Ctrl	Tess Reynolds	Active		2024	2026	\$ 100,000
Elizabeth Lake PS 2023 Rehabilitation	Pump Maint	Drew Sandahl, P.E.	Active	PRJ-17524	2024	2028	\$ 4,000,000
COSDS Meter-Based Billing Update	Systems Ctrl	Larry Young, P.E.	Completed	PRJ-17556	2024	2025	\$ 70,000
Elizabeth Lake PS Replace Sewage Pump 5 & Motor	Pump Maint	Jacob Sable, P.E.	Completed	PRJ-17715	2024	2025	\$ 209,000
Perry Street PS Repair Sewage Pump 2	Pump Maint	Jacob Sable, P.E.	Completed	PRJ-17708	2024	2025	\$ 40,000
COSDS 2025 CCTV Program	Sewer Maint	Phil Kerby, P.E.	Active		2025	2026	\$ 150,000
COSDS 2025 Manhole Inspection Program	Sewer Maint	Phil Kerby, P.E.	Active		2025	2026	\$ 40,000
COSDS 2025 Pipe Grouting Program	Sewer Maint	Phil Kerby, P.E.	Active		2025	2026	\$ 150,000
COSDS 2025 System Wide Cleaning Program	Sewer Maint	Phil Kerby, P.E.	Active		2025	2026	\$ 500,000
COSDS Rehabilitation, Diversion & Sewer Replacement	Project Mgmt	Scott Schultz, P.E.	Active	PRJ-17949	2025	2026	\$ 2,979,000
COSDS Wastewater Standards Update	Administration	Brian Bennett, P.E.	Active	PRJ-17937	2025	2026	\$ 33,875
COSDS W. Walton Boulevard Lining Project (Area 3)	Project Mgmt	Scott Schultz, P.E.	Active	PRJ-17948	2025	2026	\$ 5,686,000
Elizabeth Lake PS Replace Sewage Pump 3 & Motor	Pump Maint	Jacob Sable, P.E.	Active	PRJ-17716	2025	2026	\$ 219,000
Perry Street PS Replace Generator 2 Radiator	Pump Maint	Kevin Schulz	Active	PRJ-17929	2025	2025	\$ 10,200
Perry Street PS Replace VFD Pump 1	Systems Ctrl	Timothy Pete	Active	PRJ-17965	2025	2026	\$ 30,000
COSDS Cass Lake Crossing Pipe Lining	Sewer Maint	Phil Kerby, P.E.	Budgeted		2025	2027	\$ 1,500,000
COSDS Paint Creek Arm - Orion Township Lining	Sewer Maint	Phil Kerby, P.E.	Budgeted		2025	2026	\$ 1,000,000
COSDS Paint Creek Arm - Oxford Township Lining	Sewer Maint	Phil Kerby, P.E.	Budgeted		2025	2026	\$ 500,000
COSDS 2025 Manhole Repair Program	Sewer Maint	Phil Kerby, P.E.	Completed		2025	2025	\$ 150,000
COSDS 2025 Pipe Lining/Replacement	Sewer Maint	Phil Kerby, P.E.	Completed		2025	2025	\$ 1,000,000
COSDS 2025 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Completed		2025	2025	\$ 234,113
COSDS 2025 Sewage Meter Replacements	Systems Ctrl	Carrie Cox, P.E.	Completed		2025	2025	\$ 145,000



Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
COSDS 2025 Spot Repair Program	Sewer Maint	Phil Kerby, P.E.	Completed		2025	2025	\$ 100,000
Elizabeth Lake PS Replace Pump 4 VFD	Systems Ctrl	Timothy Pete	Completed	PRJ-17830	2025	2026	\$ 60,000
Perry Street PS Pressure Switch Removal	Pump Maint	Jeremy Hunt	Completed	PRJ-17828	2025	2025	\$ 22,000
Perry Street PS Rebuild Sewage Pump 1	Pump Maint	Kevin Schulz	Completed	PRJ-17823	2025	2025	\$ 40,000
COSDS 2026 CCTV Program	Sewer Maint	Phil Kerby, P.E.	Active		2026	2026	\$ 150,000
COSDS 2026 Manhole Inspection Program	Sewer Maint	Phil Kerby, P.E.	Active		2026	2026	\$ 40,000
COSDS 2026 Pipe Grouting Program	Sewer Maint	Phil Kerby, P.E.	Active		2026	2026	\$ 150,000
COSDS 2026 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Active		2026	2026	\$ 205,767
COSDS 2026 Sewage Meter Replacements	Systems Ctrl	Carrie Cox, P.E.	Active		2026	2026	\$ 300,000
COSDS 2026 System Wide Cleaning Program	Sewer Maint	Phil Kerby, P.E.	Active		2026	2026	\$ 750,000
COSDS Elizabeth Lake PS to County Campus Lining Project (Area 1)	Project Mgmt	Scott Schultz, P.E.	Budgeted		2026	2027	\$ 23,000,000
COSDS N. Pontiac Lining Project (Area 2A) – W. Side	Project Mgmt	Scott Schultz, P.E.	Budgeted		2026	2028	\$ 35,000,000
COSDS N. Pontiac Lining Project (Area 2B) – E. Side	Project Mgmt	Scott Schultz, P.E.	Budgeted		2026	2027	\$ 15,000,000
COSDS Oakland University Pipe Lining	Sewer Maint	Phil Kerby, P.E.	Budgeted		2026	2026	\$ 50,000
Perry Street PS Replace Wet Well Level Indicator	Systems Ctrl	Drew Sandahl, P.E.	Budgeted		2026	2026	\$ 14,000
COSDS 2026 Rain Gauge Replacements	Systems Ctrl	Larry Young, P.E.	Planning		2026	2026	\$ 20,000
COSDS Downstream Elizabeth Lake PS Lining Project (Area 4)	Project Mgmt	Scott Schultz, P.E.	Budgeted		2027	2028	\$ 7,500,000
COSDS 2027 CCTV Program	Sewer Maint	Phil Kerby, P.E.	Planning		2027	2027	\$ 150,000
COSDS 2027 Manhole Inspection Program	Sewer Maint	Phil Kerby, P.E.	Planning		2027	2027	\$ 40,000
COSDS 2027 Manhole Repair Program	Sewer Maint	Phil Kerby, P.E.	Planning		2027	2027	\$ 100,000
COSDS 2027 Pipe Grouting Program	Sewer Maint	Phil Kerby, P.E.	Planning		2027	2027	\$ 150,000
COSDS 2027 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2027	2027	\$ 291,272
COSDS 2027 Rain Gauge Replacements	Systems Ctrl	Larry Young, P.E.	Planning		2027	2027	\$ 5,000
COSDS 2027 Sewage Meter Replacements	Systems Ctrl	Carrie Cox, P.E.	Planning		2027	2027	\$ 80,000
COSDS 2027 Spot Repair Program	Sewer Maint	Phil Kerby, P.E.	Planning		2027	2027	\$ 100,000
COSDS Downstream West Walton Boulevard Lining Project (Area 5)	Project Mgmt	Scott Schultz, P.E.	Planning		2027	2028	\$ 13,000,000
COSDS FOG Dashboard	Sewer Maint	Drew Sandahl, P.E.	Planning		2027	2027	\$ 30,000
COSDS Force Main Inspections	Pump Maint	Drew Sandahl, P.E.	Planning		2027	2027	\$ 200,000
COSDS Odor Control Improvements (OCS-02)	Project Mgmt	Joel Brown, P.E.	Planning		2027	2028	\$ 2,000,000



Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
Elizabeth Lake PS Change Odor Control System Filter	Pump Maint	Drew Sandahl, P.E.	Planning		2027	2027	\$ 50,000
Elizabeth Lake PS Replace Sewage Pump 6	Pump Maint	Drew Sandahl, P.E.	Planning		2027	2027	\$ 195,000
Perry Street PS Rebuild Sewage Pump 3	Pump Maint	Drew Sandahl, P.E.	Planning		2027	2027	\$ 50,000
Perry Street PS Replace VFD Pump 2	Pump Maint	Drew Sandahl, P.E.	Planning		2027	2027	\$ 30,000
COSDS 2028 CCTV Program	Sewer Maint	Phil Kerby, P.E.	Planning		2028	2028	\$ 400,000
COSDS 2028 Manhole Inspection Program	Sewer Maint	Phil Kerby, P.E.	Planning		2028	2028	\$ 40,000
COSDS 2028 Manhole Repair Program	Sewer Maint	Phil Kerby, P.E.	Planning		2028	2028	\$ 100,000
COSDS 2028 Pipe Grouting Program	Sewer Maint	Phil Kerby, P.E.	Planning		2028	2028	\$ 250,000
COSDS 2028 Pipe Lining/Replacement	Sewer Maint	Phil Kerby, P.E.	Planning		2028	2028	\$ 4,000,000
COSDS 2028 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2028	2028	\$ 300,010
COSDS 2028 Sewage Meter Replacements	Systems Ctrl	Carrie Cox, P.E.	Planning		2028	2028	\$ 70,000
COSDS Odor and Corrosion - Area 6 & 7 Lining	Project Mgmt	Scott Schultz, P.E.	Planning		2028	2029	\$ 5,000,000
Elizabeth Lake PS Driveway & Drainage Rehab	Pump Maint	Jacob Sable, P.E.	Planning		2028	2028	\$ 25,000
Elizabeth Lake PS Replace Sewage Pump 2 & Motor	Pump Maint	Drew Sandahl, P.E.	Planning		2028	2028	\$ 250,000
Perry Street PS Rebuild Sewage Pump 4	Pump Maint	Drew Sandahl, P.E.	Planning		2028	2028	\$ 50,000
Perry Street PS Replace VFD Pump 3	Pump Maint	Drew Sandahl, P.E.	Planning		2028	2028	\$ 30,000
COSDS 2029 CCTV Program	Sewer Maint	Phil Kerby, P.E.	Planning		2029	2029	\$ 150,000
COSDS 2029 Manhole Inspection Program	Sewer Maint	Phil Kerby, P.E.	Planning		2029	2029	\$ 40,000
COSDS 2029 Manhole Repair Program	Sewer Maint	Phil Kerby, P.E.	Planning		2029	2029	\$ 100,000
COSDS 2029 Pipe Grouting Program	Sewer Maint	Phil Kerby, P.E.	Planning		2029	2029	\$ 150,000
COSDS 2029 Pipe Lining/Replacement	Sewer Maint	Phil Kerby, P.E.	Planning		2029	2029	\$ 1,000,000
COSDS 2029 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2029	2029	\$ 309,010
COSDS 2029 Rain Gauge Replacements	Systems Ctrl	Larry Young, P.E.	Planning		2029	2029	\$ 10,000
COSDS 2029 Sewage Meter Replacements	Systems Ctrl	Carrie Cox, P.E.	Planning		2029	2029	\$ 70,000
COSDS 2029 Spot Repair Program	Sewer Maint	Phil Kerby, P.E.	Planning		2029	2029	\$ 100,000
Elizabeth Lake PS Replace Header Pressures	Systems Ctrl	Drew Sandahl, P.E.	Planning		2029	2029	\$ 10,000
Elizabeth Lake PS Replace Roof	Pump Maint	Drew Sandahl, P.E.	Planning		2029	2029	\$ 40,000
Elizabeth Lake PS Replace Sump Pumps 1, 2 & Piping	Pump Maint	Drew Sandahl, P.E.	Planning		2029	2029	\$ 30,000
Lacota Level Monitor Replace Cell Modem	Systems Ctrl	Drew Sandahl, P.E.	Planning		2029	2029	\$ 6,000
Oakland Avenue Level Monitor Replace Cell Modem	Systems Ctrl	Drew Sandahl, P.E.	Planning		2029	2029	\$ 6,000
Oakland Avenue Level Monitor Replace Ultrasonic Downlooker	Systems Ctrl	Drew Sandahl, P.E.	Planning		2029	2029	\$ 9,000



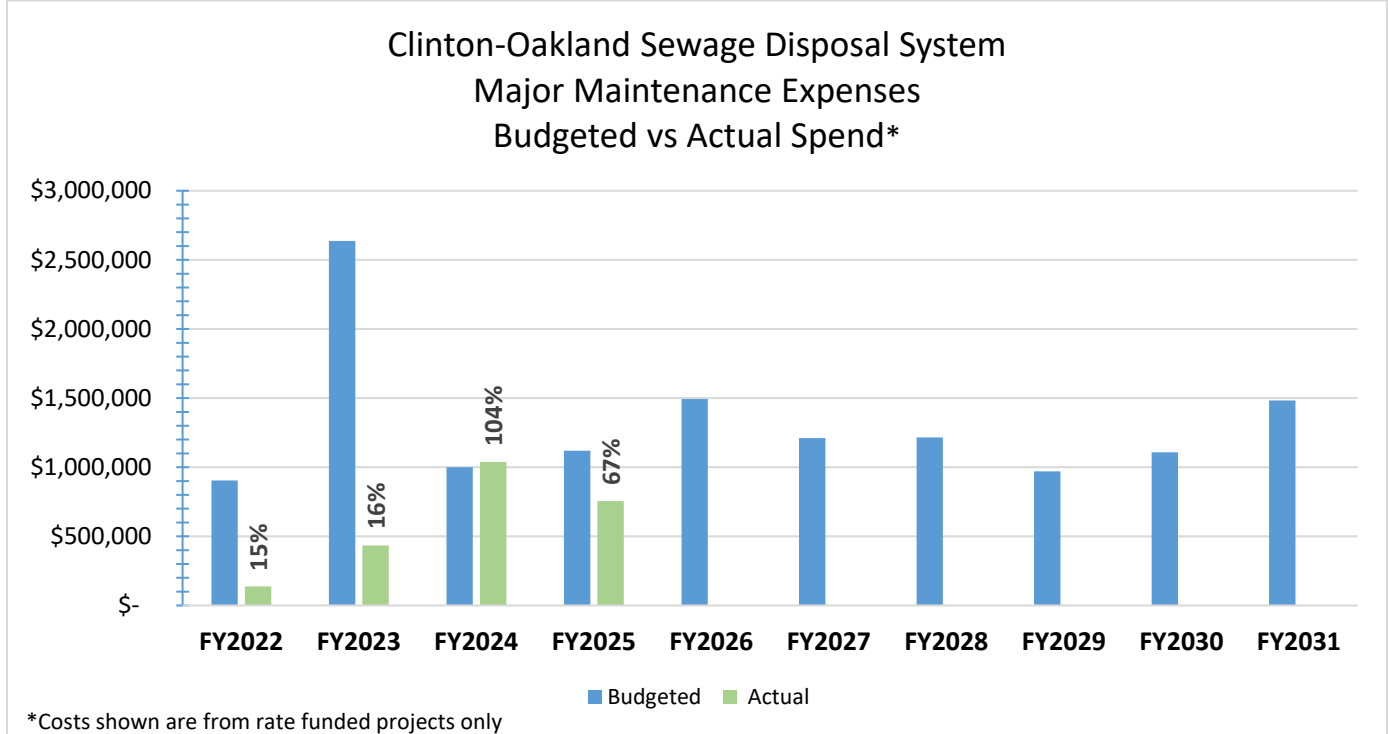
Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
Perry Street PS Replace VFD Pump 4	Pump Maint	Drew Sandahl, P.E.	Planning		2029	2029	\$ 30,000
COSDS 2030 CCTV Program	Sewer Maint	Phil Kerby, P.E.	Planning		2030	2030	\$ 150,000
COSDS 2030 Manhole Inspection Program	Sewer Maint	Phil Kerby, P.E.	Planning		2030	2030	\$ 40,000
COSDS 2030 Manhole Repair Program	Sewer Maint	Phil Kerby, P.E.	Planning		2030	2030	\$ 100,000
COSDS 2030 Pipe Grouting Program	Sewer Maint	Phil Kerby, P.E.	Planning		2030	2030	\$ 300,000
COSDS 2030 Pipe Lining/Replacement	Sewer Maint	Phil Kerby, P.E.	Planning		2030	2030	\$ 500,000
COSDS 2030 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2030	2030	\$ 318,280
COSDS 2030 System Wide Cleaning Program	Sewer Maint	Phil Kerby, P.E.	Planning		2030	2030	\$ 150,000
Elizabeth Lake PS Replace Electrical Equipment	Systems Ctrl	Drew Sandahl, P.E.	Planning		2030	2031	\$ 2,100,000
Elizabeth Lake PS Replace Pump 5 VFD	Systems Ctrl	Timothy Pete	Planning		2030	2030	\$ 40,000
COSDS 2031 CCTV Program	Sewer Maint	Phil Kerby, P.E.	Planning		2031	2031	\$ 450,000
COSDS 2031 Manhole Inspection Program	Sewer Maint	Phil Kerby, P.E.	Planning		2031	2031	\$ 40,000
COSDS 2031 Manhole Repair Program	Sewer Maint	Phil Kerby, P.E.	Planning		2031	2031	\$ 100,000
COSDS 2031 Pipe Grouting Program	Sewer Maint	Phil Kerby, P.E.	Planning		2031	2031	\$ 150,000
COSDS 2031 Pipe Lining/Replacement	Sewer Maint	Phil Kerby, P.E.	Planning		2031	2031	\$ 500,000
COSDS 2031 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2031	2031	\$ 327,828
COSDS 2031 Spot Repair Program	Sewer Maint	Phil Kerby, P.E.	Planning		2031	2031	\$ 100,000
COSDS 2031 System Wide Cleaning Program	Sewer Maint	Phil Kerby, P.E.	Planning		2031	2031	\$ 150,000
COSDS Evaluate Sewage Flow Meter Sites	Systems Ctrl	Tess Reynolds	Planning		2031	2031	\$ 100,000
Elizabeth Lake PS Rebuild Sewage Pump 1 Motor	Pump Maint	Drew Sandahl, P.E.	Planning		2031	2031	\$ 15,000
Elizabeth Lake PS Rehab Control Panel	Systems Ctrl	Drew Sandahl, P.E.	Planning		2031	2031	\$ 100,000
Perry Street PS Evaluate/Replace Wet Well Supply/Exhaust Fan VFDs	Pump Maint	Drew Sandahl, P.E.	Planning		2031	2031	\$ 40,000
Perry Street PS Replace Channel 1 & 2 Grinders	Pump Maint	Drew Sandahl, P.E.	Planning		2031	2032	\$ 100,000
Perry Street PS Replace Ventilation Equipment	Systems Ctrl	Drew Sandahl, P.E.	Planning		2031	2031	\$ 240,000



