CWSRF STORMWATER PROJECT PLAN FOR THE PONTIAC-CLINTON RIVER NO. 1 DRAINAGE DISTRICT IMPROVEMENTS

FOR OAKLAND COUNTY WATER RESOURCES COMMISSIONER

WRC
WATER RESOURCES COMMISSIONER

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SECTION 1.0 — SUMMARY AND RECOMMENDATION

1.1 SUMMARY

The Project Plan for the Pontiac-Clinton River No. 1 (PCR No. 1) Drain Drainage District Improvements Project 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 FY2024, the rates in FY2023 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 must be submitted to the Michigan Department of Environment, Great Lakes, & Energy (EGLE) by May 1, 2023, in order to be on the project priority list for the fiscal year of 2024.

The Oakland County Water Resources Commissioner's Office (OCWRC) submitted an Intent to Apply for a Stormwater Project Plan for SRF funding on October 28, 2022. This Project Plan is intended to identify projects within PCR No. 1 Drain Drainage District, obtain funding, and work toward ensuring the Drain continues to meet its required level of service as established by OCWRC's Asset Management Program.

OCWRC has decided to take action to improve stormwater network and water quality within the PCR No. 1 Drain Drainage District. The proposed projects listed herein as part of this CWSRF Project Plan are to address National Association of Sewer Services Companies (NASSCO) Pipeline Assessment Certification Program (PACP) structurally rated 4 and 5 pipes and structures in the storm system. This Project Plan will help reduce stormwater pollutants and manage flow in the PCR No. 1 Drain by rehabilitating storm pipes and structures.

Focusing on the pollutant removal within the drainage district will help the County archive EGLE's enforced Total Maximum Daily Load (TMDL) for phosphorous, Escherichia coli (E. coli), dissolved oxygen (D.O.) and biota. The Oakland County Water Resources Commissioner (WRC) welcomes any funding available to assist with the PCR No. 1 Drainage District to rehabilitate this aged system at a minimal cost to a community with limited financial resources.

1.2 CONCLUSIONS

The following is a summary of the proposed project:

- Alternative 1A – Pipe rehabilitation including spot lining and grouting of storm pipes and rehabilitation of existing storm manholes.

1.3 RECOMMENDATIONS

The selected projects identified in this Plan have been reviewed and found to be the most cost-effective and environmentally-sound alternatives. The following recommendations are therefore to be made:

- A resolution should be formally adopted approving acceptance and implementation of this Plan.
- The WRC should apply for a low-interest loan under the CWSRF program and apply for disadvantaged grant funding and/or principal forgiveness.

SECTION 2.0 — BACKGROUND

2.1 STUDY AND SERVICE AREAS:

The Pontiac-Clinton River No. 1 (PCR No. 1) is an established County Drain under the Chapter 20 Drain Code, Act 40 of 1956. The Drain Code Act 40 of 1956 gives the Oakland County Water Commissioner powers and responsibilities to maintain and govern legally established drainage systems within the County. The PCR No. 1 Drainage District is located entirely within the City of Pontiac, Oakland County, Michigan. The PCR No. 1 Drain Drainage District consists of approximately 5,451 acres

The Drain's stormwater system includes the storm sewer system, and the open channel portions of the Drain. The storm sewer system includes the sewers, manholes, inlets, and catch basins that collect stormwater from the service area and convey it to the outfalls. The drain system also includes culverts, access structures, and outfalls. The Drain was first established in approximately 1962 with construction completed in approximately 1965, no major rehabilitations has been completed to date. The PCR No. 1 Drain Drainage District is shown in **Error! R eference source not found.** The Drain ultimately flows into the Clinton River.

2.1.1 PCR No. 1 Drain Drainage District System

The PCR No. 1 Drain system includes the enclosed storm sewer system and open drains. The components within the enclosed storm sewer system encompass pipes, storm sewer manholes, inlets, and catch basins that collect stormwater from the drainage district and direct the flow to the outfalls. The open drain section includes culverts, open channels, and outfalls. Major assets include the approximately 11,148 lineal feet of enclosed storm sewer , 68 access structures, and the associated inlets and outlets.

