CWSRF PROJECT PLAN AMENDMENT FOR EVERGREEN-FARMINGTON SANITARY DRAIN WALNUT LAKE PUMP STATION NO. 1 CORRECTIVE ACTION PLAN

FOR OAKLAND COUNTY WATER RESOURCES COMMISSIONER

DRAFT:

March 11, 2024
HRC Job No. 20230867

PREPARED BY:

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Versions:

Draft March 11, 2024

Final

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CHANGES MADE SINCE DRAFT PUBLICATION

The following will summarize any modifications made to this FY2024 CWSRF Project Plan, since the Draft CWSRF Project Plan was issued on March 11, 2024. The Draft Project Plan was sent to EGLE for review and made available for public review a minimum of 15 days prior to the Public Meeting.

SECTION 1.0 — SUMMARY AND RECOMMENDATION

1.1 SUMMARY

This FY2025 Project Plan Amendment for the Evergreen-Farmington Sanitary Drain (EFSD) Walnut Lake Pump Station No. 1 (WLPS1) Corrective Action Plan (CAP) has been prepared using the Project Plan Preparation Guidance of the Clean Water State Revolving Fund (CWSRF) Administrative Rules updated in January 2023. This Project Plan was prepared as an amendment to the submitted and approved FY2023 Project Plan, dated May 31, 2022. While the low-interest rates provided through the CWSRF have not been set yet for FY2025, the rates in 2024 are 1.875% and 2.125% for 20-year loans and 30-year loans, respectively. These rules call for compliance with the basic Federal Planning Requirements and the National Environmental Policy Act (NEPA). This Project Plan will serve as a basis for project prioritization and must be submitted to the Michigan Department of Environment, Great Lakes, & Energy (EGLE) by May 1, 2024, in order to be on the project priority list for the fiscal year of 2025.

The EFSD is currently under an administrative consent order (ACO). Per EGLE's Sanitary Sewer Overflow (SSO) policy, the ACO requires a CAP that addresses remaining sanitary sewer overflows within the EFSD. This CAP was submitted in March 2020 with modifications in December 2020, September 2022, and now 2024. The proposed projects listed herein are proposed as an amendment to the CWSRF Project Plan that was developed in 2022 as part of the EFSD's CAP.

As of September 9, 2023, three of the four Phase II CAP projects outlined in the FY2023 Project Plan have been fully defined. This includes the Lathrup Village Sanitary Retention Tank, CAP, Eight Mile Road CAP and the EFSD Outlet Capacity CAP. These three projects have proceeded along their approved project milestone schedules. It was noted in the FY2023 Project Plan that the work related to the WLPS1 was still in the planning stages and would be subject to this addendum.

The EFSD continues to work with EGLE to resolve the ACO and meet proposed project milestones. EFSD developed this CAP to protect public health and safety, maintain a healthy environment, provide its customers with reliable high-quality service, and optimize existing infrastructure and project investments

1.2 SELECTED ALTERNATIVES

The following is a summary of the proposed projects to be implemented as part of this Project Plan amendment:

- Walnut Lake Pump Station No. 1 Corrective Action Plan Conveyance Improvements
  - Increased Evergreen Interceptor shut down level for WLPS1
  - Reconstruction of the EFSD outlet for lower losses
  - Lowering of the Melrose weir along Evergreen Interceptor

1.3 RECOMMENDATIONS

The selected projects identified in this Plan are the most cost-effective and environmentally-sound alternative, we therefore recommend that:

- The Drain Board should pass a resolution formally adopting this Plan.
- The Water Resources Commissioner's (WRC) Office should apply for a low-interest loan under the CWSRF program.

SECTION 2.0 — PROJECT BACKGROUND

2.1 STUDY & SERVICE AREA DESCRIPTION

The EFSD provides sanitary sewer service to roughly 130 square miles in Oakland County, including all or part of the cities of Auburn Hills, Birmingham, Bloomfield Hills, Farmington, Farmington Hills, Keego Harbor, Lathrup Village, Orchard Lake Village, Southfield, and Troy; the townships of Bloomfield and West Bloomfield; and the villages of Beverly Hills, Bingham Farms, and Franklin. The project area is in T1N, R9E, Section 1 and T1N, R10E, Sections 14, 33, 34, 35, & 36, of Oakland County, Michigan.

The EFSD infrastructure are critical assets for conveying waste to be treated. A copy of the FY2023 Project Plan dated and submitted to EGLE on May 31, 2022, is included in Appendix A. A description of the EFSD wastewater infrastructure and collection system description is outlined in the previous Project Plan and there have been no changes to the overall system since.

2.2 POPULATION & ENVIRONMENTAL SETTING

There have been no changes to the population, environmental setting, economic, or demographic data for the Study Area since the FY2023 Project Plan was developed. A SHPO and MNFI review of the study area was conducted at this time and was included in the submitted Project Plan.

2.3 NEED FOR PROJECT

The EFSD's ACO references the EGLE SSO policy and defines both a 10-year, 1-hour, non-growing season, design storm event and a 25-year, 24-hour, growing season, design storm event as the EFSD design standards. The 10-year, 1-hour, non-growing season design storm event provides a high peak flow rate, which is supported by real storm events; therefore, the 10-year, 1-hour, non-growing season design storm event is functionally the primary design storm event for the EFSD. The EFSD has experienced SSOs for rainfall events that are less than either design storm event. EGLE had agreed to a phased approach due to the dependency of downstream project sizing on the placement, sizing, and performance of upstream projects. This sequencing is described in the 2014 EFSD Long Term CAP with a June 2016 addendum (both included in the FY2023 Project Plan).

The ACO requires a CAP that addresses the remaining SSOs. This plan was submitted in a March 2020 submittal (included in the FY2023 Project Plan) and modified in a December 2020 addendum (included in the FY2023 Project Plan). Project alternatives were previously reviewed and recommendations for the most cost-effective and environmentally preferred options were made. Planning level cost estimates have been developed for the recommended projects.

The project is needed because EFSD continues to have SSOs that are not allowed per the EGLE SSO policy. Increased Evergreen Interceptor operating level and coordinated operations of facilities in the EFSD and customer communities will avoid SSO by allowing WLPS1 to continue to pump instead of shutting down with select modifications to downstream structures to reduce surcharging (Hydraulic Grade Lines, or HGLs) within the sanitary interceptor sewer system. A figure showing the proposed project locations is shown in Appendix B.

2.4 WORK COMPLETED SINCE FY2023 PROJECT PLAN

As of September 9, 2023, three of the four Phase II CAP projects outlined in the previous Project Plan have been fully defined. This includes the Lathrup Village Sanitary Retention Tank CAP, Eight Mile Road CAP and the EFSD Outlet Capacity CAP. These three projects have proceeded along their approved project milestone schedules, and construction is under way.

SECTION 3.0 — ALTERNATIVE ANALYSIS

3.1 GENERAL

This Section includes the presentation and analysis of alternatives. Total project costs for the alternatives are included in this Section, with detailed cost estimates and analyses included in Appendix C. All costs are in 2024 dollars. The present worth analyses to determine the over cost effectiveness of the alternatives use the 2024 Federal discount rate of 2.5%. Salvage value is calculated by using a straight-line depreciation over a 20-year period.

3.1.1 Regional Alternatives

The work proposed as part of this Project Plan is addressing site specific issues in which regional solutions are not necessary or applicable. Thus, there are no regional alternatives to be evaluated. It should be noted that projects in the FY2023 Project Plan did incorporate regional alternatives through the purchase of additional capacity.

3.1.2 "No Action" Alternative

If no action is taken, the EFSD will continue to have SSOs that are not allowed per the EGLE SSO policy.

3.1.3 Optimize Performance of Existing System Alternative

The EFSD is currently evaluating any additional optimization alternatives that may be adopted, however, it is unlikely that optimizing the system will be sufficient in reducing the SSOs.

3.1.4 Storage Alternative

The storage alternative was also presented in the FY2023 Project Plan and is the only other feasible alternative. It includes construction of approximately 1.5 Million Gallons (MG) of storage near or adjacent to the WLPS1 that would be used to temporarily store wet weather flows to reduce the frequency of SSOs. This sizing for this storage facility has been evaluated in previous CAP documents. However, a significant concern with this option is finding sufficient land area for the required storage facility. For the purposes of the present worth cost comparison, it is assumed that land could be made available for this purpose.

3.1.5 WLPS1 CAP Conveyance Alternative

Walnut Lake No. 1 Pump Station Corrective Action Plan improvements previously reviewed in both the ACO and the FY2023 Project were established with the goal of addressing the SSOs emanating from the WLPS1.This alternative includes modifications to the existing controls, valves, appurtenances, and discharge headers at the Walnut Lake No. 1 Pump Station, reconstruction of the EFSD outlet sewer and relocating the EFSD Master meter location, and modifications for lowering the Melrose Weir. Combined with the previous increased purchase capacity, these improvements will increase the capacity of the sewers downstream of the WLPS1 and the ability to convey flows during wet weather events, thus reducing the frequency of SSOs.

3.2 ALTERNATIVES ANALYSIS

The principal alternatives that will be considered for this analysis are:

1. WLPS1 CAP Conveyance Improvements
2. Wet Weather Storage

3.2.1 Cost-Benefit Analysis

The estimated 2024 total project cost for the alternative analysis is listed in the table below. A cost summary for the EFSD improvements is shown in Appendix C.

Table 3-1. Estimated Alternative Costs

Alternative	Estimated Project Cost
WLPS1 CAP Conveyance Imp.	$21,700,000
Wet Weather Storage	$25,700,000

Escalation costs were not included in this monetary evaluation. The majority of the work will be completed within the ROW or existing easements. Any new easements that are necessary will be temporary and will vary based on the selected alternative.

The present worth of the construction cost within the project period of 20 years is determined by using the formula provided below:

$$\text{Present Worth} = \frac{F}{(1+i)^n}$$

where, F – future value/estimated project cost

n – number of years

i – EPA discount rate (2.5%, OMB Circular No. A-94, 12/28/2023))

The OM&R costs throughout the project period of 20 years are determined by using the formula provided below:

$$\text{Present Worth} = A * \left[(1+i)^n - \frac{1}{i(1+i)^n} \right]$$

where, A – annual expenditure

n – number of years

i – EPA discount rate (2.5%)

As indicated by the CWSRF guidance document, the salvage value has been calculated based on the initial construction costs using straight-line depreciation over the estimated design life. The total project costs were broken down by trade (such as civil, structural, mechanical, electrical, etc.) and typical useful life estimates assigned to each trade.

Appendix C details the present worth analysis taking into consideration O&M costs and salvage value, considering the Environmental Protection Agency (EPA) discount rate. The cost estimation also includes the operation, maintenance, and replacement costs for the improvements, covering a period of 20 years. (Note that with the Conveyance Alternative, OM&R is expected to be the same or less than existing as hydraulic impediments are removed from the existing sanitary interceptor system. The Wet Weather Storage Alternative includes additional energy, staffing, and maintenance costs for the mechanical and electrical equipment typical of a wet weather storage facility.) Table 3-2 provides a summary of the monetary evaluation for the alternatives.

Table 3-2. Monetary Evaluation Summary

Alternative	CWSRF Loan Amount	20-Year Values		
		OM&R Costs	Salvage Value	Net-Present Worth
WLPS1 CAP Conveyance	$21,700,000	$0	$6,651,000	$15,049,000
Wet Weather Storage	$25,700,000	$1,169,000	$6,732,000	$20,137,000

3.2.2 Conclusions

Based on the above discussion, the present worth analysis, and cost estimates, Alternative: WLPS1 CAP Conveyance Improvements was found to be the most cost-effective and environmentally preferred alternative.

3.3 SELECTED ALTERNATIVE – WLPS1 CAP CONVEYANCE IMPROVEMENTS

The selected alternative is part of a larger CAP to address the ACO issued by EGLE. The Project will include modifying the existing interceptor sewer to reduce head-loss, adjustment of a weir, and programming and operational changes to the Walnut Lake Pump Station No. 1. The project will allow flow from the WLPS1 to be pumped to the Evergreen Interceptor and mitigate the previous SSO points at the location during the design event. There are three (3) primary components of the Project:

1. Reconstruction of the EFSD Outlet and Meter Facility – Removal/replacement of the depressed sewer at 8-Mile and Southfield Road including a new metering facility.
2. Melrose Weir Modifications – Modification of the Diversion Structure Weir located at the corner of Melrose and Evergreen.
3. WLPS1 Pumping and Programming Modifications

The primary goal of the Project is to reduce the elevated hydraulic grade line during the design storm event along the eastern portion of the 8-Mile and southern portion of the Evergreen interceptor sewers. These improvements are one of the final items necessary to meet the Long-Term Corrective Action Plan (LTCAP) of the EFSD system,

as identified in the ACO. Preliminary planning and cost estimates have been developed and additional design phase work is ongoing.

It is very important to note that, after the proposed WLPS1 Conveyance Improvement Project is implemented, there will be additional evaluation of the Hydraulic Grade Line (HGL) and its potential impact on any lateral sewer connections and/or direct sanitary leads before allowing surcharge within the EFSD. Flow metering, hydraulic modeling, calibration of the model, and topographic studies will be required to verify the improvements have reduced the HGL as anticipated.

3.3.1 Schedule

These projects will be coordinated with other utility projects when applicable and potentially as a phased project. Table 3-3 provides a proposed fiscal year 2025, Quarter 3 loan closing schedule for the project.

Table 3-3. Proposed Design and Construction Schedule

Engineering Service	FY2025 Q3 Timeframe	
WLPS1 CAP Conveyance Improvements	Design	Feb 2025 – Jun 2025
	Construction Start	Aug 2025
	Construction End	Aug 2026

3.3.2 User Costs and Cost Sharing

The costs as described above will be paid for by user charges. With a total population served by the ESFD of 310,685 divided by the typical household density in Oakland County of 2.44, there are approximately 127,330 households in the EFSD. Detailed user cost calculations are shown in Appendix C. Table 3-4 below shows a summary of estimated user cost for users associated with this project over a 20-year period for the users. The anticipated impact on the average consumer household would be an increase in the amount shown below over the current sewer bills.

Table 3-4. User Cost Summary

	Total Capital Cost	Total REUs
Total Capital & Annual O&M Costs: Selected Alternative:	$21,700,000.00	127,330
	Monthly User Fee	
Estimated Monthly User Cost: (with no principal forgiveness/ grant)	$0.71	

SECTION 4.0 — TECHNICAL CONSIDERATIONS

4.1 IMPACTS & MITIGATION

Because the projects are of the same work proposed in the original CWSRF Project Plan, the impacts and mitigation are similar. In general, the short and long-term impacts are anticipated to be minor, mainly related to the temporary disruption associated with construction. These include increased traffic, potential temporary road closures, and dust, etc. These impacts will be mitigated by working within the required construction ordinances, obtaining all required permits, and minimizing dust and soil erosion through proper controls and permitting. The work will all take place on existing assets that were constructed and are generally located in roadway rights-of-way and/or existing utility easements. Temporary easements may be required for construction, but efforts will be made to maintain the aesthetic setting of any sites.

4.2 FISCAL SUSTAINABILITY PLAN

A Fiscal Sustainability Plan (FSP) will be developed for those facilities which are installed, replaced, or rehabilitated under this project. This will be done by building on the existing long-term Corrective Action Plan. The EFSD existing facilities are a key part of their Corrective Action Plan. The signed FSP form can be found in Appendix E.

The office of the Oakland County Water Resources Commissioner maintains a comprehensive Asset Management Program ("Common to All" systems) and develops Asset Management Plans (AMP) for each system. The existing asset registry in the AMP will be updated with information on facilities impacted by the project. At the conclusion of the project the inventory will be fully updated to accurately reflect the facilities improvements. Condition and performance data will be updated as well. Useful life estimates will be updated for rehabilitated assets and solicited from manufacturers of newly installed assets. These estimates will be used to plan for future service and replacement costs. Operations and Maintenance manuals will be provided for all new equipment, along with onsite training to ensure that the staff have the knowledge necessary to perform maintenance and repairs. Water and energy conservation efforts are part of the Asset Management Program.

4.3 OTHER CONSIDERATIONS

4.3.1 Environmental Evaluation

The expected environmental impacts of the proposed alternatives, mainly the impact of the isolated excavations, will be similar in nature. Proper traffic control, soil erosion and sedimentation control, and odor control measures will mitigate impacts to the general public. The costs for increased mitigation measures are minimal in comparison to the major work items involved in each alternative. These social impacts generated by the lengthier construction duration are difficult to measure monetarily but will be considered when choosing the selected alternative should the monetary evaluation be relatively equal.

4.3.2 Implementability & Public Participation

The public will be provided with a Draft Project Plan review period as well as a public meeting in accordance with the guidelines set forth in the CWSRF guidance documents on the EGLE website. This will provide the public with an opportunity to comment on the Project Plan before it is finalized. The need for the project is well-described within this Project Plan; there should be minimal issue implementing the selected alternative.

SECTION 5.0 — PUBLIC PARTICIPATION

5.1 EGLE SUBMITTAL FORMS

Appendix E includes the following (to be added in Final version of Plan):

- EGLE's signed Project Plan Submittal Form
- The signed Project Useful Life and Cost Analysis Certification Form
- The Project Priority List (PPL) Scoring Data Form

5.2 PUBLIC MEETING AND ADVERTISEMENT

A Public Meeting is scheduled for March 26th, 2024, at 12:00 pm and will be advertised on Oakland County's website for public meeting information starting on March 11th. The notice will include instructions for the public to submit comments and for attending the meeting online or in person. The notice will also provide a link to a PDF of the draft Project Plan and will indicate that a hard copy will be available for review at the location below. A copy of the public notice that will be posted is included in Appendix D.

- WRC Office: One Public Works Building #95W, Waterford Twp, MI 48328
- Virtually, via link provided at public notice website

5.3 PUBLIC MEETING SUMMARY

Any comments submitted by the public in advance of the meeting or during the meeting will be recorded. The public meeting will be held online and at WRC's office, and any attendance of the public in person or online will be recorded.