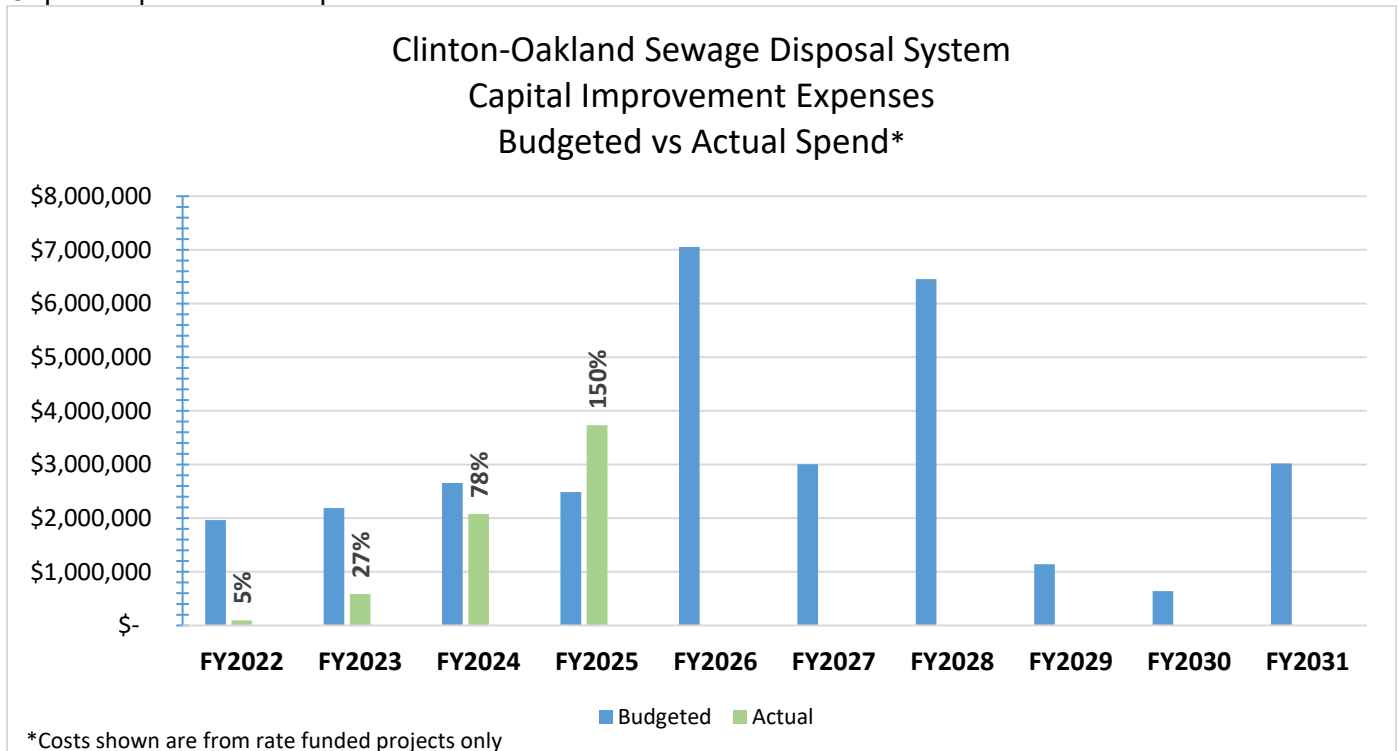
Appendix F

Budgeted vs Actual Expense Comparison

Major Maintenance Expenses



Capital Improvement Expenses



APPENDIX C: PACP RATING INFORMATION

COSDS CWSRF Project Planning Document Amendment FY2027
Sewer Structural Integrity
Project Area 2b
Sewers