2.1.2 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 and the U.S. Fish and Wildlife Service (USFWS). **Error! Reference source not f ound.** depicts natural wetland features within the drainage district. 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.

2.1.3 Parks and Recreational Areas

See **Error! Reference source not found.** for the District's Parks and Recreation map for locations of recreation a reas within the drainage district.

2.1.4 Land Use in Study Area

Current Use

The largest three land use types within the PCR No. 1 Drain Drainage District (excluding open space and utilities) are single–family residential (25.2%), Public/Institutional (11.4%), and Multiple Family (2.9%). The existing land use within the PCR No. 1 Drainage District is shown in Figure 2-2. The predicted future land use within the drainage district is expected to be consistent with the existing conditions since much of the drainage district is fully developed.

Predicted Land Use

The predicted future land use within the drainage district is expected to be consistent with the existing conditions since much of the drainage district is fully developed.

Surface and Groundwaters

Pollutants from the contributing areas significantly impact the Drain. The land cover is highly impervious in the City of Pontiac, allowing little opportunity for stormwater infiltration and natural pollutant removal.

2.2 POPULATION DATA

According to Southeast Michigan Council of Governments (SEMCOG), the 2020 United States Census estimated the population for the District as 30.387. The U.S. 2020 Census Bureau data estimated the average household size in the County at 2.3 people per household. The population projections for the District, City of Pontiac, and Oakland County are shown below in Table 2-1:

Table 2-1. Population Projections

Year	PCR No. 1 Drain Drainage District	City of Pontiac Population	Oakland County Population
1940	--	66,626	254,068
2000	--	67,506	1,194,156
2010	--	59,515	1,202,362
2020	30,387 **	61,606	1,274,395
2030	--	60,685*	1,286,750*
2040	--	*61,079**	*1,314,016**
2045	--	*61,667**	*1,319,089**

**** SEMCOG projections:*** **https://semcog.org/population-estimates**

Recent projections for the next 20 years show the population to have a slight increase from the 2020 Census in the District. Data shows the population slightly increased after 2010, decrease slightly after 2020, then continue to increase after 2030.

For the purposes of this CWSRF project plan, a 20-year projection is required for calculations of future system demand and total present worth. See Appendix A for attached documentation of contact with the SEMCOG, notifying them of this proposed Project Plan.

2.2.1 Economic Characteristics

The PCR No. 1 Drain Drainage District is located entirely within the City of Pontiac with costs paid through the City's general fund. The median household income for the City of Pontiac is $36,214 and the average taxable value is $14,274. The median household income is significantly lower than the median Michigan household income of $63,498 and the City (and therefore the District) meets EGLE's criteria for "Significantly Overburdened." See Appendix G for the Overburdened and Significantly Overburdened Community Status Determination Worksheet.

2.3 EXISTING ENVIRONMENT EVALUATION

2.3.1 Cultural Resources:

Oakland County is committed to preserving and protecting historical sites. The Michigan State Historic Preservation Act provides local governments, non-profits, and property owners with historic preservation services and training. The *National Archives NextGen Catalog* was consulted to determine the Historic Places located within the City of Pontiac *(https://catalog.archives.gov/id/25337646)*. The National Register of Historic Places noted key historic sites within the City of Pontiac: Casa del Ray Apartments, Central Highschool, Eastern Michigan Asylum Historic Society, Eastern Michigan Asylum Historic District (Boundary Decrease), Fairgrove Avenue Historic District, Franklin Boulevard Historic District, Grinnell Brothers Music House, Howard, Horatio N. House, Modern Housing Corporation Addition Historic District, Myrick-Palmer House, Oak Hill Cemetery, Pontiac Commercial Historic District, Pontiac Commercial Historic District (Boundary Increase), St. Vincent DePaul Catholic Church, Convent, and School, and Wisner House. While some of the Historical Sites are located within the proposed Project Area, the work being done will not impact the historical sites listed above.