5.4 ADOPTION OF THE PROJECT PLANNING DOCUMENT

A resolution adopting the Project Plan will be presented and approved by WRC and will be included in Appendix E along with the submittal form, and other forms required, which will be signed by the designated authorized representative.

Appendix A — FY2023 EFSD CWSRF Project Plan (dated, May 31, 2022)

(A copy of the complete document with all Appendices is available upon request)

CWSRF PROJECT PLAN FOR EVERGREEN-FARMINGTON SANITARY DRAIN

FOR OAKLAND COUNTY WATER RESOURCES COMMISSIONER

May 31, 2022
HRC Job No. 20210996

PREPARED BY:
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555 Hulet Drive
Bloomfield Hills, Michigan 48302

Versions:

Draft *March 27, 2022*

Final *May 31, 2022*

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CHANGES MADE SINCE DRAFT PUBLICATION

The following items summarize the modifications made to this 2022 CWSRF Project Plan, since the Draft CWSRF Project Plan was issued on March 28, 2022. The Draft Project Plan was sent to EGLE for review and are awaiting preliminary comments. The Draft Project Plan was sent to the WRC for review and currently do not have any comments.

Section 1 – Executive Summary

- *None*

Section 2 – Project Background

- *None*

Section 3 – Analysis of Alternatives

- *None*

Section 4 – Selected Alternative

- *None*

Section 5 – Fiscal Sustainability Plan

- *None*

Section 6 - Evaluation of Environmental Impacts

- *None*

Section 7 – Mitigation

- *None*

Section 8 – Public Participation

- *Public Hearing documents and information were updated since the Public Hearing took place on April 26, 2022.*

SECTION 1.0 — SUMMARY AND RECOMMENDATION

1.1 SUMMARY

The Project Plan for the Evergreen-Farmington Sanitary Drain (EFSD) Rehabilitation Program has been prepared using the Project Plan Preparation Guidance of the Clean Water State Revolving Fund (CWSRF) Administrative Rules. While the rates have not been set yet for FY2023, the rates in 2022 are 1.875% and 2.125% for 20-year loans and 30-year loans, respectively. These rules call for compliance with the basic Federal Planning Requirements and the National Environmental Policy Act (NEPA). This Project Plan will serve as a basis for project prioritization and must be submitted to the Michigan Department of Environment, Great Lakes, & Energy (EGLE) by June 1, 2022 in order to be on the project priority list for the fiscal year of 2023.

The EFSD is currently under an administrative consent order (ACO). Per EGLE's Sanitary Sewer Overflow (SSO) policy, the ACO requires a Corrective Action Plan (CAP) that addresses remaining sanitary sewer overflows within the EFSD. This CAP was submitted in a March 2020 with modifications in December 2020. The proposed projects listed herein as part of this CWSRF Project Plan were developed as part of the EFSD's CAP.

The EFSD continues to work with EGLE to resolve the ACO and meet proposed project milestones. While the complete details of these projects are still in the planning stages and will be the subject of an upcoming 2022 addendum to the CAP, various alternatives have been reviewed and planning level costs have been developed for the proposed projects.

1.2 SELECTED ALTERNATIVES

The following is a summary of the proposed projects to be implemented as part of this Project Plan:

- Walnut Lake Pump Station No. 1 Corrective Action Plan (CAP)
- Lathrup Village Sanitary Retention Facility CAP
- 8 Mile Road Outlet CAP
- Purchase of Additional Outlet Capacity

1.3 RECOMMENDATIONS

The selected projects identified in this Plan are the most cost-effective and environmentally-sound alternatives, we therefore recommend that:

- The Drain Board should pass a resolution formally adopting this Plan.
- The Water Resources Commissioner's (WRC) Office apply for a low-interest loan under the CWSRF program.

SECTION 2.0 — PROJECT BACKGROUND

2.1 STUDY AREA DESCRIPTION:

The EFSD provides sanitary sewer service to roughly 130 square miles in Oakland County, including all or part of the cities of Auburn Hills, Birmingham, Bloomfield Hills, Farmington, Farmington Hills, Keego Harbor, Lathrup Village, Orchard Lake Village, Southfield, and Troy; the townships of Bloomfield, and West Bloomfield; and the villages of Beverly Hills, Bingham Farms, and Franklin. See Figure 2-1 for an overall map of the EFSD system. The activities proposed within this Project Plan are focused on numerous locations throughout the EFSD. Figure 2-2 shows the Study Area for this Project Plan. The project area is located in T1N, R9E, Section 1 and T1N, R10E, Sections 14, 33, 34, 35, & 36, of Oakland County, Michigan.

2.1.1 Lakes, Rivers, Ponds, and Wetlands

The general locations of wetlands are shown in relation to the proposed project locations according to data from the National Wetlands Inventory in Figure 2-3A-C. An official field review would need to be performed during design of the project to determine the presence or absence of any potentially regulated Part 303 of Public Act 451 of 1994, as amended wetlands.

2.1.2 Existing Treatment Facilities

Wastewater from the EFSD is outlets to the Great Lakes Water Authority's (GLWA) system, where it is transported further, treated and subsequently discharged to the Detroit River. There are three combined sewer overflow (CSO) Retention Treatment Basins (RTBs) located in the EFSD, but each facility and its associated combined sewer system are Chapter 20 Drainage Districts. These RTBs were constructed in the mid-1990s and put into service in 1997. Together, they eliminated over 35 CSO outfalls and service a combined area of 4,326 acres. The RTBs have a capacity of 19.5 million gallons and all outlet to the Evergreen Interceptor for conveyance of sanitary flows.

2.1.3 Effluent & Sludge Disposal Locations

Under normal operation, all effluent from the EFSD outlets to the GLWA system. The EFSD has a septage receiving at the 8 Mile PS. The three CSO RTBs each have a permitted outfall along the Rouge River (S4 T1S R10E) to discharge treated (settled, skimmed and disinfected) flows during medium to large precipitation events. All wet weather flows captured during a wet weather events is dewatered and pumped back to the EFSD after the precipitation event has subsided and the EFSD system has capacity to accept the flow.

2.1.4 Existing Interceptors, Collectors, Pumping Stations, and Force Mains

The existing EFSD consists of two major interceptors, the Evergreen Interceptor (located in and along Evergreen Road) and the Farmington Interceptor (located in and along Middlebelt Road), which serve a network of smaller interceptors and trunk sewers. Figure 2-2 shows the EFSD service area, RTB locations, pump station locations, and interceptor network.

2.1.5 Parks and Recreation Areas

See Figure 2-4 for locations of park and recreation areas within the EFSD.

2.2 LAND USE IN STUDY AREA

2.2.1 Current Use

The existing land use for the communities in the EFSD is summarized in Table 2-1. Land use for the entire EFSD service area is largely residential with some commercial/industrial and little to no agriculture. Figure 2-5 shows a graphical depiction of the existing zoning and land use in the EFSD.

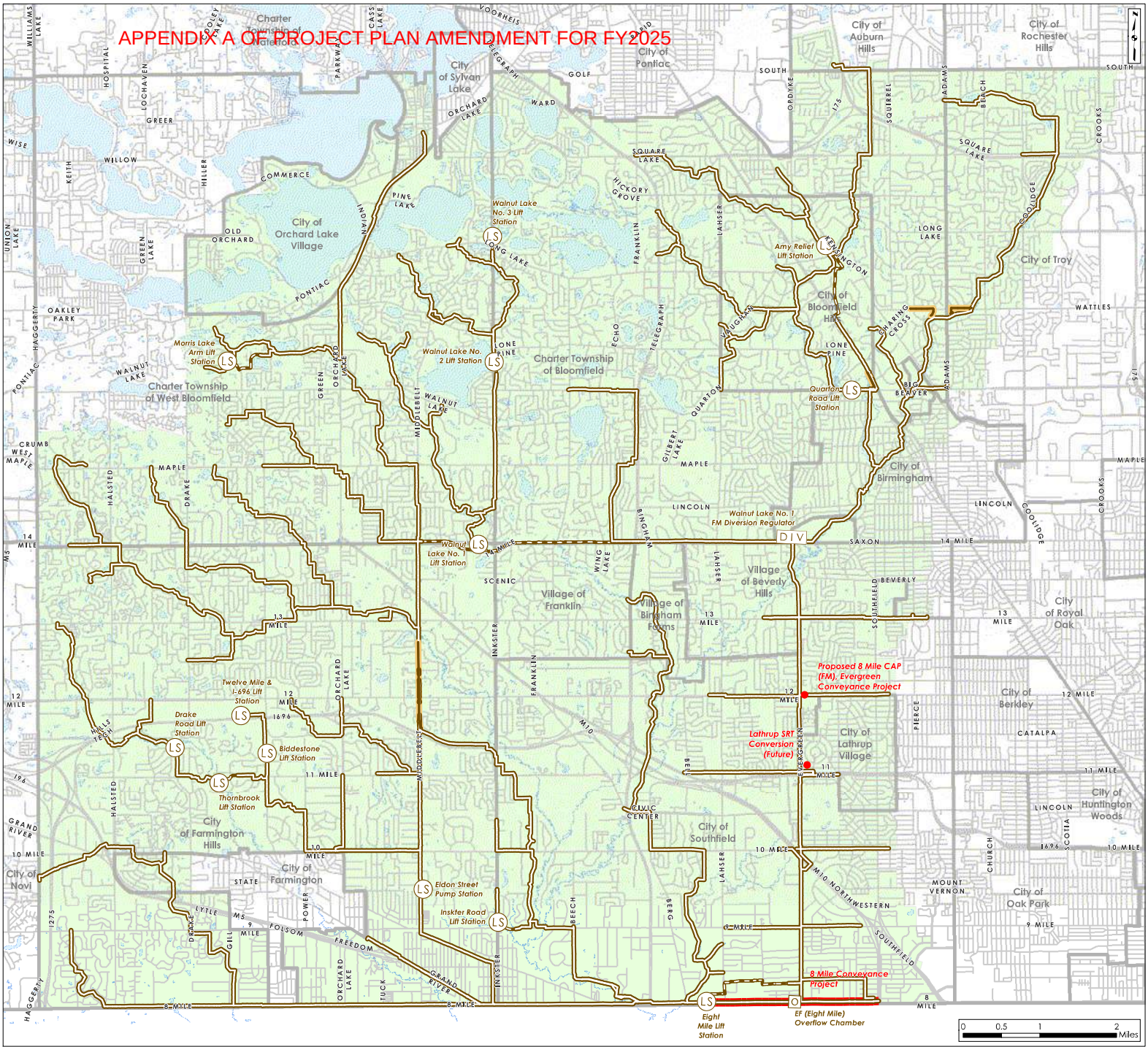
2.2.2 Predicted Land Use

The predicted future land use within the service area is expected to be consistent with the existing conditions since much of the service area is fully developed. However, redevelopment in the future may be an option for some locations throughout the EFSD.

Table 2-1. Land Use by Community

Community	Land Area (acres)	Land Use (%)			
		Residential	Commercial/ Industrial	Agriculture	Water
Auburn Hills	10,651	2359	4069	213	69
Bingham Farms	762	410	117	114	-
Bloomfield Hills	3222	1557	441	306	-
Village of Beverly Hills	2583	1678.8	216	43	16
Birmingham	3080	1675	291	3	11
Bloomfield Twp	16624	9674	1064	491	1006
City of Farmington	1705	905	295	6.5	1
Farmington Hills	21308	10544	3178	440	104
Franklin	1710	1187.5	21	104	6
Keego Harbor	350	163	40.5	3.3	39
Lathrup Village	2582	676	188	93	1032
Orchard Lake	16817	7771	3503	224	22
Southfield	21519	9874	4641	210	183
Troy	20042	9160	1263	721	2969
West Bloomfield Twp	762	2359	4069	213	69

**Data provided by SEMCOG, based on 2020 census land use.*



WRC
WATER RESOURCES COMMISSIONER
Jim Nash

DISCLAIMER:
The information displayed in this map is compiled from recorded deeds, plats, tax maps, surveys and other public records. Although this information is intended to accurately reflect public information, it is not a legally recorded map or survey and is not intended to be used as one. Users should consult primary/original information sources where appropriate.

FIGURE 2-1
Evergreen-Farmington Route and Course

- Overflow Chamber
- Diversion Regulator
- Lift Station
- EFSDS Gravity Interceptor
- EFSDS Linear Storage
- EFSDS Non-Gravity Interceptor
- EFSDS District

Date: 4/13/2021

Path: J:\Drain\MappingUnit\SANITARY-COMBINED\Special Projects\EFSDS\Drain Board\Route and Course.mxd