Asset ID	Street	Length (Feet)	Quick Structural Score	Material & Pipe Class	In Service Date	COF Score	Current POF	Risk Score	Types of Structural Defects Found (O&M defects are not CWSRF-eligible)	Justification of Need (required for non-NASSCO structural 4 or 5 rated segments)
19815	<Null>	630.48	4W00	Reinforced Concrete/C76-Unknown	7/12/1973	4.18	4.482	18.735	4	Presence of H2S confirmed
19816	<Null>	266.83	4I00	Reinforced Concrete/C76-Unknown	7/12/1973	4.58	4.841	22.172	4	Presence of H2S confirmed
19817	<Null>	376	1N00	Reinforced Concrete/C76-Unknown	7/12/1973	4.325	1.515	6.552	1	Pipe segment between pipes with Grade 4 defects; Presence of H2S confirmed
19818	<Null>	106.05	3U2G	Reinforced Concrete/C76-Unknown	7/12/1973	4.46	2.748	12.256	3.2	Pipe segment between pipes with Grade 4 defects; Presence of H2S confirmed
19819	<Null>	352	4M00	Reinforced Concrete/C76-Unknown	7/12/1973	4.04	4.482	18.107	4	Presence of H2S confirmed
19820	<Null>	585.62	4V00	Reinforced Concrete/C76-Unknown	7/12/1973	4.04	3.8	15.352	4	Presence of H2S confirmed
19837	<Null>	368.72	2M00	Reinforced Concrete/C76-Unknown	7/12/1973	4.465	2.449	10.935	2	Pipe segment between pipes with Grade 4 defects; Presence of H2S confirmed
19838	<Null>	246.86	4G00	Reinforced Concrete/C76-Unknown	7/12/1973	4.095	3.8	15.561	4	Presence of H2S confirmed
19839	<Null>	203.46	1G00	Reinforced Concrete/C76-Unknown	7/12/1973	3.925	1.515	5.946	1	Pipe segment between pipes with Grade 4 defects; Presence of H2S confirmed
19840	<Null>	421.13	4O00	Reinforced Concrete/C76-Unknown	7/12/1973	3.98	3.8	15.124	4	Presence of H2S confirmed
19841	<Null>	229.16	511H	Reinforced Concrete/C76-Unknown	7/12/1973	4.21	4.365	18.377	5.1	Presence of H2S confirmed
19842	<Null>	326.64	4K00	Reinforced Concrete/C76-Unknown	7/12/1973	3.95	3.8	15.01	4	Presence of H2S confirmed
19843	<Null>	284.58	4J00	Reinforced Concrete/C76-Unknown	7/12/1973	3.81	4.482	17.076	4	Presence of H2S confirmed
19844	<Null>	207.35	4G00	Reinforced Concrete/C76-Unknown	7/12/1973	3.835	3.8	14.573	4	Presence of H2S confirmed
19846	<Null>	429.53	4O00	Reinforced Concrete/C76-Unknown	7/12/1973	4.325	3.8	16.435	4	Presence of H2S confirmed
19847	<Null>	360.42	4L00	Reinforced Concrete/C76-Unknown	7/12/1973	4.21	4.482	18.869	4	Presence of H2S confirmed
19848	<Null>	372.57	5N00	Reinforced Concrete/C76-Unknown	7/12/1973	4.21	4.072	17.143	5	Presence of H2S confirmed
19849	<Null>	361.65	4M00	Reinforced Concrete/C76-Unknown	7/12/1973	4.35	3.8	16.53	4	Presence of H2S confirmed
19850	<Null>	297.2	4J00	Reinforced Concrete/C76-Unknown	7/12/1973	4.35	3.8	16.53	4	Presence of H2S confirmed
19851	<Null>	614.96	4W38	Reinforced Concrete/C76-Unknown	7/12/1973	4.605	4.451	20.497	4.3	Presence of H2S confirmed
19852	<Null>	301.96	4J2E	Reinforced Concrete/C76-Unknown	7/12/1973	4.465	4.451	19.874	4.2	Presence of H2S confirmed
19853	<Null>	358.88	4M00	Reinforced Concrete/C76-Unknown	7/12/1973	4.065	4.451	18.093	4	Presence of H2S confirmed
19870	<Null>	463.43	4K1Q	Reinforced Concrete/C76-Unknown	7/12/1973	4.21	4.451	18.739	4.1	Presence of H2S confirmed

COSDS CWSRF Project Planning Document Amendment FY2027
Sewer Structural Integrity
Project Area 2b
Manholes

Asset ID	Location	Depth (Feet)	In Service Date	COF Score	Current POF	Risk Score	Types of Structural Defects Found (O&M defects are not CWSRF-eligible)	Justification of Need (required for non-NASSCO structural 4 or 5 rated segments)
17560	Local Rural Streets	24.71	7/12/1973	4.117	1	4.117		
17561	Easement/Right of Way	21.31	7/12/1973	2.758	1	2.758		
17562	Woods	22.26	7/12/1973	2.6	1	2.6		
17563	Woods	23.5	7/12/1973	2.6	1	2.6		
17564	Easement/Right of Way	30.78	7/12/1973	2.725	1	2.725		
17565	Woods	25.13	7/12/1973	2.725	1	2.725		
17573	Yard	19.96	7/12/1973	2.6	1	2.6		
17574	Easement/Right of Way	20.1	7/12/1973	2.6	1	2.6		
17575	Easement/Right of Way	16.95	7/12/1973	2.475	1	2.475		
17576	Easement/Right of Way	10.9	7/12/1973	2.717	1	2.717		
17577	Easement/Right of Way	16.02	7/12/1973	2.475	1	2.475		
17578	Yard	30.9	7/12/1973	3.458	1	3.458		
17579	Easement/Right of Way	28.96	7/12/1973	2.883	1	2.883		
17580	Yard	15.2	7/12/1973	2.475	1	2.475		
17581	Easement/Right of Way	13.9	7/12/1973	2.842	1	2.842		
17582	Woods	14.15	7/12/1973	2.842	1	2.842		
17583	Yard	13.3	7/12/1973	2.842	1	2.842		
17584	Local Rural Streets	13.77	7/12/1973	3.5	1	3.5		
17585	Secondary Roads	14.3	7/12/1973	3.867	1	3.867		
17586	Primary Major Arterial Roads	24.95	7/12/1973	3.958	2.28	9.025		
17587	Secondary Roads	18.43	7/12/1973	3.992	1	3.992		
17588	Easement/Right of Way	16.2	7/12/1973	2.475	1	2.475		
17604	Woods	13.45	7/12/1973	2.842	1	2.842		

COSDS CWSRF Project Planning Document Amendment FY2027
Sewer Structural Integrity
Project Area 4
Sewers

Asset ID	Street	Length (Feet)	Quick Structural Score	Material & Pipe Class	In Service Date	COF Score	Current POF	Risk Score	Types of Structural Defects Found (O&M defects are not CWSRF-eligible)	Justification of Need (required for non-NASSCO structural 4 or 5 rated segments)
19718	<Null>	170.39	2E00	Reinforced Concrete/C76-Unknown	7/12/1973	3.58	3.131	11.209	2	Presence of H2S confirmed
19719	<Null>	121.35	1C00	Reinforced Concrete/C76-Unknown	7/12/1973	3.72	1.634	6.078	1	Piping segment between areas where H2S confirmed
19721	<Null>	246.5	1H00	Reinforced Concrete/C76-Unknown	7/12/1973	3.81	2.316	8.824	1	Piping segment between areas where H2S confirmed
19722	<Null>	225.15	1G00	Reinforced Concrete/C76-Unknown	7/12/1973	3.925	1.966	7.717	1	Presence of H2S confirmed
19723	<Null>	422.06	1O00	Reinforced Concrete/C76-Unknown	7/12/1973	4.04	2.316	9.357	1	Piping segment between areas where H2S confirmed
19724	<Null>	670.08	1Y00	Reinforced Concrete/C76-Unknown	7/12/1973	4.04	2.349	9.49	1	Presence of H2S confirmed
19725	<Null>	497.16	1R00	Reinforced Concrete/C76-Unknown	7/12/1973	4.77	2.675	12.76	1	Presence of H2S confirmed
19765	<Null>	478.9	2Q00	Reinforced Concrete/C76-Unknown	7/12/1973	3.58	3.131	11.209	2	Presence of H2S confirmed
19766	<Null>	444.4	1O00	Reinforced Concrete/C76-Unknown	7/12/1973	4.04	1.602	6.472	1	Presence of H2S confirmed
19767	<Null>	416.2	2O00	Reinforced Concrete/C76-Unknown	7/12/1973	3.58	3.198	11.449	2	Presence of H2S confirmed
19768	<Null>	451.9	1P00	Reinforced Concrete/C76-Unknown	7/12/1973	3.925	1.602	6.288	1	Presence of H2S confirmed
19769	<Null>	450.5	2P00	Reinforced Concrete/C76-Unknown	7/12/1973	4.21	3.49	14.693	2	Inferred by drop connection
19770	<Null>	407.7	2O00	Reinforced Concrete/C76-Unknown	7/12/1973	3.98	3.49	13.89	2	Presence of H2S confirmed
19771	<Null>	239.7	2G00	Reinforced Concrete/C76-Unknown	7/12/1973	3.98	3.069	12.215	2	Presence of H2S confirmed
19774	<Null>	472.05	2Q00	Reinforced Concrete/C76-Unknown	7/12/1973	3.98	3.54	14.089	2	Presence of H2S confirmed
19775	<Null>	431.84	2N00	Reinforced Concrete/C76-Unknown	7/12/1973	3.98	3.131	12.461	2	Piping segment between areas where H2S confirmed
38948	<Null>	320.9	1K00	Reinforced Concrete/C76-Unknown	7/12/1973	4.23	2.316	9.797	1	Piping segment between areas where H2S confirmed
1758972	<Null>	163	2O00	Reinforced Concrete/C76-Unknown	7/12/1973				2	Presence of H2S confirmed
19776	<Null>	356.17	2L00	Reinforced Concrete/C76-Unknown	7/12/1973	3.58	3.069	10.987	2	