2.3.2 Air Quality:

Through the use of the EGLE Air Monitoring Site Map website (see link below), it has been determined that Oakland County is in compliance with all applicable standards. This project, and the alternatives discussed will have no impact on the quality of the air in the Project Area. None of the NESHAP or Natural Resources and Environmental Protection Act (NREPA) regulations are anticipated. However, if encountered prior to or during the design and construction phases all hazardous wastes, liquid industrial by-products, solid wastes (including contaminated soils), building materials containing asbestos shall be managed accordingly and disposed of properly.
(https://egle.maps.arcgis.com/apps/webappviewer/index.html?id=9a4c80a5c7fa4088971757504a3c0ba1)

2.3.3 Wetlands:

There are areas identified as wetlands on the National Wetlands Inventory (NWI) or Michigan Resource Information System (MIRIS) Land Cover maps within the drainage district or associated with the proposed limits of work. The proposed work will be located mainly within the Drain easements and roadway rights-of-way. Since the proposed work will be rehabilitating existing storm pipes and structures, no impacts to any existing wetland areas are expected. However, for final design, any wetlands that may be impacted would be flagged, applications for the appropriate permits will be submitted and necessary mitigation measures will be undertaken to protect the influenced wetlands. However, it is not anticipated to be an issue for this project. The wetland map for the District is shown in **Error! Reference source not found.**.

2.3.4 Great Lake Shorelands, Coastal Zones, and Costal Management Areas:

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

2.3.5 Floodplains:

We have identified various floodplains located within the Drainage District based on the Flood Insurance Rate Maps (FIRM) on the Federal Emergency Management Agency (FEMA) website. Since the proposed work will be rehabilitating existing storm pipes and structures no impacts to any existing floodplains are expected. However, if isolated excavations must be located within the 100-year floodplain, construction will only be undertaken after first contacting EGLE and obtaining the appropriate permits. Appropriate mitigation measures and soil erosion efforts

will be undertaken to protect the floodplains and surface waters influenced by the project, including but not limited to silt fences, turbidity curtains, stone check dams, gravel access drives, rip-rap, etc. Additionally, excavations will be filled with appropriate backfill materials, compacted and restored to existing grade with surface restoration matching existing vegetation. The floodplain map for the District is shown in **Error! Reference source not found.**.

2.3.6 Natural or Wild and Scenic Rivers:

Error! Reference source not found. and **Error! Reference source not found.** show that there are no state-designated rivers within the project limits. Therefore, this proposed project should not interface with any River that is considered a state-designated segment.

2.3.7 Major Surface Waters:

The District has various inland lakes and ponds throughout that are generally tributaries for the Clinton River which enters Lake St. Clair. Some waterways are located within parks which allows the public access to the waterway, while other waterways are surrounded by residential areas with only private access to the waterway. While various inland waterways are present throughout the District, the proposed rehabilitation work will be conducted on the existing storm pipes and structures and will have no impact on any existing major surface waters.

2.3.8 Topography:

The terrain within the PCR No. 1 Drain District is characterized by a sloped topography generally decreasing from west to east and ranging from 1,093 to 857 feet throughout the District.

2.3.9 Geology:

The PCR No. 1 Drain District and surrounding area is typified by Coldwater Shale bedrock, overlain by a thin layer of unconsolidated glacial deposits. The sedimentary strata were deposited during the Mississippian period in the Michigan Basin (360 to 325 million years old); just above or below sea level. The sedimentary deposits consist primarily of sand and gravel.

2.3.10 Soil Types:

According to the United States Department of Agriculture (USDA) online Web Soil Survey, the project area consists of a variety of different types of soils, the most common types of soil are: Urban Land, Loam, Sany Loam, and Pits.

2.3.11 Agricultural Resources:

There is no agricultural land located within the Project Area limits. Therefore, no agricultural resources will be impacted by the proposed work.

2.3.12 Fauna and Flora:

Please see Table 2-2 for a complete list of all fauna and flora species within the Project Area that are deemed as threatened, endangered, or in a state of special concern. The work being done in the Project Area will not directly impact any of the species discussed in this section.