APPENDIX A OF PROJECT PLAN AMENDMENT FOR FY2025

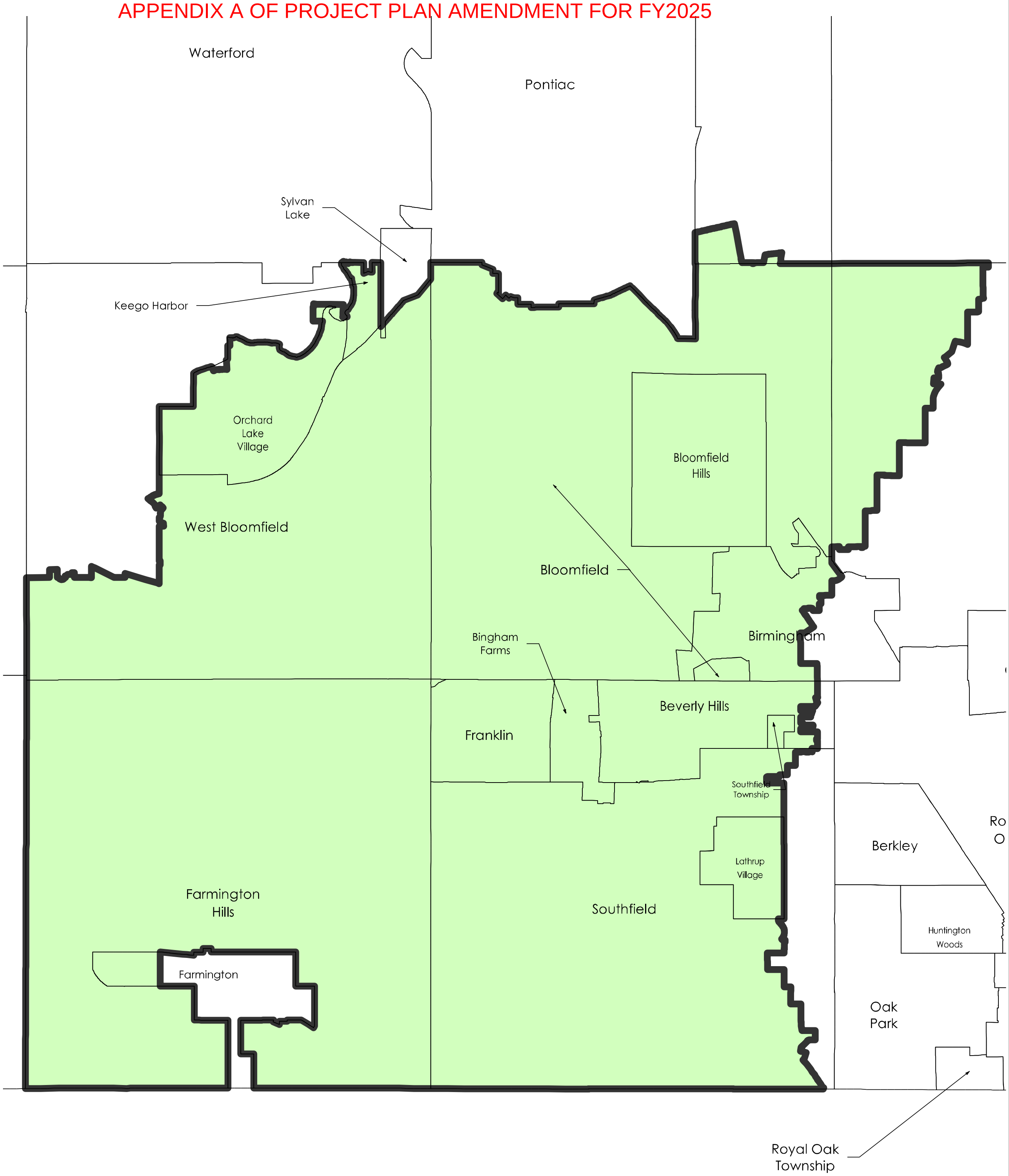


FIGURE 2-1

EVERGREEN-FARMINGTON AREA TO BE SERVED

Legend

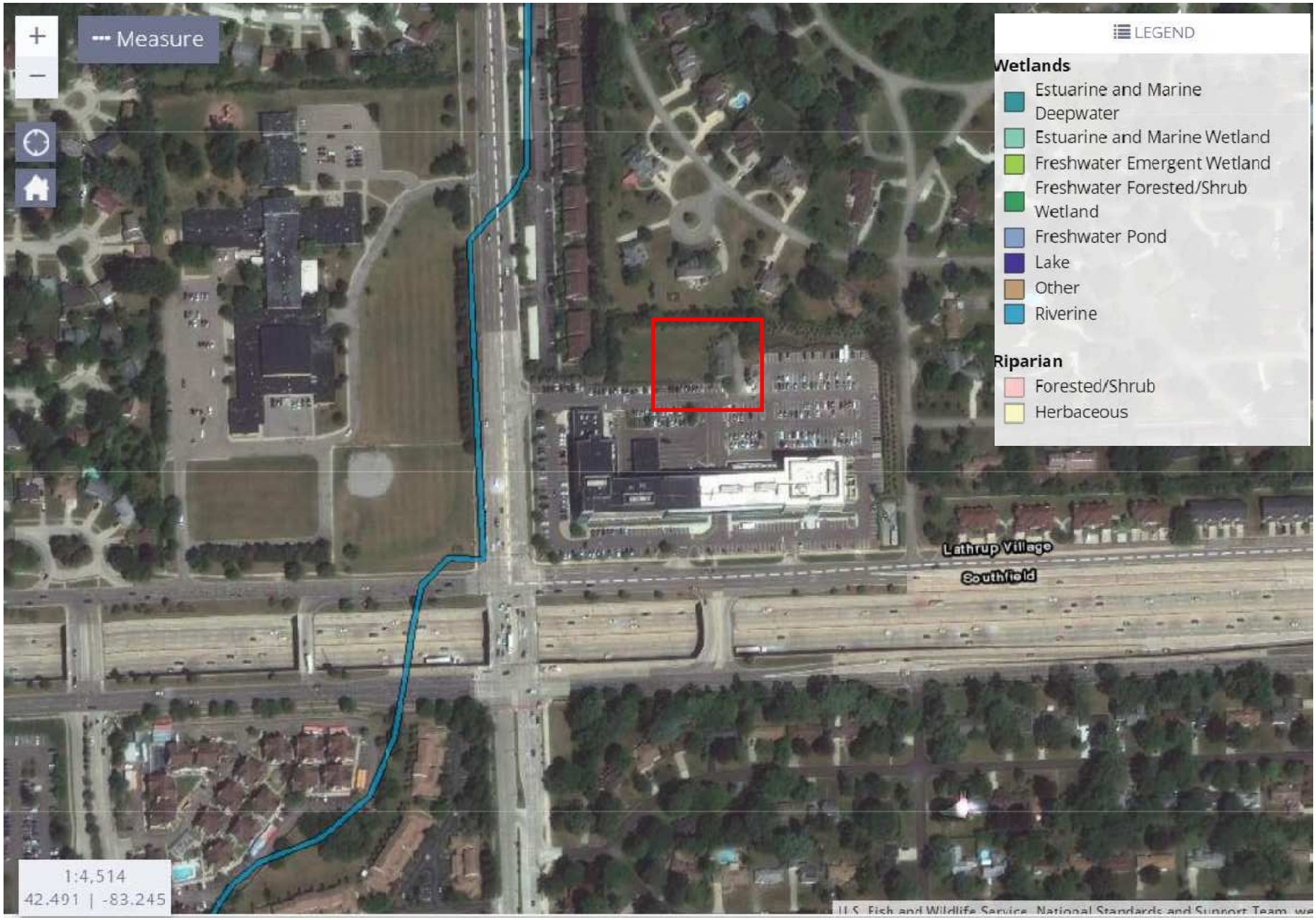
Municipal District

Evergreen Farmington Sanitary Drain

Not To Scale

WATER RESOURCES COMMISSIONER
Jim Nash

FIGURE 2-3A: EFSD PROJECTS NATIONAL WETLANDS MAP



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CWSRF Project Plan
Job # 20210996
March 2022

National Wetlands Inventory
surface waters and wetlands

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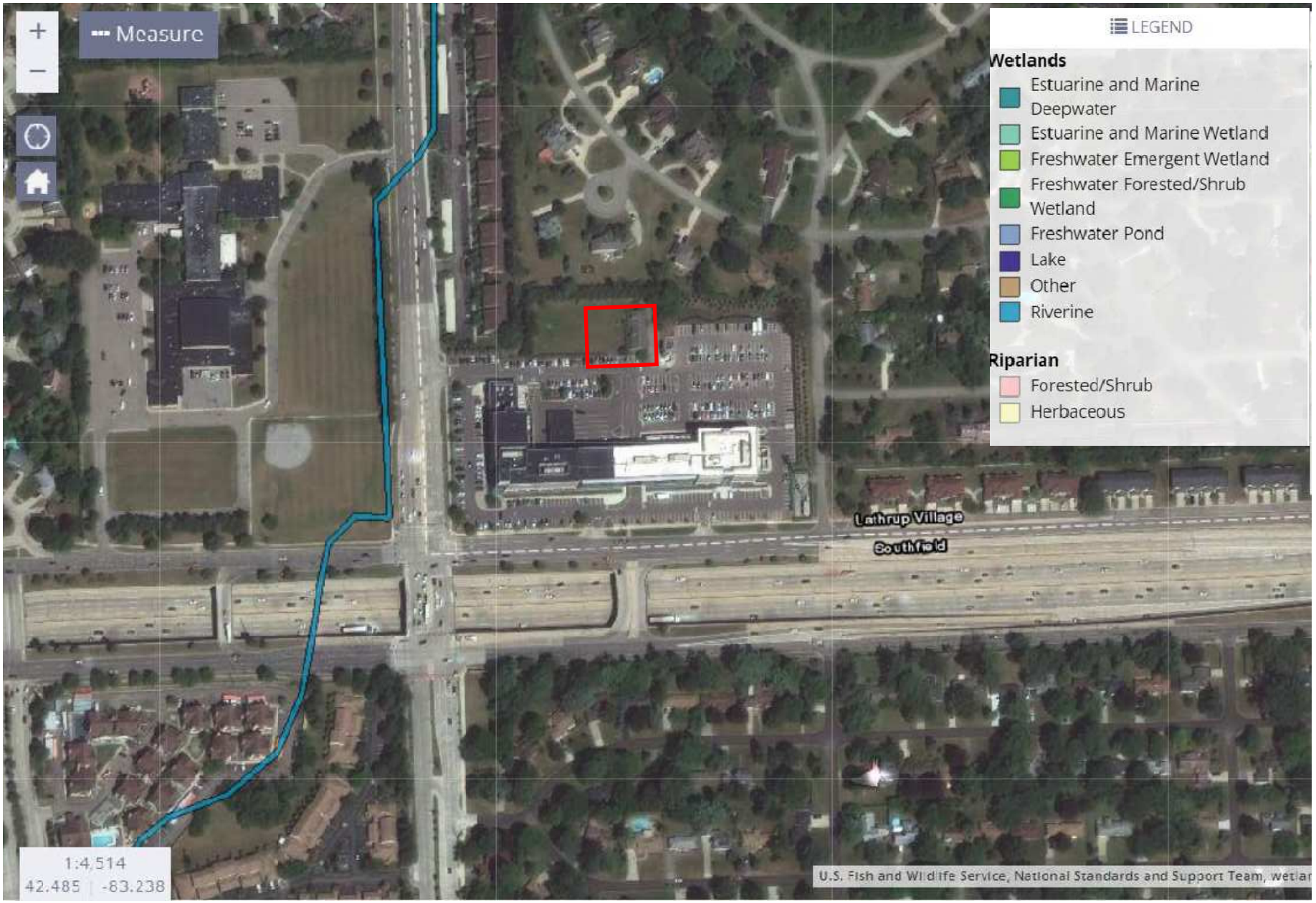
APPENDIX A OF PROJECT PLAN AMENDMENT FOR FY2025

FIGURE 2-3B: EFSD PROJECTS NATIONAL WETLANDS MAP



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CWSRF Project Plan
Job # 20210996
March 2022

National Wetlands Inventory
surface waters and wetlands

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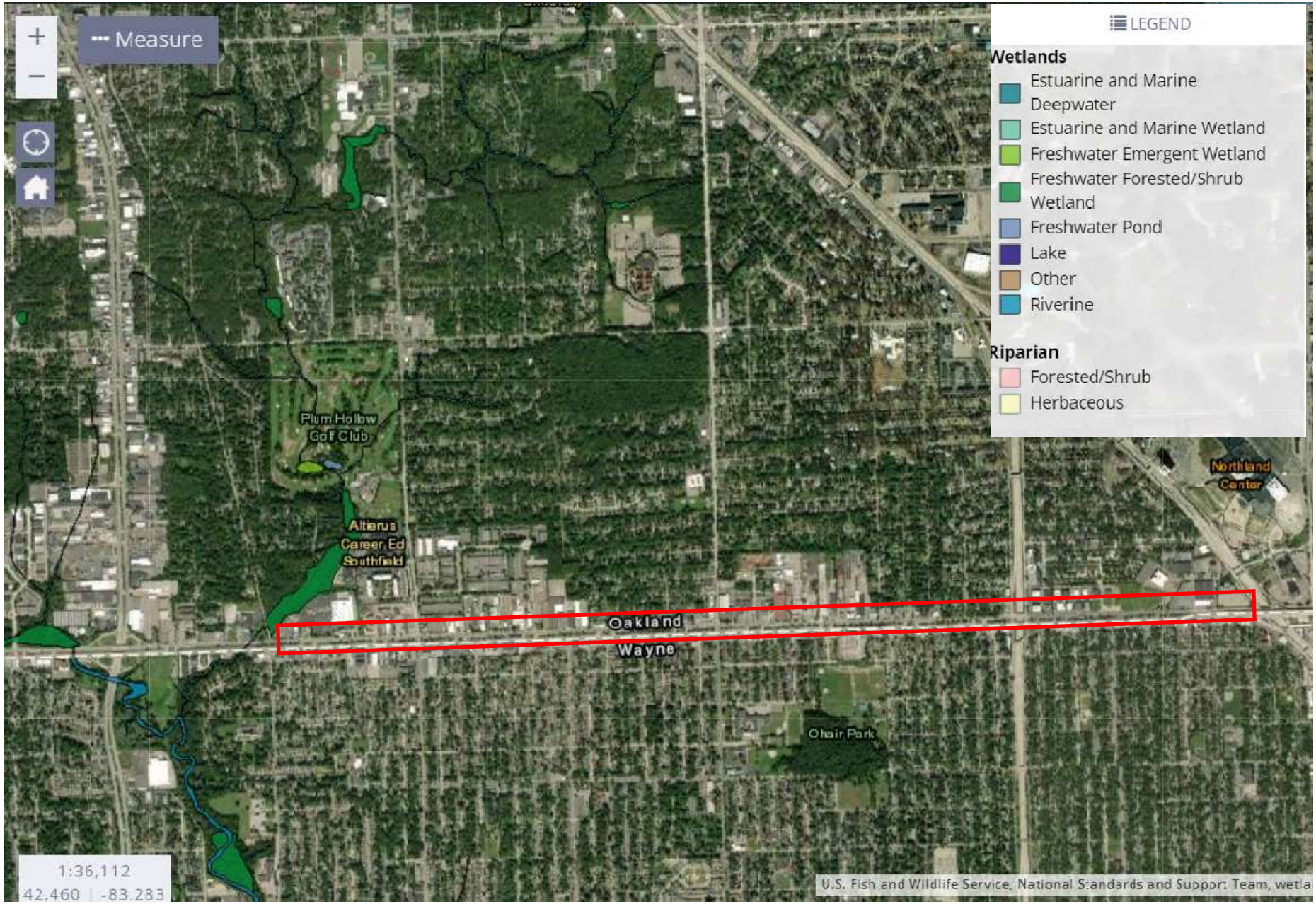
FIGURE 2-3C: EFSD PROJECTS NATIONAL WETLANDS MAP



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CWSRF Project Plan
Job # 20210996
March 2022

National Wetlands Inventory
surface waters and wetlands

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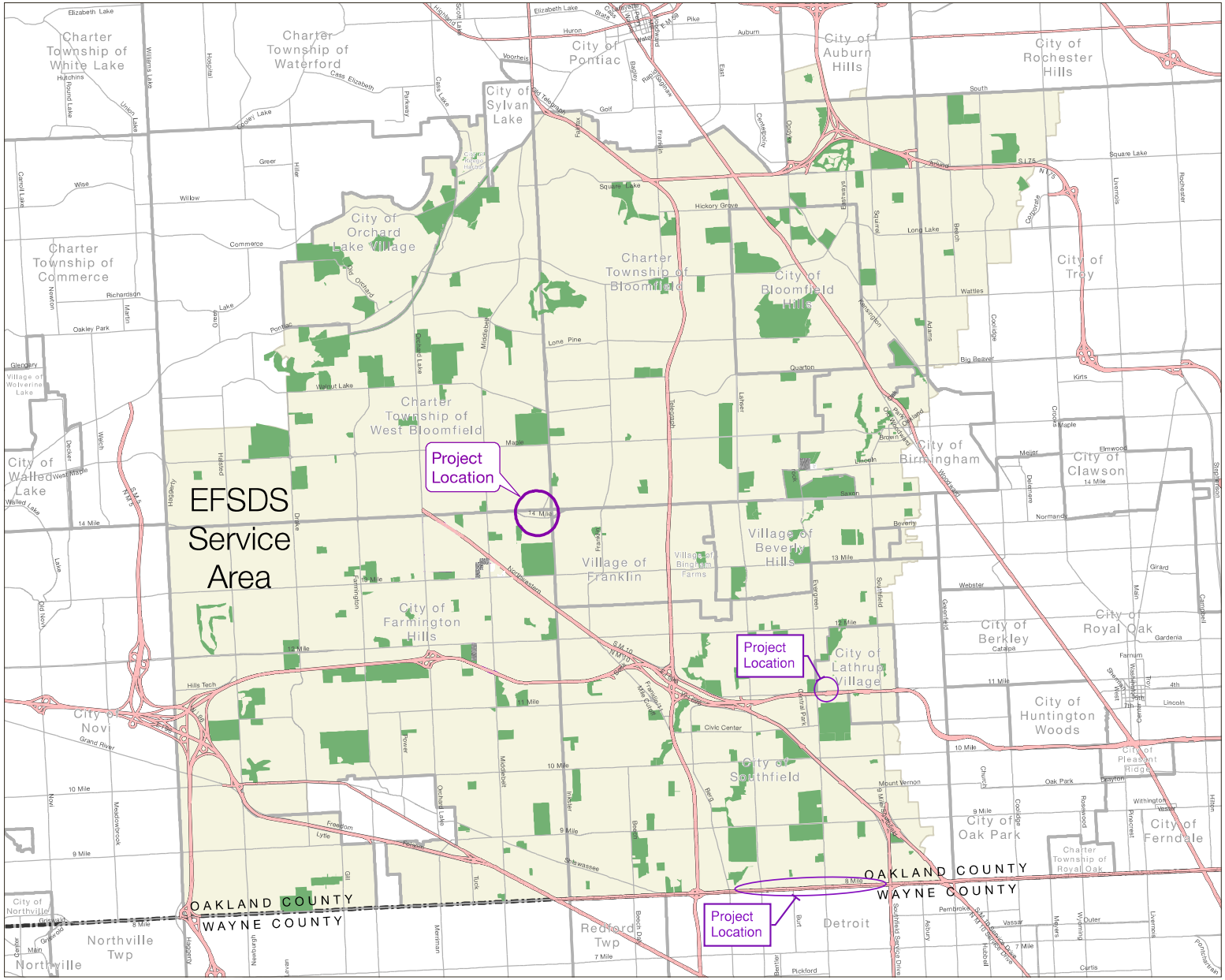
FIGURE 5

Parks & Recreation Facilities

Oakland County Water Resources Commissioner



Project Location

Parks & Recreation Facility

EFSDS Service Area

4,000 0 4,000 8,000 12,000 16,000 Feet

Source: Data provided by Oakland County. Orchard, Hiltz and McCliment does not warrant the accuracy of the data and/or the map. This document is intended to depict the approximate spatial location of the mapped features within the Community and all use is strictly at the user's own risk.

Coordinate System: Michigan South NAD 1983 State Plane International Feet

Map Published: 6/26/2012

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2.2.3 Population Data

According to Southeast Michigan Council of Governments (SEMCOG), the 2020 United States Census estimated the population for the year 2020 to be 444,206 as a total that include the entire population of all of the member communities. For the purposes of the CWSRF project plan, a 20-year population projection is required for calculations of future system demand and total present worth. Current projections for just the population that is tributary to the EFSD service area are provided in Table 2-2. Population growth within the service area is minimal and mostly occurring in the northern and western communities. See Appendix A for attached documentation of contact with the SEMCOG, notifying them of this proposed Project Plan.

Table 2-2. Population Data for EFSD Communities

Community	2020 Census Population for Entire Community	Current Population Tributary to ESFD	2050 Population Projection Tributary to ESFD
Auburn Hills	24,360	3,126	3,126
Bingham Farms	1,124	1,772	1,704
Bloomfield Hills	4,460	6,510	6,650
Village of Beverly Hills	10,584	10,676	10,464
Birmingham	21,813	13,112	13,095
Bloomfield Twp	44,253	39,242	43,311
City of Farmington	11,597	2,471	2,431
Farmington Hills	83,986	88,683	91,850
Franklin	3,139	3,551	3,821
Keego Harbor	2,764	3,284	3,413
Lathrup Village	4,088	4,565	3,897
Orchard Lake	2,238	2,861	2,921
Southfield	76,618	71,484	78,441
Troy	87,294	14,465	14,626
West Bloomfield Twp	65,888	44,883	47,460
Total	**444,206**	**310,685**	**327,210**

**Source: Data provided by SEMCOG, based on April 1, 2020 census populations and EFSD Master Plan*

2.2.4 Economic Characteristics

The major industries in the County are professional and technical services & corporate HQ (165,292 people), information/ finance (140,446 people), healthcare (125,692 people), and retail trade (95,861 people) *. The U.S. 2020 Census Bureau data estimated the average household size in the County at 2.44 people per household. The median household income for the County is and $79,698, a 2.4% increase since 2010. The median household

income is significantly higher than the median Michigan household income and the U.S. median household income of $67,521.

** Source: https://semcog.org/Community-Profiles#EconomyJobs*

2.2.5 Cultural and Environmental Settings

Cultural Setting:

An application for a review was made to the State Historic Preservation Office by a prequalified consultant in order to evaluate any known historical and/or archaeological sites. The results of the review will be included in the final Project Plan.

Air Quality:

Air quality in the area is primarily impacted by the few existing industrial facilities. The area also has the noise pollution characteristics of a typical urban community. No noise pollution problems exist in residential areas, other than from traffic noise from adjacent major roadways. Commercial and business areas experience only normal traffic noise. Air quality is not anticipated to be an issue for this project, apart from temporary dust and debris from construction. All necessary notifications will be distributed to the public when this occurs and all regulations for this odor will be followed.