COSDS CWSRF Project Planning Document Amendment FY2027
Sewer Structural Integrity
Project Area 4
Manholes

Asset ID	Legacy ID	Location	Depth (Feet)	In Service Date	COF Score	Current POF	Risk Score	Types of Structural Defects Found (O&M defects are not CWSRF-eligible)	Justification of Need (required for non-NASSCO structural 4 or 5 rated segments)
17166	POT070007	Woods	26.83	7/12/1973	3.458	2.28	7.885		
17167	POT070006	Woods	26.76	7/12/1973	3.458	2.88	9.96		
17168	POT070005	Woods	27.05	7/12/1973	3.458	2.88	9.96		
17169	POT070004	Woods	25.34	7/12/1973	3.458	2.28	7.885		
17170	POT070003	Woods	27.27	7/12/1973	3.458	2.28	7.885		
17171	POT070002	Yard	24.64	7/12/1973	2.725	1	2.725		
17172	POT070001	Woods	26.9	7/12/1973	3.458	2.88	9.96		
17173	POT070008	Parking Lot		7/12/1973	3.225	1	3.225		
17174	POT028008	Woods	28.9	7/12/1973	3.458	1.66	5.741		
17175	POT028007	Woods	30.93	7/12/1973	3.458	1.66	5.741		
17176	POT027002	Yard	35.75	7/12/1973	2.725	1	2.725		
17377	WAT049001	Yard	26.98	7/12/1973	2.725	1	2.725		
17378	WAT049002	Yard	27.56	7/12/1973	2.725	1	2.725		
17379	WAT049003	Yard	27.41	7/12/1973	2.725	1	2.725		
17380	WAT049004	Yard	25.54	7/12/1973	2.725	1	2.725		
17381	WAT052001	Yard	17.45	7/12/1973	2.475	1	2.475		
17382	WAT052002	Woods	25.58	7/12/1973	3.458	2.28	7.885		
17383	WAT052003	Woods	18.9	7/12/1973	2.6	1	2.6		
17384	WAT052004	Easement/Right of Way	11.33	7/12/1973	3.35	1	3.35		

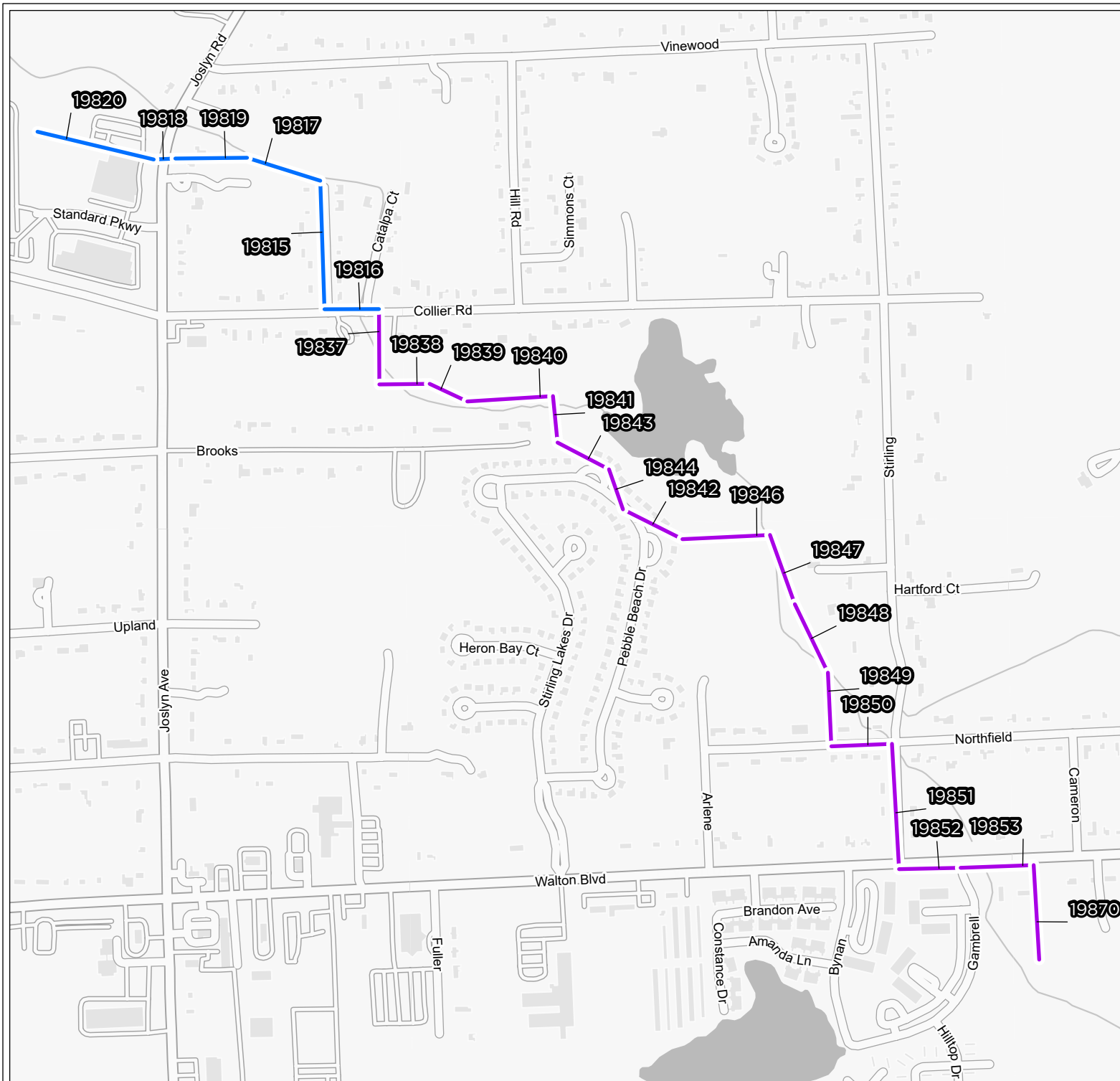
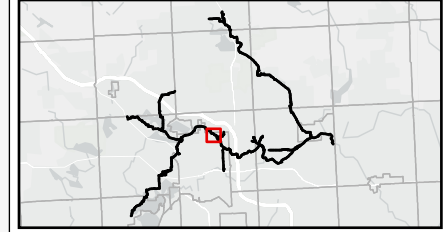
COSDS CWSRF Project Planning Document Amendment FY2027
Sewer Structural Integrity
Project Area 5
Sewers