Table 2-2. Oakland County Flora and Fauna Status

MSU Extension Michigan Natural Features Inventory Element Data: OAKLAND COUNTY

Scientific Name	Common Name	Federal Status	State Status	# in County	Last Seen in County	Scientific Name	Common Name	Federal Status	State Status	# in County	Last Seen in County
Epioblasma triquetra	Snuffbox	LE	E	7	2020	Pantherophis spiloides	Gray ratsnake		SC	1	1992
Villosa fabalis	Rayed bean	LE	E	4	2019	Dichanthelium microcarpon	Small-fruited panic-grass		SC	1	1986
Epioblasma rangiana	Northern riffleshell	LE	E	1	1935	Amorpha canescens	Leadplant		SC	1	1985
Bombus affinis	Rusty-patched bumble bee	LE	SC	4	1965	Sporobolus heterolepis	Prairie dropseed		SC	1	1985
Oarisma poweshiek	Poweshiek skipperling	LE	T	7	2022	Conioselinum chinense	Hemlock-parsley		SC	4	1971
Nerodia erythrogaster neglecta	Copperbelly water snake	LT	E	1	1963	Erynnis martialis	Mottled duskywing		SC	2	1966
Platanthera leucophaea	Prairie white-fringed orchid	LT	E	1	1850	Bombus terricola	Yellow banded bumble bee		SC	2	1965
Sistrurus catenatus	Eastern massasauga	LT	SC	33	2022	Bombus pensylvanicus	American bumble bee		SC	3	1964
Bouteloua curtipendula	Side-oats grama grass		E	2	2021	Bombus borealis	Northern amber bumble bee		SC	1	1961
Falco peregrinus	Peregrine falcon		E	2	2020	Drosera anglica	English sundew		SC	1	1961
Toxolasma parvum	Lilliput		E	2	2020	Angelica venenosa	Hairy angelica		SC	7	1958
Mertensia virginica	Virginia bluebells		E	2	2019	Mesomphix cupreus	Copper button		SC	2	1947
Simpsonaias ambigua	Salamander mussel		E	1	2019	Pyrgulopsis letsoni	Gravel pyrg		SC	2	1943
Gentiana alba	White gentian		E	2	2018	Microtus pinetorum	Woodland vole		SC	1	1935
Notropis anogenus	Pugnose shiner		E	5	2018	Myotis lucifugus	Little brown bat		SC	1	1928
Clinostomus elongatus	Redside dace		E	2	2012	Smilax herbacea	Smooth carrion-flower		SC	1	1927
Centronyx henslowii	Henslow's sparrow		E	2	2007	Pyganodon lacustris	Lake floater		SC	2	1925
Ligumia recta	Black sandshell		E	3	2004	Moxostoma duquesnei	Black Redhorse		SC	1	1924
Toxolasma lividus	Purple lilliput		E	3	2004	Hybanthus concolor	Green violet		SC	1	1921
Setophaga discolor	Prairie warbler		E	1	2003	Cincinnatia cincinnatiensis	Campeloma spire snail		SC	2	1918
Noturus stigmosus	Northern madtom		E	1	2002	Boechera missouriensis	Missouri rock-cress		SC	2	1916
Castanea dentata	American chestnut		E	4	1981	Cirsium hillii	Hill's thistle		SC	1	1896
Ambystoma texanum	Smallmouth salamander		E	1	1963	Graphephorum melicoides	Purple false oats		SC	1	1895
Speyeria idalia	Regal fritillary		E	2	1949	Buteo lineatus	Red-shouldered hawk		T	4	2022
Catinella protracta	A land snail (no common name)		E	1	1946	Clemmys guttata	Spotted turtle		T	7	2021
Platanthera ciliaris	Orange- or yellow-fringed orchid		E	3	1946	Silphium laciniatum	Compass plant		T	1	2021
Agalinis gattingeri	Gattinger's gerardia		E	1	1914	Alasmidonta viridis	Slippershell		T	20	2020
Gentiana puberulenta	Downy gentian		E	1	1848	Coregonus artedi	Lake herring or Cisco		T	9	2020
Lasmigona costata	Fluted shell		SC	1	Historical	Cypripedium candidum	White lady slipper		T	15	2019