Environmental Contaminants:

EGLE's Environmental Contaminants online mapper was used to determine that no known contaminants are within the project areas.

See Figure 2-6A-C for the mapper results.

Wetlands:

There are zero (0) localized wetlands associated within the existing project footprint, concluding that the proposed project will not impact wetland areas.

Wetland maps are shown in Figure 2-3A-C.

Great Lake Coastal Zones:

There are no coastal zones located with the Project Area and therefore no impacts are anticipated.

See Appendix A for attached documentation of contact with the Water Resource Division (WRD) at EGLE, showing that no coastal zones or other land and water interfaces will be impacted by the proposed project.

Floodplains & Surface Waters:

The study area is located within the Rouge River watershed. The watershed encompasses 467 square miles and drains to the Detroit River. It has four major branches (Main, Upper, Middle, and Lower) with 127 river miles and numerous tributaries. In addition to the flowing water, there are more than 400 lakes, impoundments, and ponds.

The vast majority of the users within the EFSD utilize drinking water from the extensive distribution system from the GLWA System. There are some individual private wells within the service area, primarily located in the Village of Franklin and some parts of Southfield, Farmington Hills, West Bloomfield and Bloomfield Township. Future dependency on groundwater or other surface waters for water supply is not anticipated.

The project areas are near floodplain boundaries but there will be no major impacts to any nearby floodplains. Any work which impacts any nearby floodplains will only be undertaken after first contacting EGLE and obtaining the appropriate permits, however, it is not anticipated. The EGLE WRD was contacted showing there will be no impacts to the nearby floodplains. See appendix A for associated documentation.

Federal Emergency Management Administration (FEMA) floodplain maps are shown in Figure 2-7.

Natural or Wild and Scenic Rivers:

The study area does not have any rivers with recreational and aesthetic value nor any rivers which are classified as "Natural" or "Wild and Scenic" by the Michigan Department of Natural Resources (MDNR). See Appendix A for attached documentation of contact with the MDNR Fisheries Division, showing that no Nationwide or State designated Wild and Scenic Rivers will be impacted by the proposed project.

National and State designated Wild and Scenic Rivers maps are shown in Figures 2-8 and 2-9, respectively.

Recreation Facilities:

The County contains thirteen (13) public parks with some multi-purpose recreational activities. However, no parks or other publicly owned facilities will be impacted by the proposed work.

Topography:

The terrain within the County is characterized as relatively flat. The lowest point at about 656 feet above sea level and is in the north region of the County. The highest point is about 672 feet above sea level located in the southeast region of the County.

Geology:

The County and surrounding area is typified by the consolidated sedimentary Antrim Shale rock of Paleozoic origin, overlain by a thin layer of unconsolidated glacial deposits. The overlying glacial deposits vary in thickness from about 70 to 120 feet. The sedimentary strata were deposited during the Upper Devonian period in the Michigan Basin (360 to 420 million years old); extend to an average depth of 2,200 feet. The sedimentary deposits consist primarily of sand and gravel.

Soils:

The majority of northern and southern Project Area soils are categorized as an urban-land complex soils, which consist of moderately well drainage properties. Majority of the eastern and central sections of the Project Area consists of a Plainfield-urban complex soils that are considered to be excessively drained. The County contains mainly sand and gravel soils which have an even mix of soils with a very high filtration rate and low runoff potential, and soils with a very low infiltration rate and high runoff potential.

Figures 2-10A-C illustrates the generalized soil types throughout the Project Areas. As part of the final design process, soil borings will be taken near the proposed work areas to determine if any special construction methods will be needed.

Agricultural Resources:

Agricultural resources within the County mainly consist of small private gardens within the residential areas. With the exception of these gardens, the project area is within developed, human-use land cover and no new facilities are proposed; therefore, no agricultural resources will be impacted by the proposed work.

See Appendix A for attached documentation of contact with the United States Department of Agriculture (USDA), showing that no significant farmland will be impacted by the proposed project.

Existing Plant and Animal Communities:

See Appendix A for Michigan State University's (MSU) Michigan Natural Feature Inventory (MNFI) Rare Species impact review, showing that negative impacts are unlikely to occur within the proposed activity vicinity.

FIGURE 6

Existing Land Use

Oakland County Water Resources Commissioner

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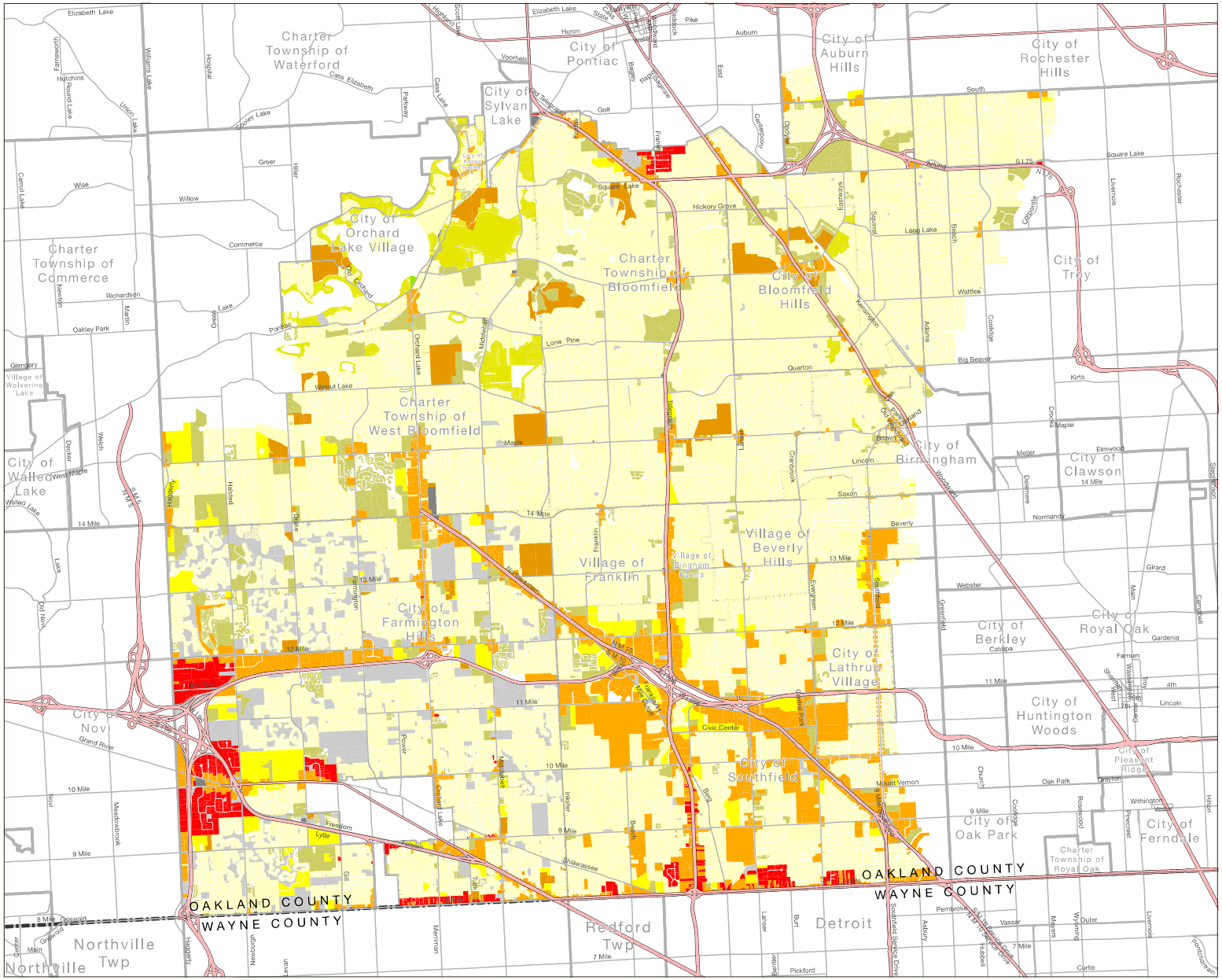

Land Use Description

- Residential
- Apartment
- Lake Improvement
- Condo
- Business
- Misc Business
- Industrial
- Utility
- Farm Conservation
- Unknown

4,000 0 4,000 8,000 12,000 16,000 Feet

Source: Data provided by Oakland County. Orchard, Hiltz and McCliment does not warrant the accuracy of the data and/or the map. This document is intended to depict the approximate spatial location of the mapped features within the Community and all use is strictly at the user's own risk.

Coordinate System: Michigan South NAD 1983 State Plane International Feet

Map Published: May 10, 2011

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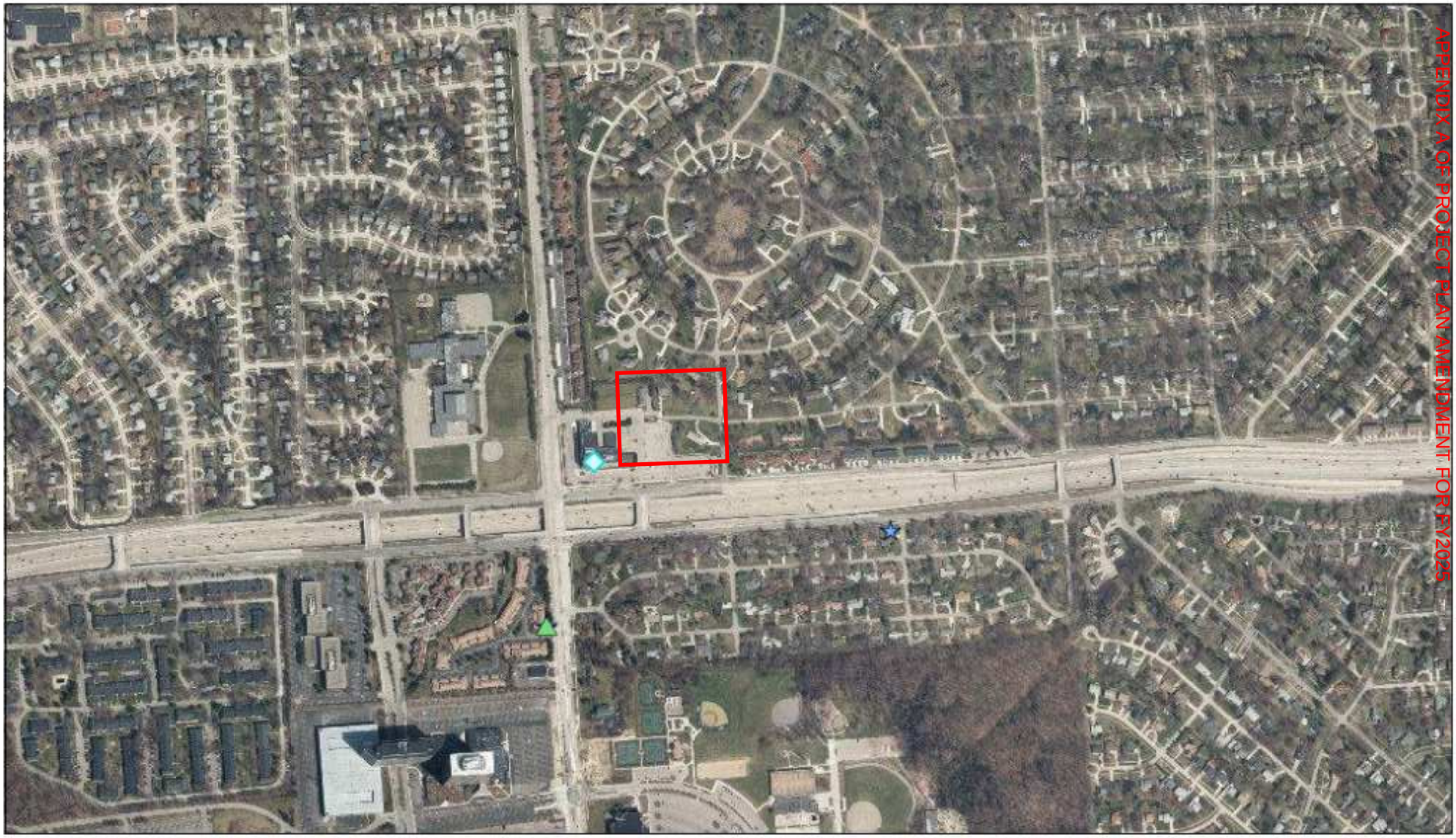
FIGURE 2-6A: [illegible]

CWSRF Project Plan
Job # 20210996
March 2022

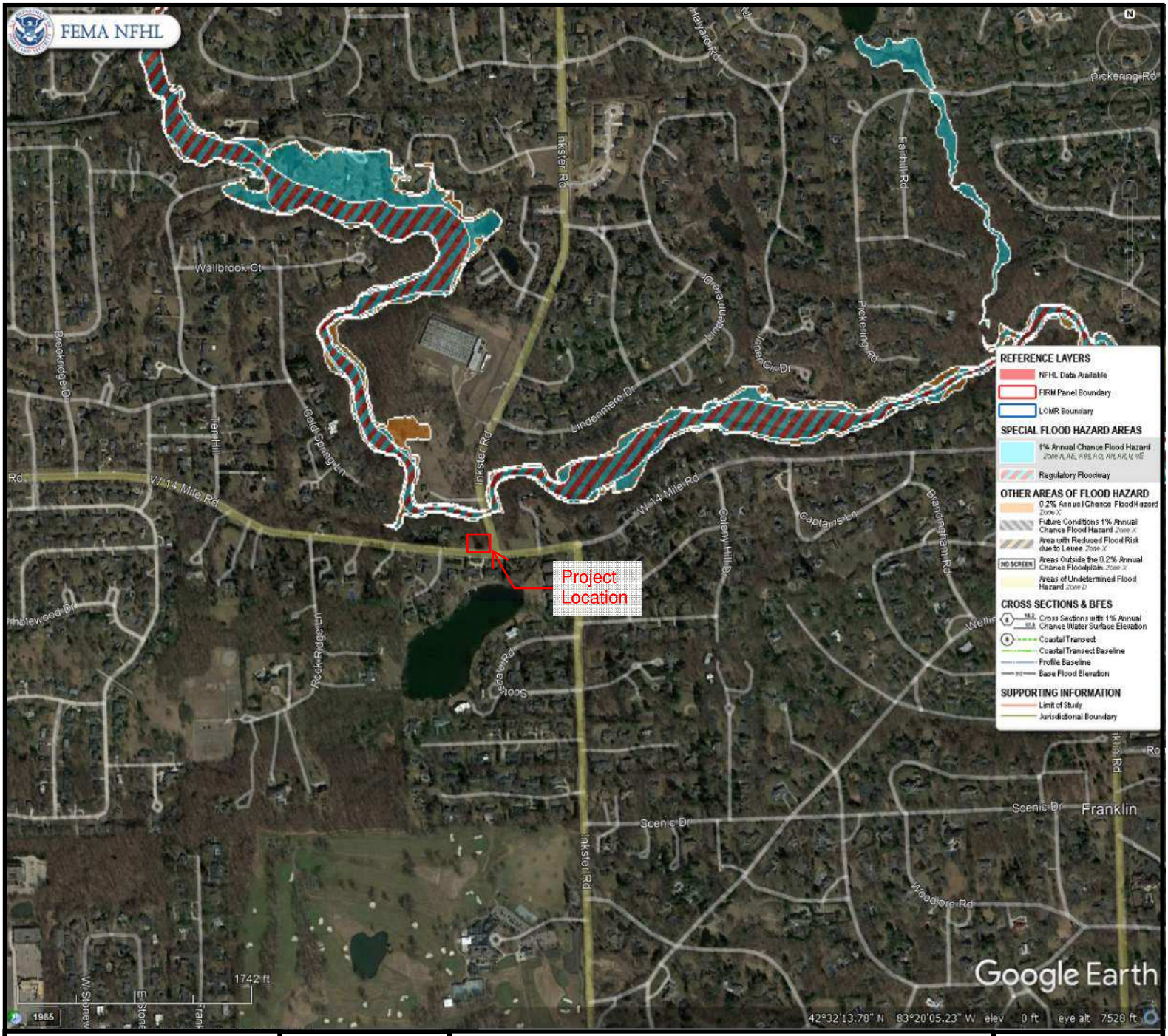
FIGURE 2-6B:



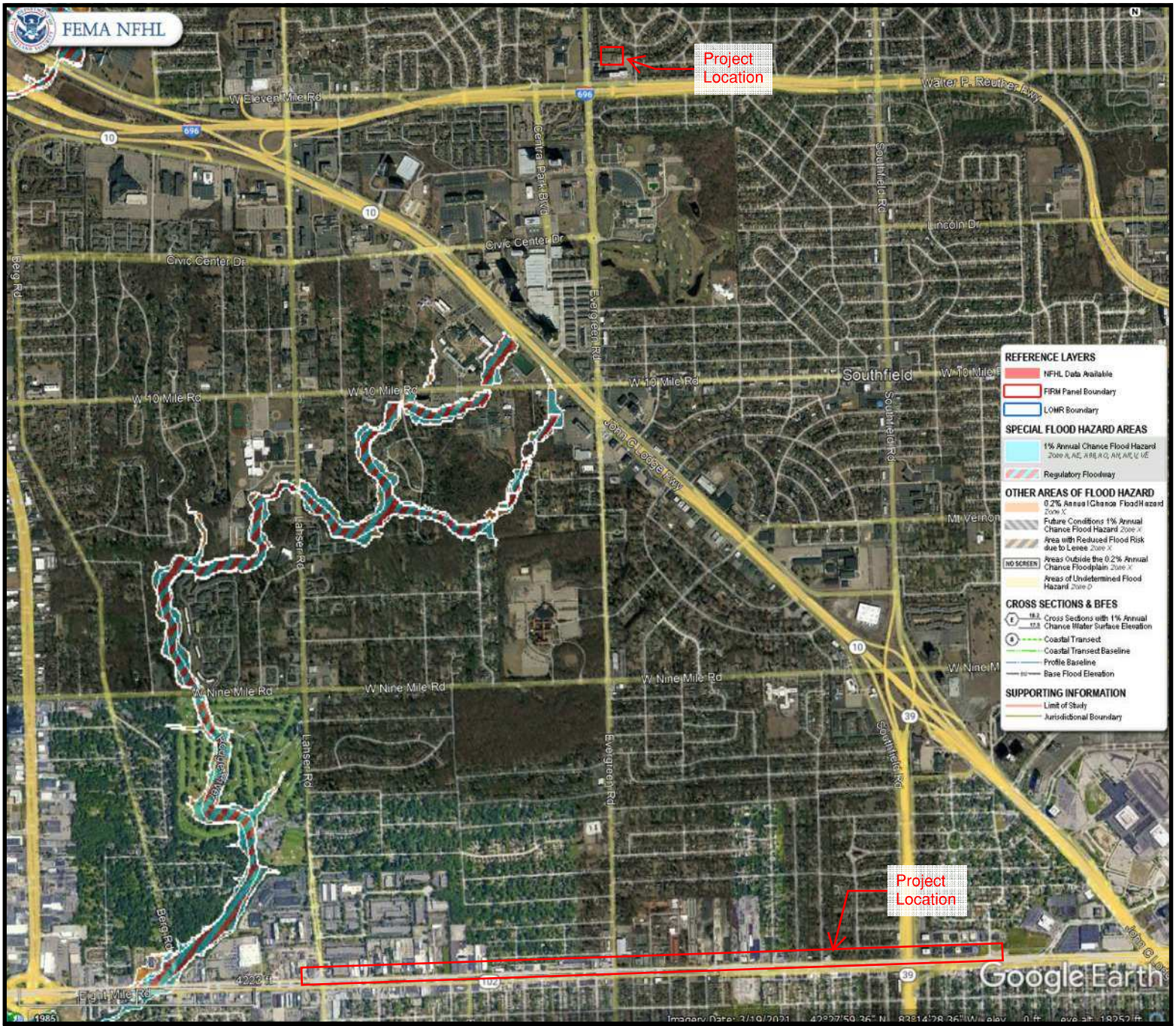
CWSRF Project Plan
Job # 20210996
March 2022

FIGURE 2-6C:

CWSRF Project Plan
Job # 20210996
March 2022



WRC WATER RESOURCES COMMISSIONER	Job No. 20210996	**Evergreen-Farmington Sanitary Disposal System** **Project Plan Improvements** (not to scale)	Sheet No. 1
HRC HUBBELL, ROTH & CLARK, INC CONSULTING ENGINEERS SINCE 1915	Date Feb 2022		



WRC WATER RESOURCES COMMISSIONER	Job No. 20210996	**Evergreen-Farmington Sanitary Disposal System** **Project Plan Improvements** (not to scale)	Sheet No. 2
HRC HUBBELL, ROTH & CLARK, INC CONSULTING ENGINEERS SINCE 1915	Date Feb 2022		

Nationwide Rivers Inventory

This is a listing of more than 3,200 free-flowing river segments in the U.S. that are believed to possess one or more "outstandingly remarkable" values.

National Park Service
U.S. Department of the Interior

Michigan Wild and Scenic Rivers

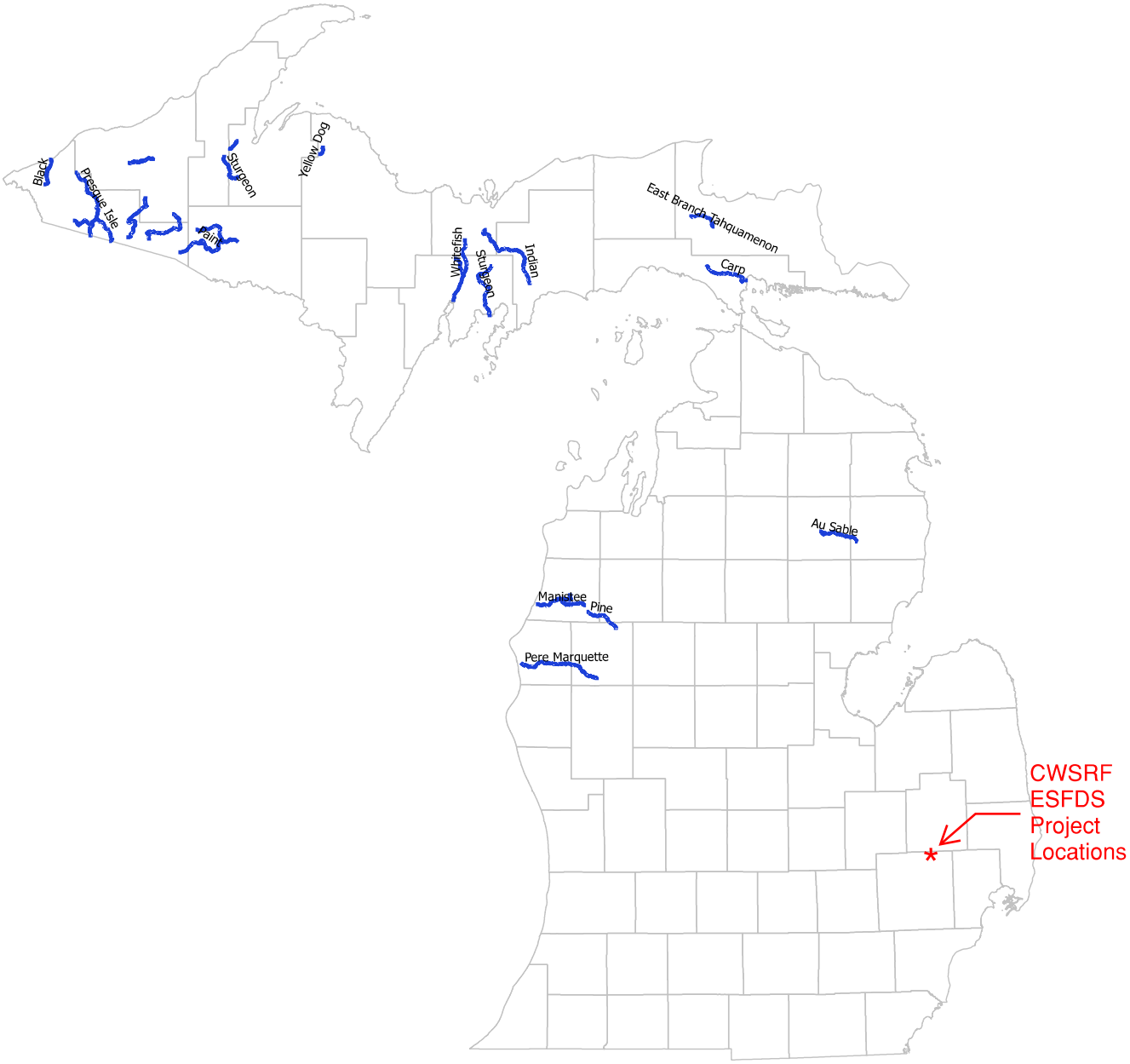


FIGURE 2-10A: EFSD PROJECTS WEB SOIL SURVEY MAP

HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

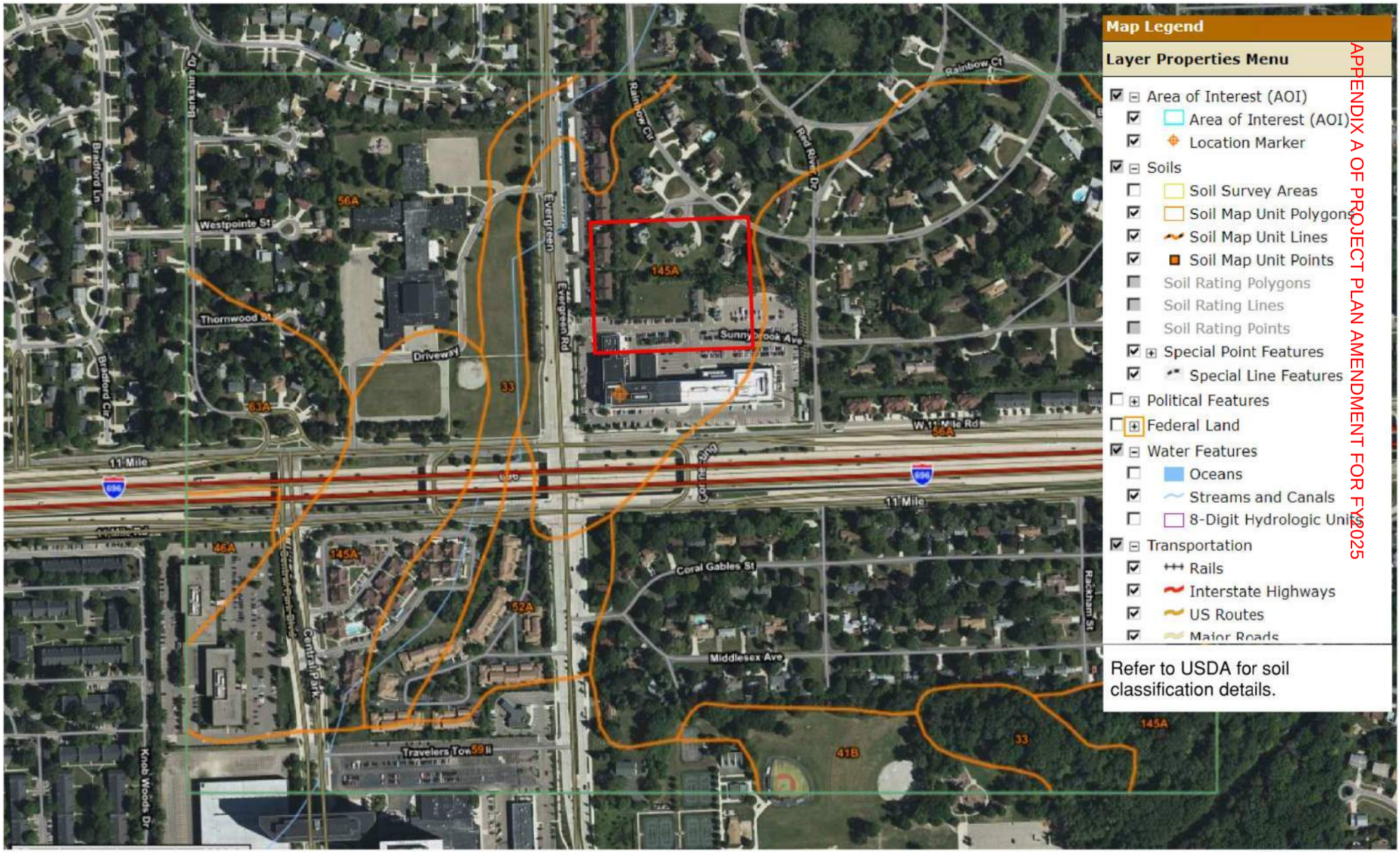
CWSRF Project Plan
Job # 20210996
March 2022

USDA United States Department of Agriculture
Natural Resources Conservation Service

N

APPENDIX A OF PROJECT PLAN AMENDMENT FOR FY2025

FIGURE 2-10B: EFSD PROJECTS WEB SOIL SURVEY MAP



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HRC
HUBBELL, ROTH & CLARK, INC
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CWSRF Project Plan
Job # 20210996
March 2022

USDA United States Department of Agriculture
Natural Resources Conservation Service

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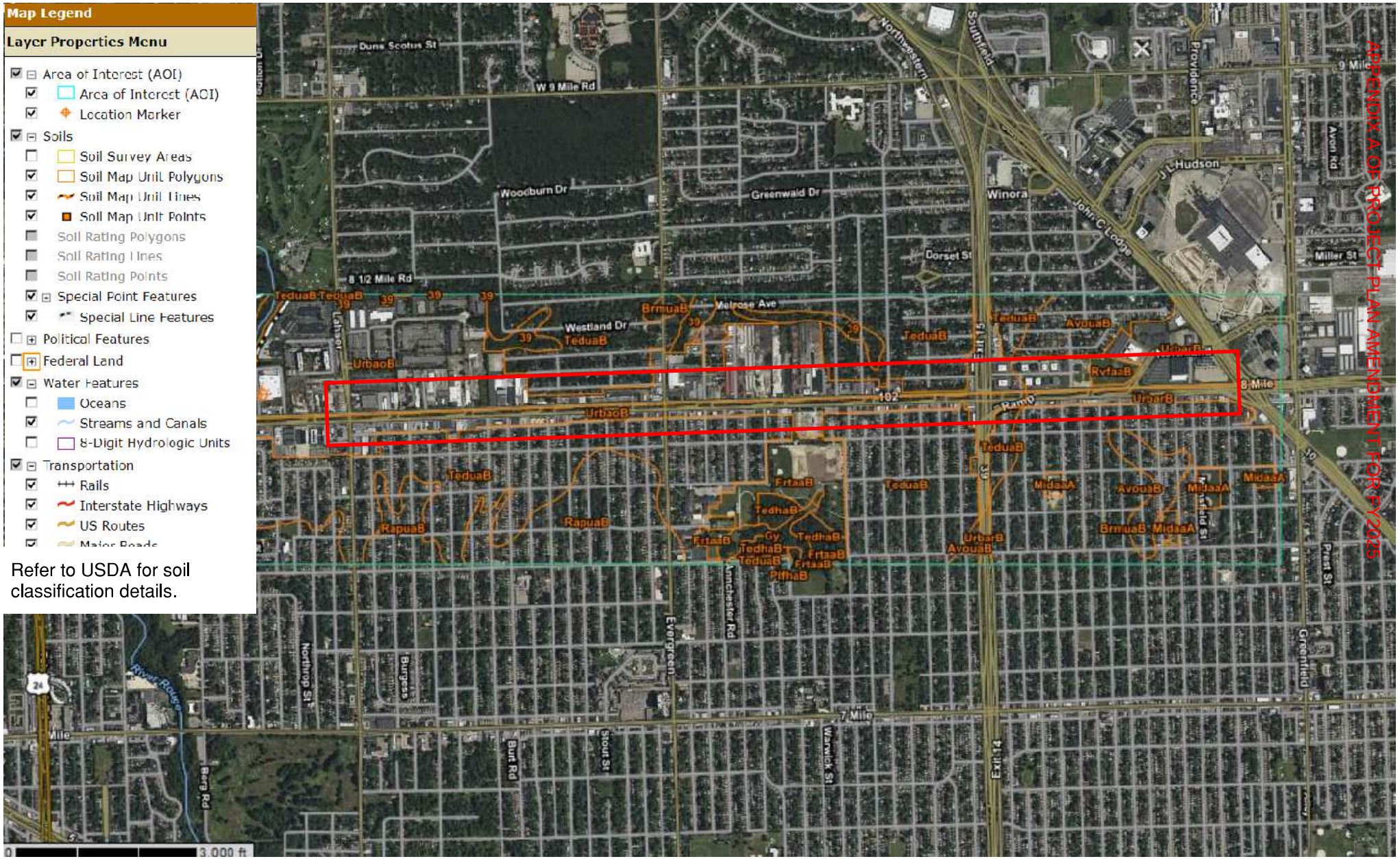
FIGURE 2-10C: EFSD PROJECTS WEB SOIL SURVEY MAP



HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

CWSRF Project Plan
Job # 20210996
March 2022

USDA United States Department of Agriculture
Natural Resources Conservation Service

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2.3 EXISTING FACILITIES AND ASSETS – GENERAL

The EFSD infrastructure are critical assets for conveying waste to be treated. A description of the EFSD wastewater infrastructure is provided in the following sections.

2.3.1 Sanitary Drain

The EFSD was originally constructed in the 1950's and 1960's as a sanitary sewer system. The EFSD assets include approximately 180 miles of sanitary sewers ranging between 10-inch and 110-inch pipes and about 3,300 sanitary manholes. The EFSD contains 10 pump stations, two (2) grade protection stations and no wastewater treatment facilities. Figure 2-11 depicts the existing sanitary sewer system.