Asset ID	Street	Length (Feet)	Quick Structural Score	Material & Pipe Class	In Service Date	COF Score	Current POF	Risk Score	Types of Structural Defects Found (O&M defects are not CWSRF-eligible)	Justification of Need (required for non-NASSCO structural 4 or 5 rated segments)
19700	<Null>	651.58	4A1X	Reinforced Concrete/C76-Unknown	7/12/1973	4.065	4.482	18.219	4.1	Presence of H2S confirmed
19702	<Null>	696.94	211Z	Reinforced Concrete/C76-Unknown	7/12/1973	4.745	2.435	11.554	2.1	Pipe segment between pipes with Grade 4 defects; Presence of H2S confirmed
19706	<Null>	713.42	2Z00	Reinforced Concrete/C76-Unknown	7/12/1973	4.46	3.353	14.954	2	Pipe segment between pipes with Grade 4 defects; Presence of H2S confirmed
19707	<Null>	493.33	2R00	Reinforced Concrete/C76-Unknown	7/12/1973	4.46	3.131	13.964	2	Pipe segment between pipes with Grade 4 defects; Presence of H2S confirmed
19708	<Null>	743.79	4Z21	Reinforced Concrete/C76-Unknown	7/12/1973	4.46	4.841	21.591	4.2	Presence of H2S confirmed
19709	<Null>	725.26	4Z00	Reinforced Concrete/C76-Unknown	7/12/1973	4.23	4.482	18.959	4	Presence of H2S confirmed
19711	<Null>	739.14	4Z22	Reinforced Concrete/C76-Unknown	7/12/1973	4.46	3.8	16.948	4.2	Presence of H2S confirmed
19713	<Null>	310.38	4K00	Reinforced Concrete/C76-Unknown	7/12/1973	4.115	4.482	18.443	4	Presence of H2S confirmed
19714	<Null>	541.41	4U00	Reinforced Concrete/C76-Unknown	7/12/1973	4.23	4.421	18.701	4	Presence of H2S confirmed
19717	<Null>	462.25	2Z00	Reinforced Concrete/C76-Unknown	7/12/1973	4.345	2.382	10.35	2	Presence of H2S confirmed
19777	<Null>	740.23	3Z00	Reinforced Concrete/C76-Unknown	7/12/1973	3.35	3.802	12.737	3	Not Susceptible
19778	<Null>	647.55	3U00	Reinforced Concrete/C76-Unknown	7/12/1973	3.75	3.802	14.258	3	Not Susceptible
19779	<Null>	200	3Z00	Reinforced Concrete/C76-Unknown	7/12/1973	3.58	3.319	11.882	3.2	Not Susceptible
19780	<Null>	404.9	0000	Reinforced Concrete/C76-Unknown	7/12/1973	4.345	1.006	4.371	0	Not Susceptible

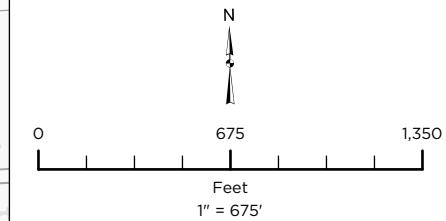
COSDS CWSRF Project Planning Document Amendment FY2027
Sewer Structural Integrity
Project Area 5
Manholes

Asset ID	Legacy ID	Location	Depth (Feet)	In Service Date	COF Score	Current POF	Risk Score	Types of Structural Defects Found (O&M defects are not CWSRF-eligible)	Justification of Need (required for non-NASSCO structural 4 or 5 rated segments)
17176	POT027002	Yard	35.75	7/12/1973	2.725	1	2.725		
17178	POT027004	Yard	26.75	7/12/1973	2.725	1	2.725		
17179	POT027005	Yard		7/12/1973	2.725	1	2.725		
17366	WAT046003	Yard	22.72	7/12/1973	3.808	2.28	8.683		
17367	WAT046002	Yard	21.43	7/12/1973	2.6	1	2.6		
17368	WAT046001	Yard	25.61	7/12/1973	3.458	2.88	9.96		
17369	WAT047003	Secondary Roads	25.8	7/12/1973	4.433	2.28	10.108		
17370	WAT047002	Sidewalk	26.63	4/30/1971	3.933	2.28	8.968		
17371	WAT047001	Sidewalk	32.56	7/12/1973	3.933	2.88	11.328		
17372	WAT048005	Sidewalk	37.5	7/12/1973	3.933	1.66	6.529		
17373	WAT048004	Secondary Roads	34.62	7/12/1973	4.433	2.28	10.108		
17374	WAT048003	Driveway	22.26	7/12/1973	3.808	2.28	8.683		
17375	WAT048002	Driveway	24	7/12/1973	4.433	2.88	12.768		
17376	WAT048001	Woods	24.33	7/12/1973	2.725	1	2.725		

Project 2B Pipe Asset IDs



- Pipes**
- Diameter (in)**
- 48
 - 54

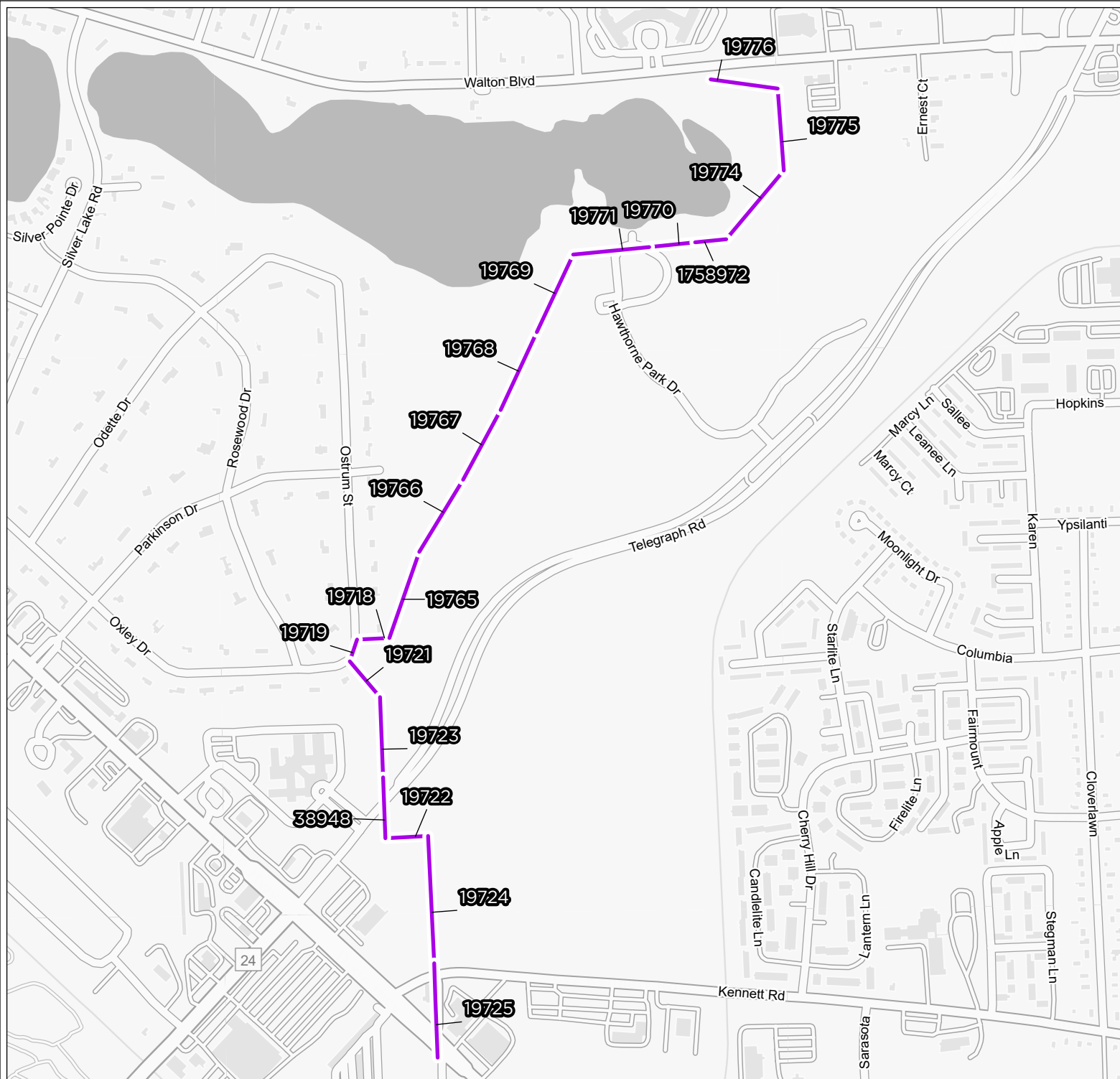
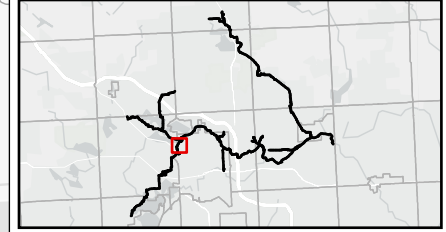