Sphaerium fabale	River fingernail clam		SC	1	Historical	Lampsilis fasciola	Wavyrayed lampmussel		T	7	2019
Ventridens suppressus	Flat dome		SC	2	Historical	Muhlenbergia richardsonis	Mat muhly		T	8	2019
Papaipema beeriana	Blazing star borer		SC	3	2022	Panax quinquefolius	Ginseng		T	6	2019
Emydoidea blandingii	Blanding's turtle		SC	50	2021	Silphium integrifolium	Rosinweed		T	1	2018
Euonymus atropurpureus	Wahoo		SC	3	2021	Eutrochium fistulosum	Hollow-stemmed Joe-pye weed		T	2	2017
Haliaeetus leucocephalus	Bald eagle		SC	5	2021	Nelumbo lutea	American lotus		T	2	2016
Lithobates palustris	Pickerel frog		SC	11	2021	Asclepias sullivantii	Sullivant's milkweed		T	1	2012
Pandion haliaetus	Osprey		SC	20	2020	Hydrastis canadensis	Goldenseal		T	9	2010
Pleurobema sintoxia	Round pigtoe		SC	11	2020	Morus rubra	Red mulberry		T	2	2010
Ptychobranchus fasciolaris	Kidney shell		SC	6	2020	Erynnis persius persius	Persius dusky wing		T	1	2007
Venustaconcha ellipsiformis	Ellipse		SC	2	2020	Flexamia huroni	Huron River leafhopper		T	5	2007
Villosa iris	Rainbow		SC	14	2020	Polemonium reptans	Jacob's ladder		T	1	2005
Alasmidonta marginata	Elktoe		SC	6	2019	Poa paludigena	Bog bluegrass		T	1	2004
Nycticorax nycticorax	Black-crowned night-heron		SC	2	2019	Setophaga cerulea	Cerulean warbler		T	4	2002
Brickellia eupatorioides	False boneset		SC	1	2018	Fraxinus profunda	Pumpkin ash		T	3	2001
Cambarus robustus	Big water crayfish		SC	5	2018	Fuirena pumila	Umbrella-grass		T	1	1987
Carex richardsonii	Richardson's sedge		SC	6	2018	Rhynchospora scirpoides	Bald-rush		T	1	1987
Setophaga citrina	Hooded warbler		SC	11	2017	Asio otus	Long-eared owl		T	1	1970
Lasmigona compressa	Creek heelsplitter		SC	7	2016	Acris blanchardi	Blanchard's cricket frog		T	1	1968
Faxonius immunis	Calico crayfish		SC	1	2015	Galearis spectabilis	Showy orchis		T	11	1958
Melanoplus viridipes	Green-legged grasshopper		SC	1	2015	Viola pedatifida	Prairie birdfoot violet		T	1	1955
Terrapene carolina carolina	Eastern box turtle		SC	3	2014	Gavia immer	Common loon		T	1	1952
Baptisia lactea	White or prairie false indigo		SC	2	2012	Valeriana edulis var. ciliata	Edible valerian		T	2	1947
Oecanthus laricis	Tamarack tree cricket		SC	9	2011	Aristida longespica	Three-awned grass		T	1	1942
Utterbackia imbecillis	Paper pondshell		SC	5	2011	Potamogeton vaseyi	Vasey's pondweed		T	2	1939
Jeffersonia diphylla	Twinleaf		SC	2	2010	Ammocrypta pellucida	Eastern sand darter		T	1	1938
Calephelis muticum	Swamp metalmark		SC	4	2008	Cryptotis parva	Least shrew		T	1	1937
Meropleon ambifusca	Newman's brocade		SC	1	2008	Linum virginianum	Virginia flax		T	3	1936
Ammodramus savannarum	Grasshopper sparrow		SC	4	2007	Cyperus acuminatus	Cyperus, Nut grass		T	1	1928
Lepyronia angulifera	Angular spittlebug		SC	1	2007	Gentianella quinquefolia	Stiff gentian		T	1	1923
Cistothorus palustris	Marsh wren		SC	1	2006	Carex lupuliformis	False hop sedge		T	1	1918
Linum sulcatum	Furrowed flax		SC	2	2006	Trillium sessile	Toadshade		T	1	1918
Noturus miurus	Brindled madtom		SC	3	2005	Trichostema dichotomum	Bastard pennyroyal		T	1	1916
Trichophorum clintonii	Clinton's bulrush		SC	4	2003	Astragalus canadensis	Canadian milk vetch		T	1	1914