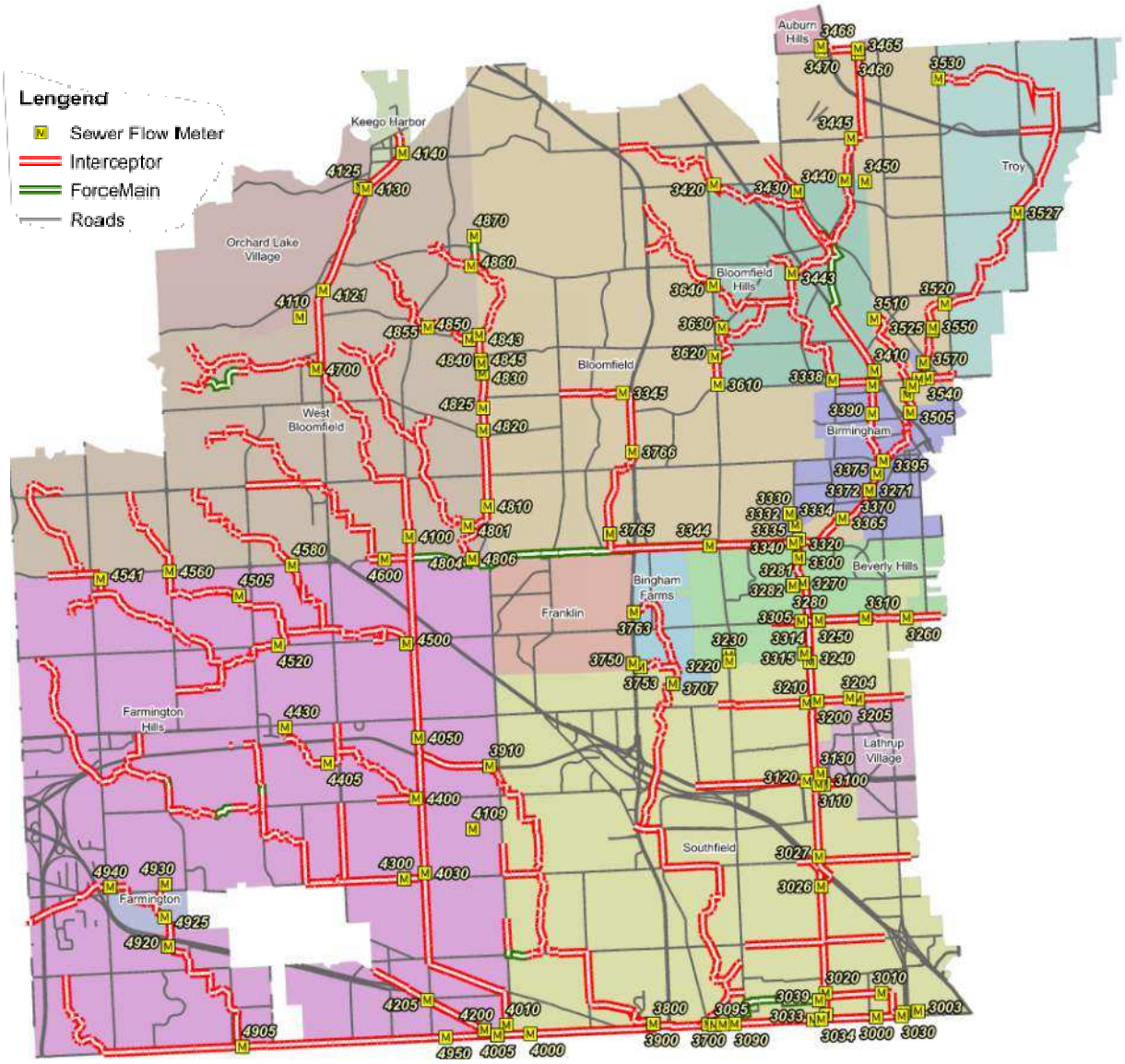


Figure 2-11. Evergreen-Farmington Sanitary Drain

The EFSD, previously named the Evergreen Farmington Sewage Disposal System (an Act 342 system), was recently reorganized as a Chapter 20 county drainage district. It has an Asset Management Plan that includes ongoing sewer and manhole inspections. While this project plan is focused on addressing SSOs, it is important to recognize that this on-going Asset Management Plan exists and provides a well-maintained sewage collection system that is not the source or cause of the SSOs. Figures 2-12 and 2-13 provide a summary of inspected gravity sewers and manholes over time in terms of percent of EFSD.

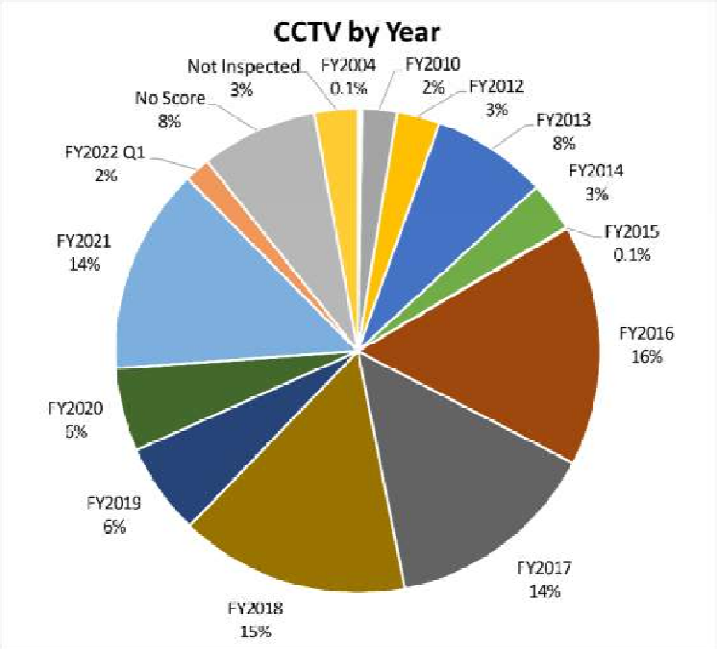


Figure 2-12. EFSD Gravity Sewers Inspection Summary

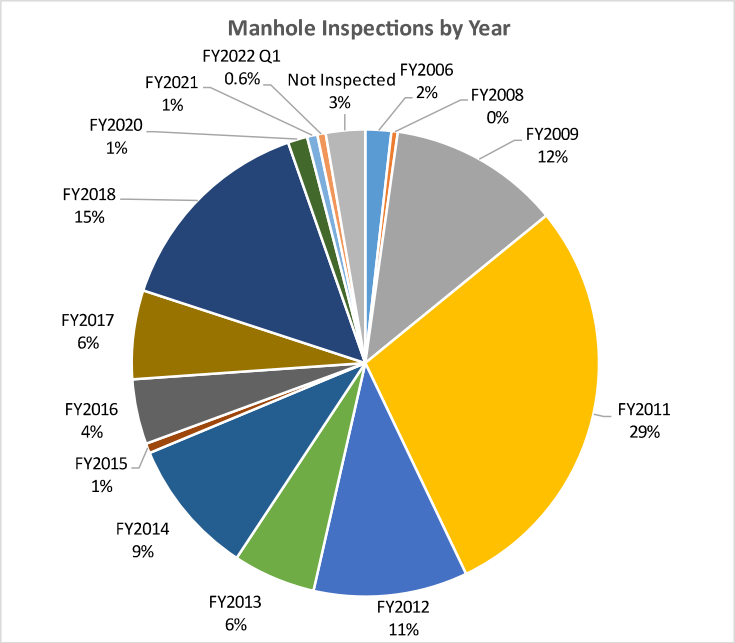


Figure 2-13. EFSD Manhole Inspection Summary

2.4 NEED FOR PROJECT

The EFSD's ACO references the EGLE SSO policy and defines both a 10-year, 1-hour non-growing season design storm event and a 25-year, 24-hour growing season design storm event as the EFSD design standards. The 10-year, 1-hour non-growing season design storm event provides a high peak flow rate, which is supported by real storm events; therefore, the 10-year, 1-hour non-growing season design storm event is functionally the primary design storm event for the EFSD. The EFSD has experienced SSOs for rainfall events that are less than either design storm event. EGLE had agreed to a phased approach due to the dependency of downstream project sizing on the placement, sizing, and performance of upstream projects. This sequencing is described in the 2014 EFSD Long Term Corrective Action Plan (see Appendix C for the executive summary) with certain projects revised in a June 2016 addendum (see Appendix D for the executive summary) due to a redesign.

The ACO requires a CAP that addresses the remaining SSOs. This plan was submitted in a March 2020 submittal (see Appendix E for the executive summary) and modified in a December 2020 addendum (see Appendix F for the executive summary). Project alternatives were previously reviewed and recommendations for the most cost-effective and environmentally preferred options were made. Planning level cost estimates have been developed for the recommended projects. Additional details and basis of design documents are underway and will be the subject of an upcoming 2022 addendum to the CAP.

The project is needed because EFSD continues to have SSOs that are not allowed per the EGLE SSO policy.

SECTION 3.0 — ALTERNATIVE ANALYSIS

3.1 ALTERNATIVES

The following alternatives were considered to address the ACO in the 2014 EFSD Long Term Corrective Action Plan. See Appendix C for a full development of these alternatives. Alternative 4 was ultimately selected for implementation.

1. Inflow and Infiltration (I/I) Source Removal
2. Parallel Relief Capacity
3. Storage
4. Storage with Localized Hydraulic Relief

3.2 SELECTED ALTERNATIVE (ALTERNATIVE #4)

The Storage with localized hydraulic relief selected alternative was proposed to be broken up into two phases. Phase 1 projects have been designed and constructed based on the selected alternative. Phase 2 project needs were re-evaluated by collecting new data with the Phase 1 projects in-service. The March 2020 CAP document found two areas as still needing corrective projects in Phase 2: the Walnut Lake Pump Station No. 1 (WLPS1) and the Eight Mile Road outlet. Four separate projects were developed to address the ongoing concerns at these two locations:

- WLPS1 CAP
- 8 Mile Road Outlet CAP
- Lathrup Village Sanitary Retention Tank CAP
- Purchase of Additional Outlet Capacity

Preliminary planning and cost estimates have been developed for these four projects and additional design phase work is ongoing. Except for the Purchase of Additional Outlet Capacity project, which is a regionalization project and has no alternatives, alternatives for each project are being considered that fit mainly within the "Storage with Localized Hydraulic Relief" alternative that was recommended in the 2014 EFSD CAP. These alternatives presented are also described in the December 2020 CAP addendum. The viable alternatives are summarized below and will be further refined with additional design data in an upcoming 2022 CAP addendum.

3.2.1 WLPS1 CAP

The WLPS1 CAP has two viable alternatives: storage and conveyance. While both alternatives can address SSOs for events that are less than or equal to the design event, conveyance was recognized as having the advantage of performing better for a larger variety of events (back-to-back, long duration and, potentially, greater than the design event). Reaching a regional agreement on the Purchase of Additional Outlet Capacity was a key factor in the conveyance alternative being able to move forward. The conveyance alternative is still in the planning stage of design. Current design elements under consideration include a hybrid that is mostly conveyance but provides some storage volume.

3.2.2 8 Mile Road Outlet CAP

The 8 Mile Road Outlet CAP has two viable alternatives: storage and conveyance. Each was evaluated and a basis of design was developed for providing additional conveyance. While both alternatives are capable of addressing SSOs for events that are less than or equal to the design event, conveyance was recognized of have the advantage performing for a larger variety of events (back-to-back, long duration and, potentially, greater than the design event). Reaching a regional agreement on the Purchase of Additional Outlet Capacity was a key factor in the conveyance alternative being able to move forward. The conveyance alternative has advanced into the early stages of design. Details of the two alternatives can be found in the Basis of Design documents provided in Appendix G. Current design elements under consideration include a hybrid that is mostly conveyance but provides some storage volume.

3.2.3 Lathrup Village CAP

The Lathrup Village CAP started out as part of the WLPS1 CAP. This effort was designated as its own project since it was a discrete project area, and it requires specific coordination with Lathrup Village that the greater WLPS1 CAP does not. Storage already exists at this location and this project is mainly a grade separation project. The WLPS1 CAP will result in higher depths under large wet weather event conditions at the point where Lathrup Village connects to the EFSD interceptor. This project will isolate Lathrup Village from these depths while also providing the discharge capacity that Lathrup Village needs to meet its own ACO. While there are design elements that will be selected, there is only one alternative here.

3.3 ALTERNATIVES ANALYSIS

The principal alternatives that will be considered for the 8 Mile CAP and the WLPS1 CAP for this analysis are:

1. Conveyance/Conveyance-Storage Hybrid
2. Storage only

For the Lathrup Village CAP, storage already exists, so the CAP alternative evaluated is a conveyance-focused. Likewise, the regionalization project of Additional Outlet Capacity is also a conveyance project that uses existing assets to carry additional flow. Table 3-1 presents the estimated cost for each viable alternative for each CAP project.

Table 3-1. Estimated CAP Alternative Costs

CAP Project	Conveyance/ Conveyance-Storage Hybrid Estimated Cost*	Storage Only Estimated Cost
WLPS1 CAP	$5,100,000	$24,000,000
8 Mile CAP	$83,600,000	$142,500,000
Lathrup Village CAP	$1,700,000	-
Additional Outlet Capacity	$38,200,000	-

3.3.1 Cost-Benefit Analysis

A preliminary cost estimate has been prepared for the alternatives discussed above. The "Storage Only" alternatives for Lathrup Village CAP and Additional Outlet Capacity are not applicable for these two (2) projects and were not part of the monetary evaluation.

Escalation costs were not included in this monetary evaluation. The majority of the work will be completed within the ROW or existing easements. Any new easements that are necessary will be temporary and will vary based on the selected alternative.

The present worth of the construction cost within the project period of 20 years is determined by using the formula provided below:

$$\text{Present Worth} = \frac{F}{(1+i)^n}$$

where, F – future value/estimated project cost

n – number of years

i – EPA discount rate (-0.05)

The OM&R costs throughout the project period of 20 years are determined by using the formula provided below:

$$\text{Present Worth} = A * \left[(1+i)^n - \frac{1}{i(1+i)^n} \right]$$

where, A – annual expenditure

n – number of years

i – EPA discount rate (-0.05)

As indicated by the CWSRF guidance document, the salvage value has been calculated based on in-place construction cost with straight-line depreciation over the estimated design life. The CWSRF guidance document does not provide information on useful life estimates on rehabilitation methods. Therefore, the estimated design life for the anticipated projects is predicted based on engineering judgement, past experience, manufacturer test data, and manufacturer's recommended service life. The salvage value for rehabilitation repairs has been calculated based on installation and material cost with straight-line depreciation over a 50-year design life.

Appendix H details the present worth analysis taking into consideration O&M costs and salvage value, considering the Environmental Protection Agency (EPA) discount rate. The cost estimation also includes the operation, maintenance, and replacement costs for the improvements, covering a period of 20 years. Table 3-2 provides a summary of the monetary evaluation for the alternatives.

Table 3-2. Monetary Evaluation Summary

Alternative	CWSRF Loan Amount	20-Year Values		
		OM&R Costs	Salvage Value	Net-Present Worth
Conveyance/ Conveyance-Storage	$128,600,000	$126,000	$85,297,000	$50,782,000
Storage Only	$169,500,000	$126,000	$112,424,000	$66,089,000

Alternate Delivery Method

This project is proposed to be constructed using the Construction Manager at Risk (CMAR) delivery method. This method was selected because it provides time and cost efficiencies over a traditional design-bid-construct approach. The proposed project also requires coordination and between various phases of the work in order to keep the EFSD system functioning during the project. Additional rational for choosing this approach will be provided in the final Project Plan.

Partitioning the Project

The 8-Mile CAP project will be included in the Q1 2023 schedule, and the other projects will be included in the Q3 2023 schedule.

Environmental Evaluation

The expected environmental impacts of the proposed alternatives, mainly the impact of the isolated excavations, will be similar in nature. Proper traffic control, soil erosion and sedimentation control, and odor control measures, mitigate impacts to the general public. The costs for increased mitigation measures are minimal in comparison to the major work items involved in each alternative. These social impacts generated by the lengthier construction duration are difficult to measure monetarily but will be considered when choosing the selected alternative should the monetary evaluation be relatively equal.

Implementability & Public Participation

The public will be provided with a 30-day Draft Project Plan review period as well as a public hearing in accordance with the guidelines set forth in the CWSRF guidance documents on the EGLE website. This will provide the public with an opportunity to comment on the Project Plan before it is finalized. The need for the project is well-described within this Project Plan; there should be minimal issue implementing the selected alternative.

3.3.2 Conclusions

The following Table 3-3 summarizes the estimated costs of the selected alternatives. Additional project details and basis of design documents will be provided in an upcoming CAP addendum.

Table 3-3. Selected Alternatives

CAP Project	Selected Alternative	Cost
WLPS1 CAP	Conveyance/ Conveyance-Storage Hybrid	$5,100,000
8 Mile CAP	Conveyance-Storage Hybrid	$83,600,000
Lathrup Village CAP	Conveyance	$1,700,000
Additional Outlet Capacity	Conveyance	$38,200,000
Total		$128,600,000

SECTION 4.0 — SELECTED ALTERNATIVES

4.1 PROPOSED FACILITIES

The proposed project consists of all improvements described previously under Alternative 4 and in Table 3-3.

4.2 SCHEDULE

Table 4-1 provides a proposed fiscal year 2023 loan closing schedule for the project.

Table 4-1. Proposed Design and Construction Schedule

Project	Construction Start	Quarter
8 Mile CAP	Feb 2023	Q1
WLPS1 CAP	Aug 2023	Q3
Lathrup Village CAP	Aug 2023	Q3
Additional Outlet Capacity	Aug 2023	Q3

4.3 COST ESTIMATE

The estimated 2022 total project cost for the proposed project is approximately $128.6 million. A cost summary for the EFSD improvements is shown in Appendix H.

4.4 USER COSTS AND COST SHARING

The costs as described above will be paid for by user charges. With a total current population served by the ESFD of 310,685 divided by the typical household density in Oakland County of 2.44, there are approximately 127,330 households in the EFSD. Detailed user cost calculations are shown in Appendix H. Table 4-2 below shows a summary of estimated user cost for users associated with this project over a 20-year period for the users. In summary, the anticipated impact to the average consumer household would be an approximate increase of $4.29 per month over the current sewer bills.

Table 4-2. User Cost Summary

Description	Expense Opinion
Total Project Cost	$128,600,000
OM&R Yearly Cost	$126,000
Total Yearly Cost	$6,556,000
Estimated total households	127,330
Residential User Monthly Cost	$4.29

SECTION 5.0 — FISCAL SUSTAINABILITY PLAN

A fiscal sustainability plan (FSP) will be developed for those facilities which are installed, replaced, or rehabilitated under this project. This will be done by building on the existing long-term corrective action plan. The EFSD existing facilities is a key part of their corrective action plan and is shown in Appendix C. The signed FSP form can be found in Appendix I.

The existing registry will be updated with information on facilities impacted by the project. Data for existing equipment will be updated with new model numbers and rehabilitation dates. At the conclusion of the project the inventory will be fully updated to accurately reflect the facilities improvements. Condition and performance data will be updated as well. Condition information for existing items will be updated to reflect any rehabilitation work that was completed.

Useful life estimates will be updated for rehabilitated assets and solicited from manufacturers of newly installed assets. These estimates will be used to plan for future service and replacement costs. Operations and Maintenance manuals will be provided for all new equipment, along with onsite training to ensure that the staff have the knowledge necessary to perform maintenance and repairs. Water and energy conservation efforts will be implemented as a part of the fiscal sustainability plan as well.