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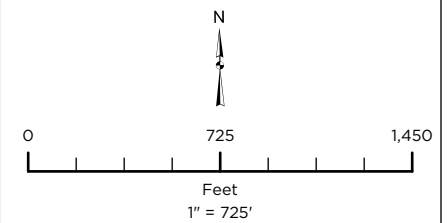
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Map Published: March 19, 2026



Project 4 Pipe Asset IDs



Pipes
Diameter (in)
— 48

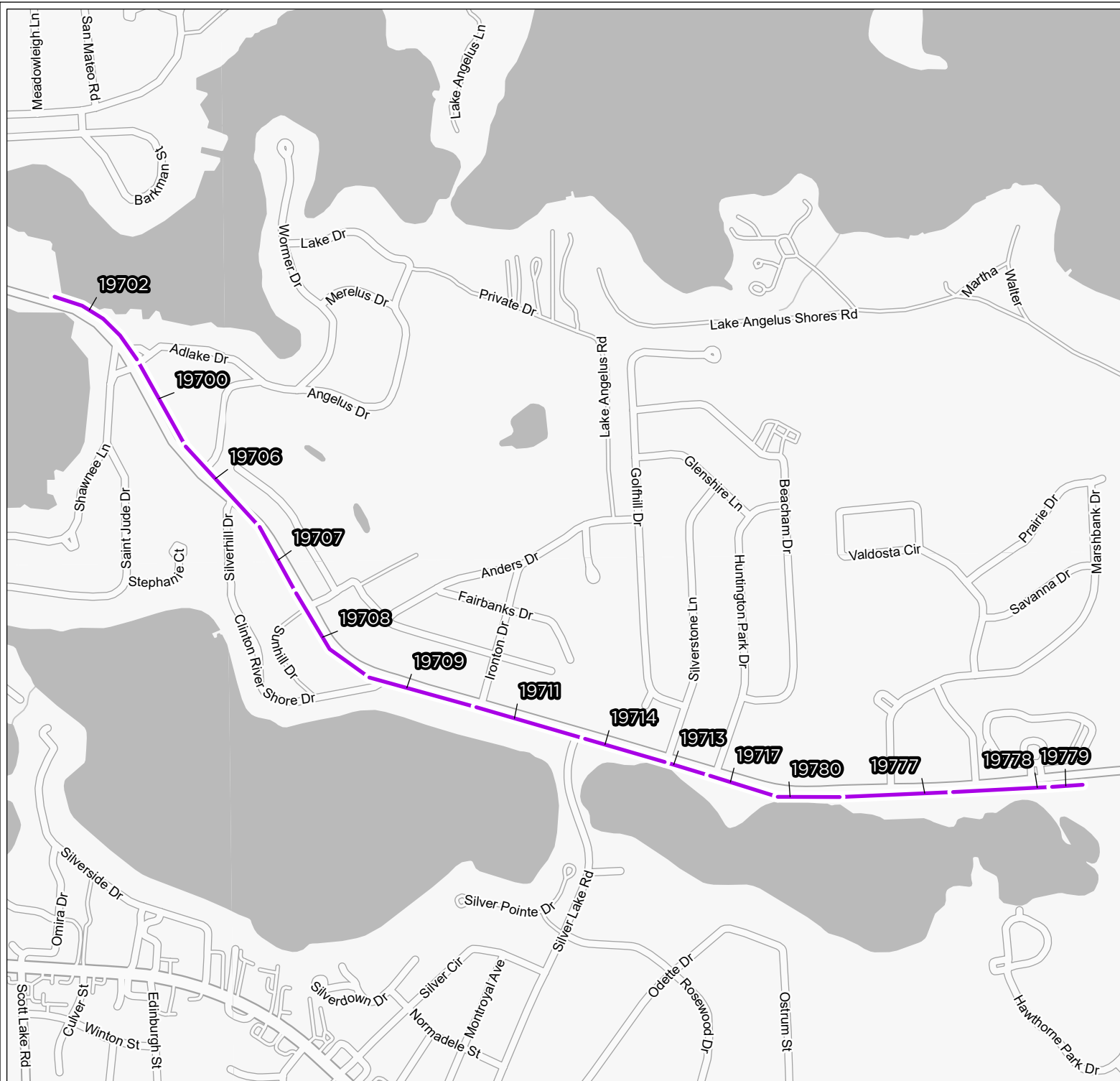
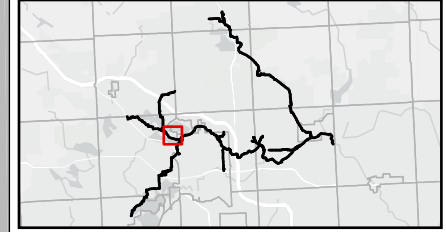


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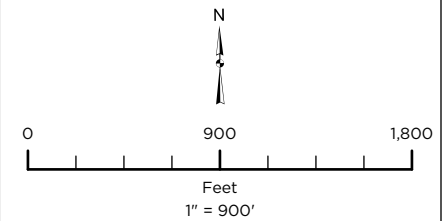
Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
Map Published: March 19, 2026



Project 5 Pipe Asset IDs



Pipes
Diameter (in)
— 48



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Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl

Map Published: March 19, 2026



APPENDIX D: OPINION OF PROBABLE COSTS

APPENDIX D: OPINION OF PROBABLE COSTS

Project Summary
Engineer's Opinion of Probable Project Cost



Owner: Oakland County Water Resources Commissioner (WRC)
 Project: COSDS Project Planning Document Amendment 2026
 Work: Open Cut

Conceptual Preliminary Final

Date: 3/17/2026
 Project No. 0105-26-0020
 Prepared By: K. TAKACS
 Reviewer: S. SIKLICH
 Current ENR: 14157