LEGEND:
E-Endangered, T-Threatened, SC-Special Concern

SOURCE: Michigan State University Extension, Michigan Natural Features Inventory
https://mnfi.anr.msu.edu/resources/county-element-data **2/17/23**

2.3.13 Climate:

The project area's climate is controlled by its location with respect to major storm tracks that pass through the Midwest and by the influence of the Great Lakes. The normal wintertime storm track is southeast of the Drainage District and most passing storms bring periods of snow or rain. The Great Lakes tend to moderate and smooth out most climate extremes. Precipitation is distributed through all months of the year. The most pronounced effect on the climate by the Great Lakes occurs in the colder part of the winter. Arctic air moving across the lakes is warmed and moistened. Cold waves approaching from the northern plains are reduced in intensity, which lessens the severity of these events. However, there is also an excess of cloudiness and very little sunshine in the winter.

Summers in the Detroit metropolitan area are warm and sunny. Showers usually occur every few days, but often fall on only part of the Metropolitan Detroit area. Extended periods of drought are unusual. Each year, there are two or three series of days with temperatures in the nineties. The highest temperatures are often accompanied by high humidity. In winter, skies are cloudy and temperature averages near the freezing point. Day to day changes typically is not significant. The temperature drops to near or a little below zero once or twice each year. Winter storms may bring rain, snow, or both. Freezing rain and sleet are not unusual. Snowstorms average about three (3) inches of accumulation, but heavier amounts are recorded several times each year.

The growing season averages 180 days in length and historically has ranged from 145 days to 205 days. The average date of the last freezing is April 23; average date of the first freezing temperature is October 21.

Climatological data is collected by the National Oceanic and Atmospheric Administration (NOAA) at Detroit Metropolitan Wayne County Airport. This project, and the alternatives discussed, will have no impact on the climate of the project area.

2.3.14 Environmental Contaminants:

EGLE's Environmental Contaminants online mapper was used to determine that no known contaminants are anticipated to be located within the project areas. However, if encountered prior to or during the design and construction phases EGLE shall be notified immediately and all environmental contaminants shall be managed accordingly.

2.4 EXISTING SYSTEM

2.4.1 General:

The Oakland County Water Resources Commissioner's Office is responsible for the design, construction, operation, and maintenance of over 500 stormwater management systems and flood control systems within Oakland County. This includes approximately 500 miles of drains. These range from open channel flow to enclosed systems and lake level controls. Additionally, Oakland County has storm sewer conveyance systems with numerous inlets and catch basins.

All developments discharged to a county-owned system must follow Oakland County's Stormwater Engineering Design Standards. Most communities have also adopted the County's Design Standards, and both new developments and redevelopments are subject to these standards. If construction exceeds one acre of land, then channel protection rate control, channel protection volume control, water quality control, and detention and flood control storage are to be provided. Discussion of the existing municipal sewage conveyance, treatment, and disposal facilities are not applicable to the proposed stormwater improvement projects. Next section describes the regular county drain maintenance for this drain.

2.4.2 System Assets:

The PCR No. 1 Drain Drainage District contains the following storm sewer system assets:

- 11,148 lineal feet of enclosed Storm Sewer Pipe
- 68 Storm Manholes/Inlets
- Open channel sections and associated inlet and outlet structures

2.4.3 System Operation and Maintenance:

Construction for the PCR No. 1 Drain was completed in approximately 1965. The Drain was designed to control overflow from local water sources, direct stormwater, and to connect municipal drains. It includes some open channel segments and ultimately outlets to the Clinton River.

No major rehabilitations have been completed since the Drain was constructed to date, rather than regular the County Drains maintenance.

2.4.4 Climate Resiliency:

The system is somewhat susceptible to climate impacts, particularly flooding if rainfall amounts and intensities continue to increase. The proposed projects are intended to provide additional resiliency by insuring they can continue to meet at least existing design criteria.

2.5 NEED FOR PROJECT

OCWRC has decided to take action to improve its stormwater system and water quality within the PCR No. 1 Drain Drainage District.