SECTION 6.0 — ENVIRONMENTAL & CUSTOMER IMPACTS

6.1 GENERAL

The anticipated environmental impacts resulting from the construction of the selected plan include beneficial & adverse, short term & long term, and irreversible impacts. The following is a discussion of the environmental impacts of the selected plan.

6.1.1 Beneficial and Construction-Related Adverse Impacts

Construction activities associated with the proposed EFSD improvements will take place at the location of existing facilities in areas already disturbed. Construction and equipment manufacturing related jobs would be generated, and local contractors would have an equal opportunity to bid on the construction contracts.

The environmental impacts for each alternative are expected to be minimal to none. All elements of improvement efforts in this project aim to have the least impact possible on the community and environment. No long-lasting impacts are expected for any alternative. Implementation of the Project Plan would create temporary disruption to near-by residents/businesses and customers due to required construction. This includes noise & dust generated by the work and possible erosion of spoils from open excavation. However, there will be no major disruptions to the service connections. The assessment of alternate solutions and sites for the proposed project included identification of any important resources of either historic or environmental value which are protected by law and should be avoided.

Majority of the EFSD locations are within the right-of-way so no mature trees are anticipated to be impacted as a result of the construction activities.

No registered contamination sites were found within the project area using the EGLE site contamination online mapper tool. Documentation of the research can be found in Appendix A.

6.1.2 Short-Term and Long-Term Impacts

The short-term adverse impacts associated with construction activities would be minimal, and mitigatable, in comparison to the resulting long-term beneficial impacts. Impacts from the EFSD improvements include dewatering during replacement of pipes and temporary damage to surface vegetation. Temporary dewatering would slightly lower the groundwater table in the improvement area if required. All restoration required post-rehab/replacement should return the impacted area to existing conditions. Short-term impacts for customers and resident include traffic disruption, dust, and noise. No long-term negative impacts are anticipated.

In addition, there are many facilities within the EFSD which have required replacement or rehabilitation in the immediate future, as described above. Without the construction of the proposed project, the structural integrity of the system may be degraded as the system may not be able to convey the wastewater properly.

6.1.3 Irreversible Impacts

The investment in non-recoverable resources committed to the Project Plan would be traded off for the improved performance of the facilities during the life of the system. The commitment of resources includes public capital, energy, labor, and unsalvageable materials. These non-recoverable resources would be foregone for the provision of the proposed improvements.

Construction accidents associated with this project may cause irreversible bodily injuries or death. Accidents may also cause damage to or destruction of equipment and other resources.

6.2 ANALYSIS OF IMPACTS

6.2.1 Direct Impacts

Local Air Quality

There will be minimal direct impacts on local air quality during the construction phases of these projects. Any effects on air quality will be due to dust and emissions from construction equipment.

Archeological, Historical or Cultural Resources

There are no anticipated impacts on archaeological, tribal, historical, or cultural resources due to this project.

Impacts Upon the Existing or Future Quality of Local Groundwater and Surface Waters

There are no impacts anticipated to the local groundwater, as all construction and improvements will be made within existing facilities.

Impacts Upon Sensitive Features

There are no floodplain or wetland areas within the project footprint and the work is expected to take place within the existing SDS; therefore, all construction will take place outside of the designated floodplain, wetland areas, or other sensitive areas.

Impacts Upon People and The Local Economy

Short-term impacts to people will occur during the construction phase. Minor disruptions to sanitary sewer service may occur as rehabilitation is completed on the sanitary sewer system. All SDS users will experience beneficial long-term impacts due to the level of service to which they expect being maintained by these improvements.

The local economy will be stimulated for contractors and suppliers of the materials, labor, and equipment necessary to construct the project.

Operational Impacts

The proposed project will improve the operational efficiency of the SDS and lower future O&M costs for the SDS.

6.2.2 Indirect Impacts

Changes in Rate, Density, Or Type of Residential, Commercial, or Industrial Development and the Associated Transportation Changes

No changes are anticipated to the above.

Changes in Land Use

No changes are anticipated to the above. All improvements to the SDS will be completed within the existing system footprint.

Changes in Air or Water Quality Due to Facilitated Development

There will be no changes to air quality due to development.

Changes to The Natural Setting or Sensitive Features Resulting from Secondary Growth

There should be no changes to the natural setting or sensitive features resulting from secondary growth.

Impacts on Cultural, Human, Social and Economic Resources

No changes are anticipated to the above.

Impacts of Area Aesthetics

All of the proposed work will be completed underground, which is isolated from public view.

Resource Consumption Over the Useful Life of the Treatment Works, Especially the Generation of Solid Wastes

No changes are anticipated to the above.

6.2.3 Cumulative Impacts

Siltation

Siltation may occur during the construction phase of the project. Proper soil erosion and sedimentation control practices will be followed to reduce the impacts of siltation on surrounding areas.

Water Quality Impacts from Direct Discharges and Non-Point Sources

No changes are anticipated to the above, as direct discharges and non-point sources are not a concern within the project limits.

Indirect Impacts from Development

There should not be development as a result of this project.

The Impacts from Multiple Public Works Projects Occurring in the Same Vicinity

There will only be short term traffic impacts during the construction phase of this project and proper traffic control measures will be followed.

SECTION 7.0 — MITIGATION

7.1 SHORT-TERM, CONSTRUCTION-RELATED MITIGATION

Minimal environmental disruption will occur during construction. Guidelines will be established for cover vegetation removal, dust control, traffic control and accident prevention. Once construction is completed those short-term effects will stop and the area will be returned to the original conditions.

The soil erosion impact would be mitigated through the contractor's required compliance with a program for control of soil erosion and sedimentation as specified in Part 91 of Michigan Act 451, P.A. of 1994. The use of soil erosion and sedimentation controls (i.e., straw bales, sedimentation basins, catch basin inserts, silt fencing, etc.) will be properly implemented when necessary.

Careful considerations will be taken during the construction planning process to ensure that the system remains in service while the improvements are underway. Since majority of the SDS locations are within the road, no mature trees are anticipated to be impacted as a result of the construction activities. Construction equipment will be maintained in good condition to decrease noise. All access roads will be swept as necessary to avoid tracking sediment onto public roads.

7.2 MITIGATION OF LONG-TERM IMPACTS

General construction activities will prohibit the disposal of soils in wetlands, floodplains, or other sensitive areas. Catch basins will be protected where earth changing activities will take place.

7.3 MITIGATION OF INDIRECT IMPACTS

The current trend in the County is that the land use is mainly dominated by residential properties. According to the County's planning for land use, this will not change. Considering that a vast majority of the residents within the County limits already are connected to the wastewater system, a substantial increase in flow is not expected from within the limits.

SECTION 8.0 — PUBLIC PARTICIPATION

8.1 GENERAL

The Project Plan was advertised in the county newspaper on March 27, 2022 (refer to Appendix J for all public participation documentation.) A document was made available online and a hard copy of the Draft Project Plan was made available at the location below for public viewing:

- WRC Office: 2636 Dixie Highway, Waterford, MI 48328

A formal public hearing was held on April 26, 2022 to review the work associated with the proposed Project Plan. The hearing reviewed the information presented in the Project Plan, including estimated user costs and to receive comments and views of interested persons. Copies of correspondence related to agency notifications, as well as other relevant correspondence, is included in Appendix J.

8.2 RESOLUTION

The Drain Council made a formal resolution regarding this Plan during the public hearing on May 24, 2022. The resolution is included in Appendix J.

8.3 PUBLIC HEARING

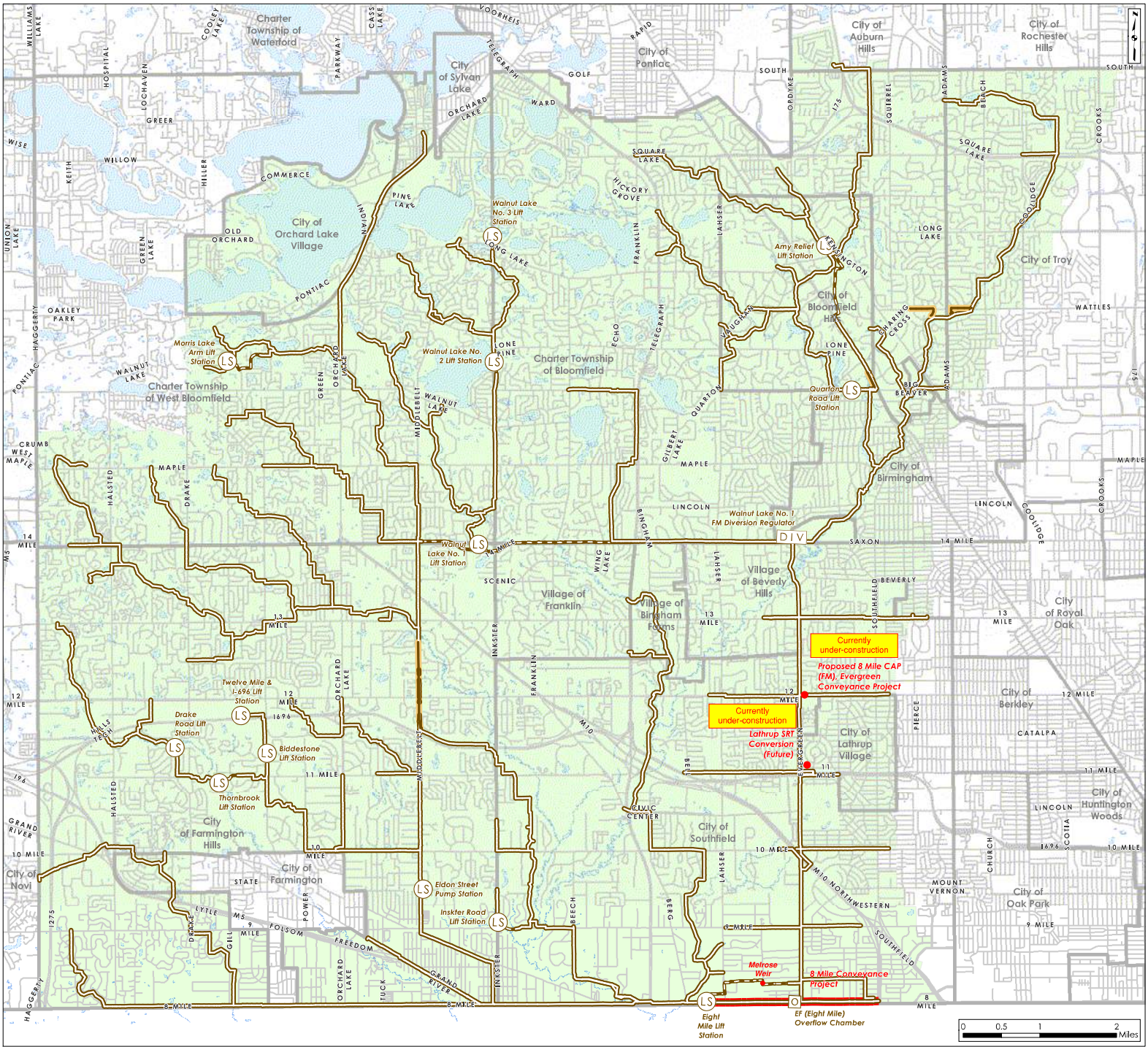
Appendix J includes a transcribed copy of the public hearing, council members attendance list, the signed Project Plan resolution, and a photocopy of the slides presented at the hearing. No comments were received from the public at the hearing.

8.4 ADDITIONAL EGLE SUBMITTAL FORMS

Appendix K includes the following:

- EGLE's signed Project Plan Submittal Form
- The signed Project Useful Life and Cost Analysis Certification Form
- The signed Project Priority List (PPL) Scoring Data Form

Appendix B — Proposed Project Locations



WRC
WATER RESOURCES COMMISSIONER
Jim Nash

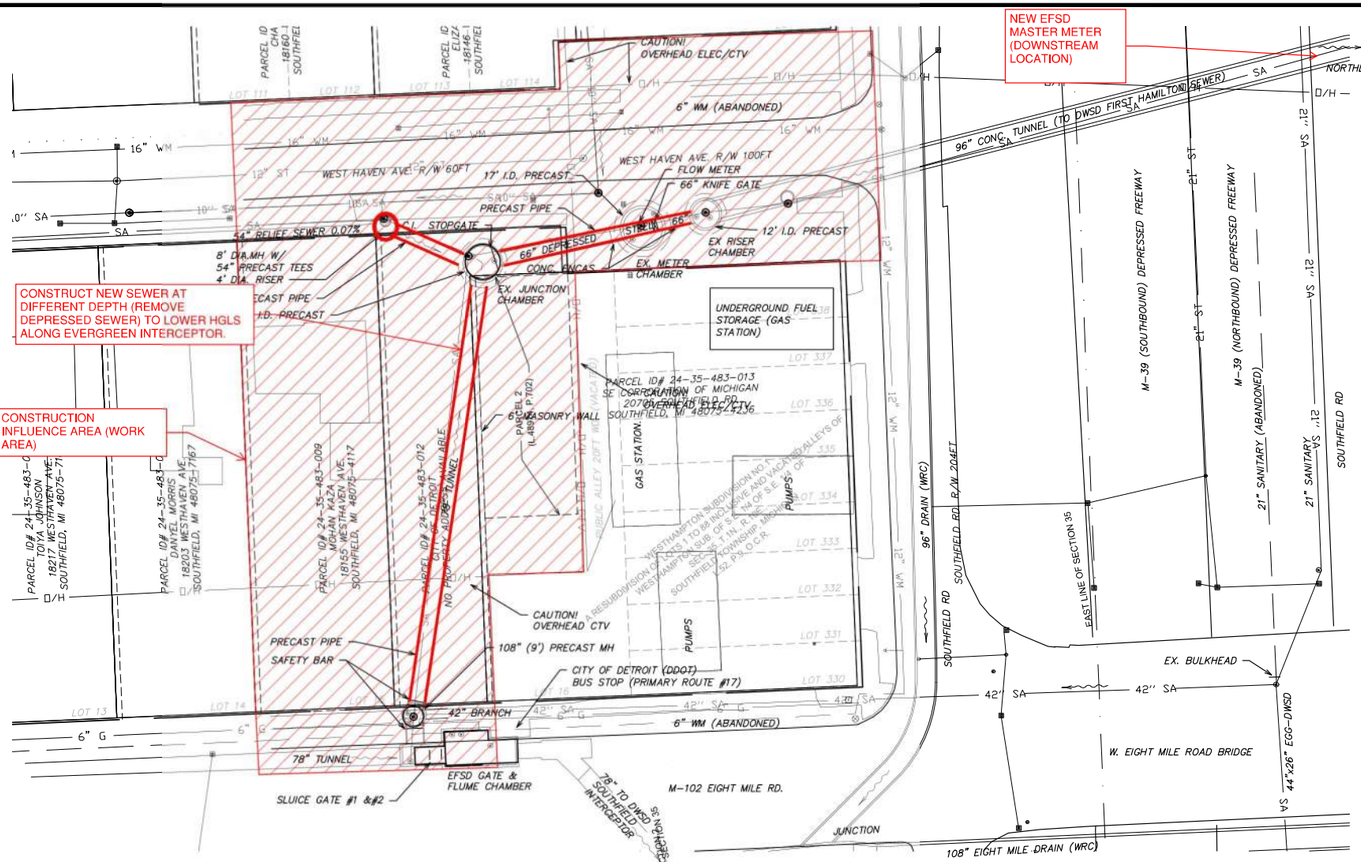
DISCLAIMER:
The information displayed in this map is compiled from recorded deeds, plats, tax maps, surveys and other public records. Although this information is intended to accurately reflect public information, it is not a legally recorded map or survey and is not intended to be used as one. Users should consult primary/original information sources where appropriate.

Exhibit A
Evergreen-Farmington Route and Course

- Overflow Chamber
- Diversion Regulator
- Lift Station
- EFSDS Gravity Interceptor
- EFSDS Linear Storage
- EFSDS Non-Gravity Interceptor
- EFSDS District

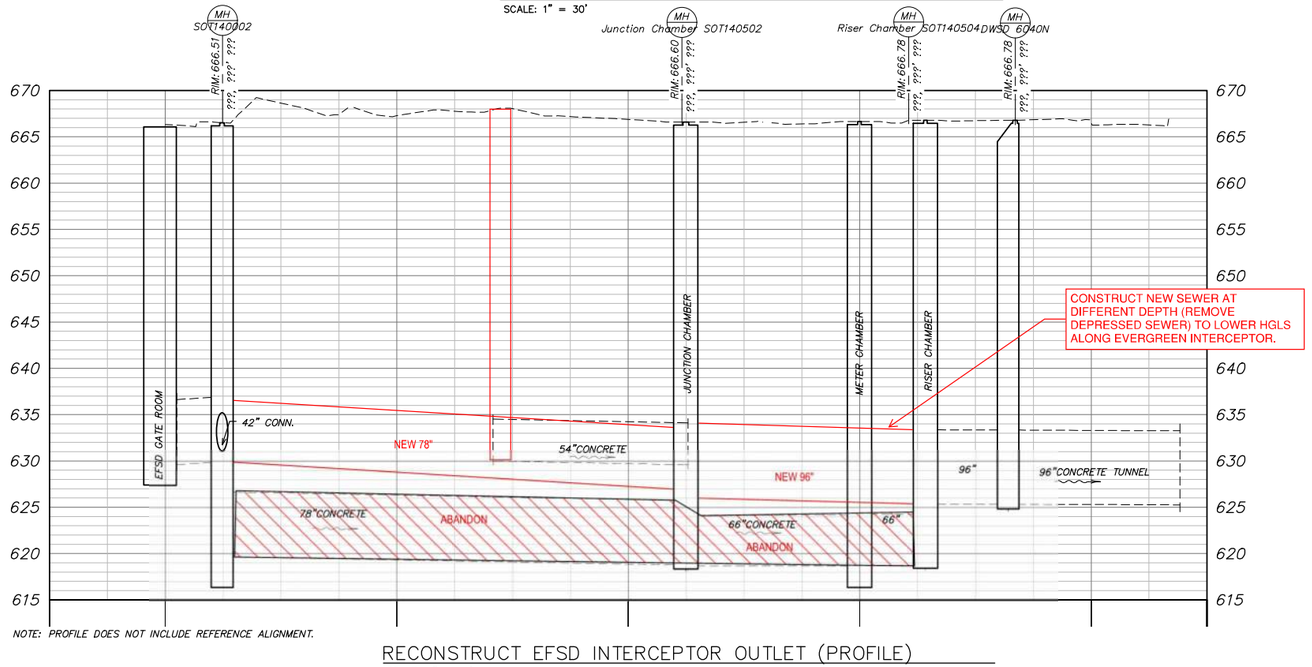
Date: 4/13/2021

Path: J:\Drain\MappingUnit\SANITARY-COMBINED\Special Projects\EFSDS\Drain Board\Route and Course.mxd



RECONSTRUCT EFSD INTERCEPTOR OUTLET

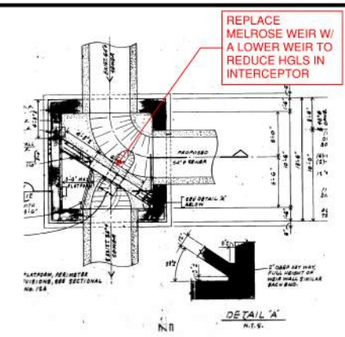
SCALE: 1" = 30'



NOTE: PROFILE DOES NOT INCLUDE REFERENCE ALIGNMENT.