Item No.	Item Description	Est. Quantity	Unit	Unit Price	Total Cost
1	Mobilization, Max 5%	1	LSUM	\$3,216,000	\$3,216,000
2	Audio Video Route Survey	1	LSUM	\$20,000	\$20,000
3	Traffic Maintenance and Control	1	LSUM	\$500,000	\$500,000
4	Soil Erosion and Sedimentation Control	1	LSUM	\$200,000	\$200,000
5	Dewatering	1	LSUM	\$3,000,000	\$3,000,000
6	Access Roads and Site Preparation, including Maintenance Aggregate	1	LSUM	\$2,000,000	\$2,000,000
7	Bypass Pumping, Furnish, Operate, and Remove	1	LSUM	\$15,000,000	\$15,000,000
8	Sanitary Sewer, 48 inch	21,000	Ft	\$550	\$11,550,000
9	Sanitary Sewer, 54 inch	2,500	Ft	\$650	\$1,625,000
10	Sanitary Structure, 6 inch dia	23	Ea	\$13,000	\$299,000
11	Sanitary Structure, 7 inch dia	22	Ea	\$18,000	\$396,000
12	Sanitary Structure, 8 inch dia	10	Ea	\$22,000	\$220,000
13	Sand Backfilling	1	LSUM	\$4,000,000	\$4,000,000
14	Wetland Restoration	1	LSUM	\$1,000,000	\$1,000,000
15	Restoration	1	LSUM	\$1,000,000	\$1,000,000
16	Sheeting/Shoring	23,500	LF	\$1,000	\$23,500,000
TOTAL ESTIMATED CONSTRUCTION COST					\$67,530,000
CONTRACTUAL REQUIREMENTS					
	General Conditions	5%			\$3,380,000
	Contingency	6%			\$4,060,000
TOTAL CONSTRUCTION COST:					\$74,970,000
PROJECT COSTS					
	Design and Construction Engineering	25%			\$18,750,000
	Finance and Legal	5%			\$3,750,000
	Easements	0.5%			\$380,000
	Permits	4.5%			\$3,380,000
	Construction Administration and Inspection	15%			\$11,250,000
TOTAL:					\$112,480,000
ENGINEER'S OPINION OF PROJECT COST					\$112,500,000

**Project Summary
Engineer's Opinion of Probable Project Cost**



Owner: Oakland County Water Resources Commissioner (WRC)
 Project: COSDS Project Planning Document Amendment 2026
 Work: CIPP Lining

Conceptual Preliminary Final

Date: 3/17/2026
 Project No. 0105-26-0030
 Prepared By: K. TAKACS
 Reviewer: S. SIKLICH
 Current ENR: 14157

Use for Walton

Item No.	Item Description	Est. Quantity	Unit	Unit Price	Total Cost
1	Mobilization, Max 5%	1	LSUM	\$1,507,000	\$1,507,000
2	Audio Video Route Survey	1	LSUM	\$20,000	\$20,000
3	Traffic Maintenance and Control	1	LSUM	\$150,000	\$150,000
4	Soil Erosion and Sedimentation Control	1	LSUM	\$100,000	\$100,000
5	Access Roads and Site Preparation, including Maintenance Aggregate	1	LSUM	\$2,000,000	\$2,000,000
6	Access Manhole Adjustments	55	Ea	\$2,000	\$110,000
7	Bypass Pumping, Furnish, Operate, and Remove	1	LSUM	\$5,000,000	\$5,000,000
8	Manhole Lining	1,500	LF	\$500	\$750,000
9	Sanitary Sewer, CIPP Liner, 48 inch, Full Length, including Cleaning and Televising	21,000	Ft	\$800	\$16,800,000
10	Sanitary Sewer, CIPP Liner, 54 inch, Full Length, including Cleaning and Televising	2,500	Ft	\$1,500	\$3,750,000
11	Wetland Restoration	1	LSUM	\$1,000,000	\$1,000,000
12	Restoration	1	LSUM	\$450,000	\$450,000
TOTAL ESTIMATED CONSTRUCTION COST					\$31,640,000
CONTRACTUAL REQUIREMENTS					
	General Conditions	5%			\$1,582,000.00
	Contingency	6%			\$1,900,000.00
TOTAL CONSTRUCTION COST:					\$35,122,000
PROJECT COSTS					
	Design and Construction Engineering and Construction Administration	25%			\$8,790,000.00
	Finance and Legal	5%			\$1,760,000.00
	Easements	0.5%			\$180,000.00
	Permits	0.5%			\$180,000.00
TOTAL:					\$46,032,000
ENGINEER'S OPINION OF PROJECT COST					\$46,100,000

Assumptions:

- 1 Assumes no sediment removal in excess of regular cleaning is needed prior to lining.
- 2 Assumes no open cut repairs are needed prior to lining.
- 3 Assumes no utility relocation is needed.
- 4 Does not include manhole rehabilitation work.



Project Summary Engineer's Opinion of Probable Project Costs

Owner: Oakland County WRC
Project: Elizabeth Lake Pumping Station - Phase 2
Work: Pump Station Piping and Valves; Electrical Equipment Replacement
 Conceptual Preliminary Final

Date: 2/23/2024
Project No.: 0105-23-0080
Prepared By: AS
Reviewer: M. Kennedy
Current ENR: 13498

Item No.	Item Description	Est. Quantity	Unit	Unit Price	Total Cost
1	<u>Demolition</u>				
	Removal of existing valves and piping	1	LS	\$15,000	\$15,000
2	<u>Sitework</u>				
	Crane (HVAC equipment)	5	DAY	\$1,500	\$7,500
3	<u>Process</u>				
	Discharge Plug Valve - 12" w Actuator	2	Each	\$50,502	\$102,000
	Discharge Plug Valve - 16" w Actuator	3	Each	\$64,415	\$194,000
	Knife Gate Rehab Kits	9	Each	\$900	\$8,100
	Misc Process Piping and Fittings	1	LS	\$50,000	\$50,000
4	<u>Structural</u>				
	Wet Well Door Replacement	1	LS	\$12,000	\$12,000
	3T Elect Hoist w/Gear Trolley	1	LS	\$32,000	\$32,000
5	<u>Mechanical</u>				
	Drain Piping	80	LF	\$75	\$6,000
	Pipe Hangers	25	Each	\$150	\$3,750
	Gas Fired Makeup Air Units (direct fired)	3	LS	\$15,000	\$45,000
	Gas Fired Makeup Air Units (indirect fired)	1	LS	\$35,000	\$35,000
	Exhaust fan	2	LS	\$5,000	\$10,000
	Explosion Proof Exhaust fan	1	Each	\$10,000	\$10,000
6	<u>Electrical</u>				
	Replacement of Electrical Assets and Controls	1	LS	\$3,000,000	\$3,000,000
					\$3,530,350
	CONTRACTUAL REQUIREMENTS				
	General Conditions	10%			\$354,000
	General Requirements	5%			\$177,000
	Contingencies	20%			\$707,000
					TOTAL CONSTRUCTION COST: \$4,768,350
	PROJECT COSTS				
	Engineering, Project Management	45%			\$2,146,000
	Finance and Legal	5%			\$239,000
	Force Account	0%			\$0
	Annual Cost Adjustment	0.0%	per year		\$0
					TOTAL: \$7,153,350
	Adjustment of Costs from ENR CCI to March 2026	1.05			\$7,502,591
	ENGINEER'S OPINION OF PROJECT COST				\$7,500,000

APPENDIX E: PUBLIC MEETING DOCUMENTS

PLACEHOLDER FOR PUBLIC MEETING DOCUMENTS

APPENDIX F: SUBMITTAL FORM AND RESOLUTION FOR
CWSRF PROJECT PLANNING DOCUMENT

PLACEHOLDER FOR CWSRF SUBMITTAL FORM AND RESOLUTION

APPENDIX G: PUMP STATION ASSETS AND FISCAL SUSTAINABILITY PLAN

PLACE HOLDER FOR FISCAL SUSTAINABILITY PLAN