2.5.1 Enclosed Storm Sewer System

The District applied for and completed a Stormwater, Asset Management and Wastewater (SAW) grant through EGLE to develop an asset management plan. As part of that grant, condition assessment was completed on the storm sewer system including pipes, manholes, catch basins, inlets, and access structures. All pipes that have been televised and were found to have a NASSCO PACP structural defect score of 4 or 5 were evaluated to prioritize required rehabilitation work and the most cost-effective rehabilitation method.

Manholes and other structures within the District system were also inspected. This data was reviewed to identify structural assets with NASSCO MACP structural scores of 4 or 5. These structures have also been individually evaluated to prioritize required rehabilitation work and the most cost-effective rehabilitation method.

It was determined that there are several areas of high consequence that pose a high risk of failure. If no action is taken within the pipes, manholes, and storm structures, they will continue to fail, and the assets lose their performance and reliability. Because the AMP was undertaken several years ago, WRC used their asset management program to review all assets in the system and update the proposed Capital Improvement Plan. A copy of the AMP from the SAW grant and the updated asset rehabilitation list, generated from WRC's asset management software, is provided in Appendix E.

The projects proposed in the Alternatives Analysis will help reduce stormwater pollutants and better manage flow in Drain by rehabilitating the storm pipes and the associated structures. Without the proposed projects, the pipes and structures will continue to deteriorate and be at risk of sudden failure, which will not only cause flooding but also increase the amount of sediment into the surface waters.

2.6 PROJECTED FUTURE NEEDS:

An extensive review of the Clinton River and its contributing waterways within Oakland County by EGLE has led to the establishment of several TMDLs in the County. The measures were taken to put limits on pollutant discharge to the watershed, thereby improving water, habitat, and biotic quality. The PCR No. 1 Drain Drainage District would be directly impacted by stormwater improvements implemented within the study area.

Oakland County, along with its internal municipalities, has engaged in a multi-year effort to achieve the requirements of the established TMDLs via multiple watershed management plans, which includes the Clinton Main Subwatershed Management Plan (2010). Associated volume reductions will improve hydrologic conditions throughout the study area and limit downstream hydraulic impacts. These initiatives rely on a variety of pollution:

- Improve water quality and reduce sources of pollution that threaten public health
- Reduce runoff impacts through sustainable stormwater management strategies and programs
- Increase the public's understanding of their role in protecting, restoring, and enhancing water quality
- Promote and enhance recreational opportunities in the subwatershed
- Maximize community assets related to the watershed
- Support regional partnerships, for the implementation of the watershed management plan

The County has also anticipated that possible upgrades, improvements and repairs to the existing storm pipes and structures will be needed within the 20 year planning period. OCWRC has a comprehensive Asset Management Program that includes a GIS inventory of assets, computerized maintenance management system (CMMS, currently Cityworks) that manages work orders and costs, and an asset optimization software package (currently PowerPlan AIO) that is used to track and estimate future investment needs. The proposed improvement projects have been coordinated with these future needs. Taken holistically, all of the alternative locations work toward the common goal of pollutant removal while simultaneously striving to meet the requirements of the local TMDLs.

2.6.1 NPDES Permit

The NPDES permit program aims to protect water resources by addressing point source water pollution. Initiated by Clean Water Act in 1972, the NPDES permit program controls the discharge of pollutants into surface waters by imposing effluent limitations to protect water quality. Although NPDES is a federal program, Michigan has been granted the authority to implement the program. Most stormwater outfalls into the Clinton River and contributing waterways within Oakland County are permitted NPDES Municipal Separate Storm Sewer Systems (MS4) under the jurisdiction of Oakland County and each individual Community's permit.

Orders

This section is not applicable to this Project Plan. There have been no water quality orders of any kind. Some municipalities within the County have Administrative Consent Orders related to sanitary sewer and/or combined sewer outflows, but they do not apply to these projects.

Unsewered Areas

Municipal sanitary and county interceptor sewer systems generally serve the project areas. Therefore, actions taken upon private systems are not applicable to this Plan.

Septage Disposal

There are no identified septage disposal problems near the proposed improvement project locations.

2.6.2 Future Environment without the Proposed Project

If the work in this Plan were not undertaken, there is the likelihood that the environmental conditions will not improve and potentially worsen within the District. There must be reductions in sediment and *E. coli* inputs to achieve the established TMDLs. Otherwise, these pollutants will continue to have severe consequences on the environment within the area.