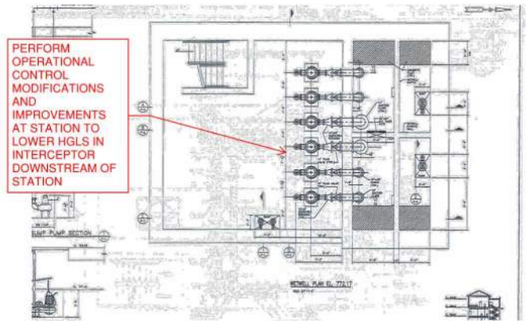
RECONSTRUCT EFSD INTERCEPTOR OUTLET (PROFILE)

SCALE: 1" = 30' HORIZ.
1" = 10' VERT.



MELROSE WEIR MODIFICATIONS

SCALE: N.T.S.
NOTE: LOCATED AT THE INTERSECTION OF EVERGREEN RD. AND MELROSE AVE. SOUTHFIELD.



WALNUT LAKE NO. 1 PUMP STATION MODIFICATIONS

SCALE: N.T.S.
NOTE: LOCATED AT THE WALNUT LAKE NO. 1 PUMP STATION – 7498 INKSTER RD. WEST BLOOMFIELD TWP.

NOT FOR CONSTRUCTION

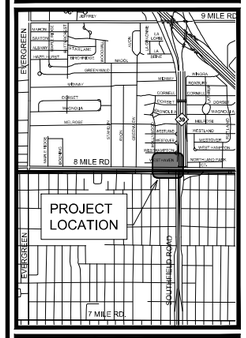
NOTE: UTILITY INFORMATION ON THIS DRAWING MAY BE FROM INFORMATION DISCLOSED TO THIS FIRM BY THE VARIOUS UTILITY COMPANIES, CITY/COUNTY AGENCIES AND OTHER VARIOUS SOURCES. UNDERGROUND UTILITIES WHICH ARE ON PRIVATE PROPERTY ARE USUALLY NOT DELINEATED UPON A UTILITY COMPANY'S PUBLISHED PLANS. THEIR LOCATION, IF SHOWN UPON THIS SURVEY, ARE APPROXIMATED FROM FOUND PAINT MARKS/STAKES, ETC. AS LOCATED BY THIS FIRM FROM SOURCES WHICH ARE UNKNOWN. NO GUARANTEE IS GIVEN AS TO THE COMPLETENESS OR ACCURACY THEREOF.

PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES (IN CONFLICT WITH PROPOSED IMPROVEMENTS) SHALL BE VERIFIED IN THE FIELD. CALL MISS DIG 3 WORKING DAYS PRIOR TO CONSTRUCTION.

WRC
WATER RESOURCES COMMISSIONER
Jim Nash

HRC
HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915
555 HULET DRIVE
BLOOMFIELD HILLS, MICH.
P.O. BOX 824
48303 - 0824
PHONE: (248) 454-6300
FAX (1st. Floor): (248) 454-6312
FAX (2nd. Floor): (248) 454-6359
WEB SITE: www.hrcengr.com

DATE	ADDITIONS AND/OR REVISIONS
DESIGNED	MGH
DRAWN	MH / DJ
CHECKED	JS
APPROVED	DM



OAKLAND COUNTY WATER RESOURCES COMMISSIONER

EVERGREEN-FARMINGTON SANITARY DRAIN
WALNUT LAKE NO.1 P.S.
C.A.P IMPROVEMENTS

OVERVIEW OF CONVEYANCE IMPROVEMENTS ALTERNATIVE #1

HRC JOB NO.	SCALE
20230867	1" = 30'
DATE	SHEET NO.
JANUARY 2024	OF

ORIGINAL PLOT SIZE: ARCH D (24.00 X 36.00 INCHES)

3/7/2024 3:39 PM
HRC_OLW.ctb
V:\20230867\c\Exhibits\cvmExhibit_projectPlan.dwg
Hughes, Matthew

Appendix C — CWSRF Project Costs

EVERGREEN FARMINGTON SANITARY DRAIN CWSRF AMENDMENT
WALNUT LAKE #1 PUMP STATION C.A.P.

SUMMARY OF MONETARY EVAULATION

	Walnut Lake#1 P.S. C.A.P. Project: Conveyance Alternative	Walnut Lake#1 P.S. C.A.P. Project: Storage Alternative
Capital Costs	**$21,700,000**	**$25,700,000**
Annual OM&R Costs	**$0**	**$1,169,000**
20 Year Salvage Value	**$6,651,000**	**$6,732,000**
Net Present Worth	**$15,049,000**	**$20,137,000**
Anuual Equivalent Present Worth	**$965,000**	**$1,292,000**

SHADED COLUMN REPRESENTS THE SELECTED ALTERNATIVE.

AVERAGE WEIGHTED USEFUL LIFE OF ALTERNATIVE A (YEARS):

43.4

Notes:

Net Present Worth is the sum of capital costs, OM&R costs, and interest during construction, less 20 year salvage value.
Present Worth Costs are based on Straight Line Depreciation and no inflation.
EPA Planning Discount rate = 2.5%
ENR CCI = 13515

	Total Capital Cost Alt: A	**Total Residential Equivalents:**
	$21,700,000	127,330
ESTIMATED MONTHLY USER COST:	**20 Year Loan**	**30 Year Loan**
(With no principal forgiveness/grant)	$0.71	$0.47

ENGINEER'S OPINION OF PROBABLE PROJECT COST

Bloomfield Hills, MI — Telephone: (248) 454-6300

PROJECT: **Walnut Lake#1 P.S. C.A.P. Project: Conveyance Alternative** — DATE: **3/8/2024**

LOCATION: **Evergreen Farmington Santiary Drain CWSRF Project Plan** — PROJECT NO. **20230867**

BASIS FOR ESTIMATE: [x] CONCEPTUAL [ ] PRELIMINARY [ ] FINAL — ESTIMATOR: **MJH**

WORK: **Walnut Lake #1 P.S. Controls Modifications, 8 Mile Siphon Removal, Melrose Weir Structure Modifications, plus future Hydraulic Grade Separator pump stations** — CHECKED BY: **JJS**

CURRENT ENR: **13515**

USEFUL LIFE	DESCRIPTION	QUANT.	UNIT	UNIT AMOUNT	TOTAL AMOUNT
n/a	8MSR Land & Easement Acquistion Direct Costs*	1	LS	$ 360,000	$ 360,000
50	8MSR Temp Utility Relocations (Electric, Gas, Telecomm)	1	LS	$ 380,000	$ 380,000
50	8MSR Civil/Site - utilties, excavation, dewatering, demo	1	LS	$ 2,890,000	$ 2,890,000
50	8MSR Structural - concrete structures, large dia. sewer, access	1	LS	$ 7,440,000	$ 7,440,000
50	Melrose Weir Structure Modifications	1	LS	$ 300,000	$ 300,000
50	WL1PS Structure / Building	1	LS	$ 500,000	$ 500,000
20	WL1PS Mechanical - piping and valves, H&V	1	LS	$ 1,000,000	$ 1,000,000
20	WL1PS Electrical/I&C - power, lighting, SCADA	1	LS	$ 1,600,000	$ 1,600,000
	Construction Cost Subtotal				***$ 14,470,000***
	Engineering, Legal, and Administration	30	*%*		*$ 4,340,000*
	Contingencies	20	*%*		*$ 2,890,000*
	Escalation	0	*%*		*$ -*
	TOTAL PROJECT COST				***$ 21,700,000***

Notes:

8MSR = 8 Mile Siphon Removal Sub-Project

WL1PS = Walnut Lake #1 Pump Station Modification Sub-Project

** understand that land purchasing costs may not be eligible for SRF funding, but still part of Project Cost*

Walnut Lake#1 P.S. C.A.P. Project: Conveyance Alternative

PRESENT WORTH ANALYSIS

CAPITAL COST		FIRST COST[1]	SERVICE LIFE (YEARS)		PRESENT WORTH[2]
Land & Easement Purchase	$	540,000	0	$	210,000
Civil/Site		4,904,000	50		3,108,000
Structural / Sewer		12,357,000	50		7,832,000
Process / Mechanical		1,500,000	20		1,500,000
Electrical and I&C		2,399,000	20		2,399,000
TOTAL CAPITAL COST	**$**	**21,700,000**	**43**	$	15,049,000
			Weighted Average Useful Life		
PW OF SALVAGE VALUE ***(FIRST COST - PRESENT WORTH)***	$	6,651,000			
ANNUAL OPERATION AND MAINTENANCE COST					
TOTAL ANNUAL O&M COST[3]			$ 0		
PRESENT WORTH OF O&M COST				$	0
NET PRESENT WORTH				**$**	**15,049,000**
AVERAGE ANNUAL EQUIVALENT COST OF PRESENT WORTH				**$**	**965,000**

Notes:

(1) January 2024 ENR 20 Cities CCI = 13515

(2) Cost is based on a study period of 20 years and a discount rate of 2.0%
Present Worth Costs are based on Straight Line Depreciation and no inflation.
https://www.whitehouse.gov/omb/information-for-agencies/circulars/

(3) O&M at the current Walnut Lake #1 P.S. will stay the same after proposed improvements. O&M for gravity sewers are not significant, and in this project's case, will be less than current conditions with the siphon. Therefore, no O&M costs are assigned to this alternative.

ENGINEER'S OPINION OF PROBABLE PROJECT COST

Bloomfield Hills, MI — Telephone: (248) 454-6300

PROJECT: **Walnut Lake#1 P.S. C.A.P. Project: Storage Alternative** — DATE: **3/8/2024**

LOCATION: **Evergreen Farmington Santiary Drain CWSRF Project Plan** — PROJECT NO. **20230867**

BASIS FOR ESTIMATE: [x] CONCEPTUAL [ ] PRELIMINARY [ ] FINAL — ESTIMATOR: **MJH**

WORK: **Located on Land to be Aquired at two or more locations (TBD)** — CHECKED BY: **JJS**

EGLE Presumptive Criteria, 1.5 MG Sanitary Retention Tanks — CURRENT ENR: **13515**

USEFUL LIFE	DESCRIPTION	QUANT.	UNIT	UNIT AMOUNT	TOTAL AMOUNT
n/a	Land & Easement Acquistion Direct Costs*	1	LS	$ 2,000,000	$2,000,000
50	Civil/Site - utilties, excavation, dewatering, demo	1	LS	$ 20,000,000	$1,900,000
50	Structural - concrete structures, foundations, access	1	LS	$ 100,000,000	$6,500,000
50	Architectural - new buildings	1	LS	$ 18,000,000	$500,000
20	Process Equipment - screens, chemical feed/storage, gates	1	LS	$ 20,000,000	$2,000,000
20	Mechanical - piping and valves, H&V	1	LS	$ 20,000,000	$2,000,000
20	Electrical/I&C - power, lighting, SCADA	1	LS	$ 20,000,000	$2,200,000
	Construction Cost Subtotal				***$17,100,000***
	Engineering, Legal, and Administration	30	*%*		*$5,130,000*
	Contingencies	20	*%*		*$3,420,000*
	Escalation	0	*%*		*$0*
	TOTAL PROJECT COST				***$25,700,000***

Notes:

** understand that land purchasing costs may not be eligible for SRF funding, but still part of Project Cost*

Walnut Lake#1 P.S. C.A.P. Project: Storage Alternative

PRESENT WORTH ANALYSIS

CAPITAL COST		FIRST COST[(1)]	SERVICE LIFE (YEARS)		PRESENT WORTH[(2)]
Land & Easement Purchase	$	3,006,000	0	$	1,172,000
Civil / Site Work		2,856,000	50		1,810,000
Structural / Buildings		10,520,000	50		6,668,000
Process / Mechanical		6,012,000	20		6,012,000
Electrical and I&C		3,306,000	20		3,306,000
TOTAL CAPITAL COST	**$**	**25,700,000**	**33**	$	18,968,000
			Weighted Average Useful Life		
PW OF SALVAGE VALUE ***(FIRST COST - PRESENT WORTH)***	$	6,732,000			
ANNUAL OPERATION AND MAINTENANCE COST					
TOTAL ANNUAL O&M COST[(3)]			$ 75,000		
PRESENT WORTH OF O&M COST				$	1,169,000
NET PRESENT WORTH				**$**	**20,137,000**
AVERAGE ANNUAL EQUIVALENT COST OF PRESENT WORTH				**$**	**1,292,000**

Notes:

(1) January 2024 ENR 20 Cities CCI = 13515

(2) Cost is based on a study period of 20 years and a discount rate of 2.5%
Present Worth Costs are based on Straight Line Depreciation and no inflation.
https://www.whitehouse.gov/omb/information-for-agencies/circulars/

(3) The anticipated annual O&M is based on an estimated $50,000 per million gallons of storage, which is experienced at similar facilities.

Appendix D — CWSRF Public Meeting Documents

NOTICE OF PROJECT PLANNING PUBLIC MEETING

The Oakland County Water Resources Commissioner on behalf of the Evergreen-Farmington Sanitary Drain (EFSD) will hold a public meeting on the proposed Walnut Lake Pump Station No. 1 CAP Conveyance Project for the purpose of receiving comments from interested persons.

The meeting will be held at 12:00 p.m. on Tuesday, March 26, 2024, at the office of the Oakland County Water Resources Commissioner (One Public Works Drive, Waterford, Michigan) and electronically via Microsoft Teams via the following link:

Microsoft Teams meeting

Join on your computer, mobile app or room device
Click here to join the meeting
Meeting ID: 236 547 918 698
Passcode: jaksRP
Download Teams | Join on the web
Or call in (audio only)
+1 248-333-6396,,142810094# United States, Pontiac
Phone Conference ID: 142 810 094#
Find a local number | Reset PIN
Learn More | Help | Meeting options

The purpose of the proposed project is to abate Sanitary Sewer Overflows (SSOs) from the existing Walnut Lake Pump Station No. 1 by construction of a Conveyance Improvement project that will improve the capacity of the sanitary interceptor sewer and reduce the potential for future SSOs.

Project construction includes modifications to the existing controls, valves, appurtenances, and discharge headers at the Walnut Lake No. 1 Pump Station, reconstruction of the EFSD outlet sewer and relocating the EFSD Master meter location, and modifications for lowering the Melrose Weir.

Impacts of the proposed project include temporary noise and disruption to the public due to construction of the required improvements, which will be offset by improvements to water quality by reduction of SSOs. This project is required as part of a Corrective Action Plan (CAP) approved by the Michigan Department of Environment, Great Lakes and Energy (EGLE.)

The estimated cost to users for the proposed project will be approximately $0.71 per residential user per month for a 20-year loan.

Copies of the plan detailing the proposed project are available for inspection at the office of the Oakland County Water Resources Commissioner (One Public Works Drive, Waterford, Michigan) and electronically online via the following link:
https://www.oakgov.com/government/water-resources-commissioner/resources/public-meetings/chapter-20-drainage-boards-intracounty/-fsiteid-1#!/

Written comments received before the meeting record is closed on Tuesday, March 26, 2024, will receive responses in the final project planning document. Written comments should be sent to: Stephanie Lajdziak at

lajdziaks@oakgov.com.

Persons with disabilities that need assistance participating in the meeting should contact Stephanie Lajdziak at lajdziak@oakgov.com at least 24 hours in advance of the meeting.

Appendix E — CWSRF Project Submittal Forms

TO BE PROVIDED IN FINAL VERSION

HRC OFFICE LOCATIONS

- **Bloomfield Hills**
  555 Hulet Drive
  Bloomfield Hills, MI 48302
  (248) 454-6300 | Fax: (248) 454-6312
- **Detroit**
  Buhl Building, Suite 1650
  535 Griswold Street | Detroit, MI 48226
  (313) 965-3330
- **Howell**
  105 West Grand River
  Howell, MI 48843
  (517) 552-9199
- **Kalamazoo**
  834 King Highway, Suite 107
  Kalamazoo, MI 49001
  (269) 665-2005
- **Delhi Township**
  2101 Aurelius Road, Suite 2
  Holt, MI 48842
  (517) 694-7760
- **Grand Rapids**
  801 Broadway NW, Suite 215
  Grand Rapids, MI 49504
  (616) 454-4286
- **Jackson**
  401 S. Mechanic Street, Suite B
  Jackson, MI 49201
  (517) 292-1295
- **Lansing**
  215 South Washington Square
  Lansing, MI 48933
  (517) 292-1488