The proposed improvement projects within this plan are intended to improve/restore conveyance capacity, reduce sediment deposition, and improve water quality.

PCR No. 1 Drain Drainage District Map

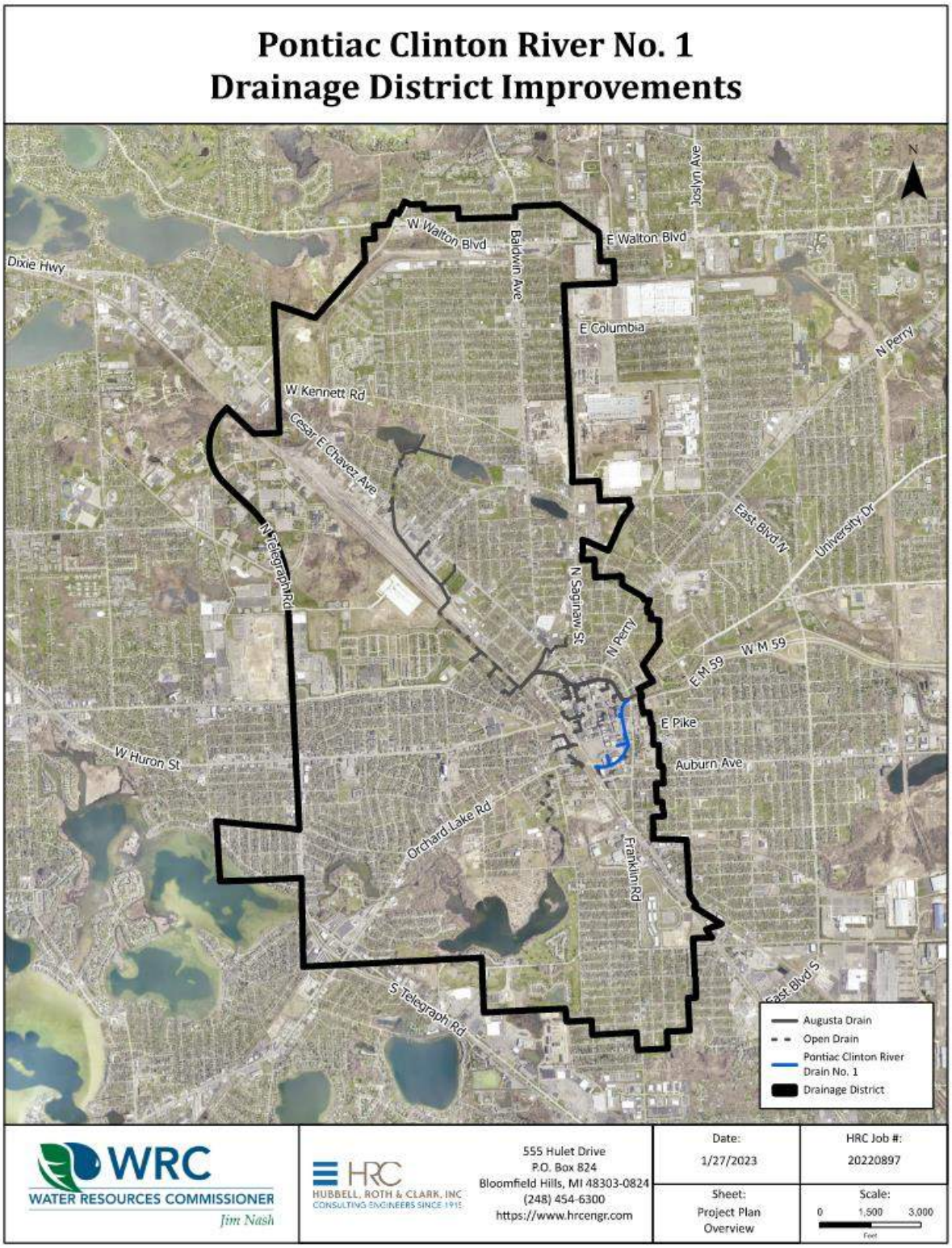


Figure 2-1: PCR No. 1 Drain Drainage District Parks and Recreation Map

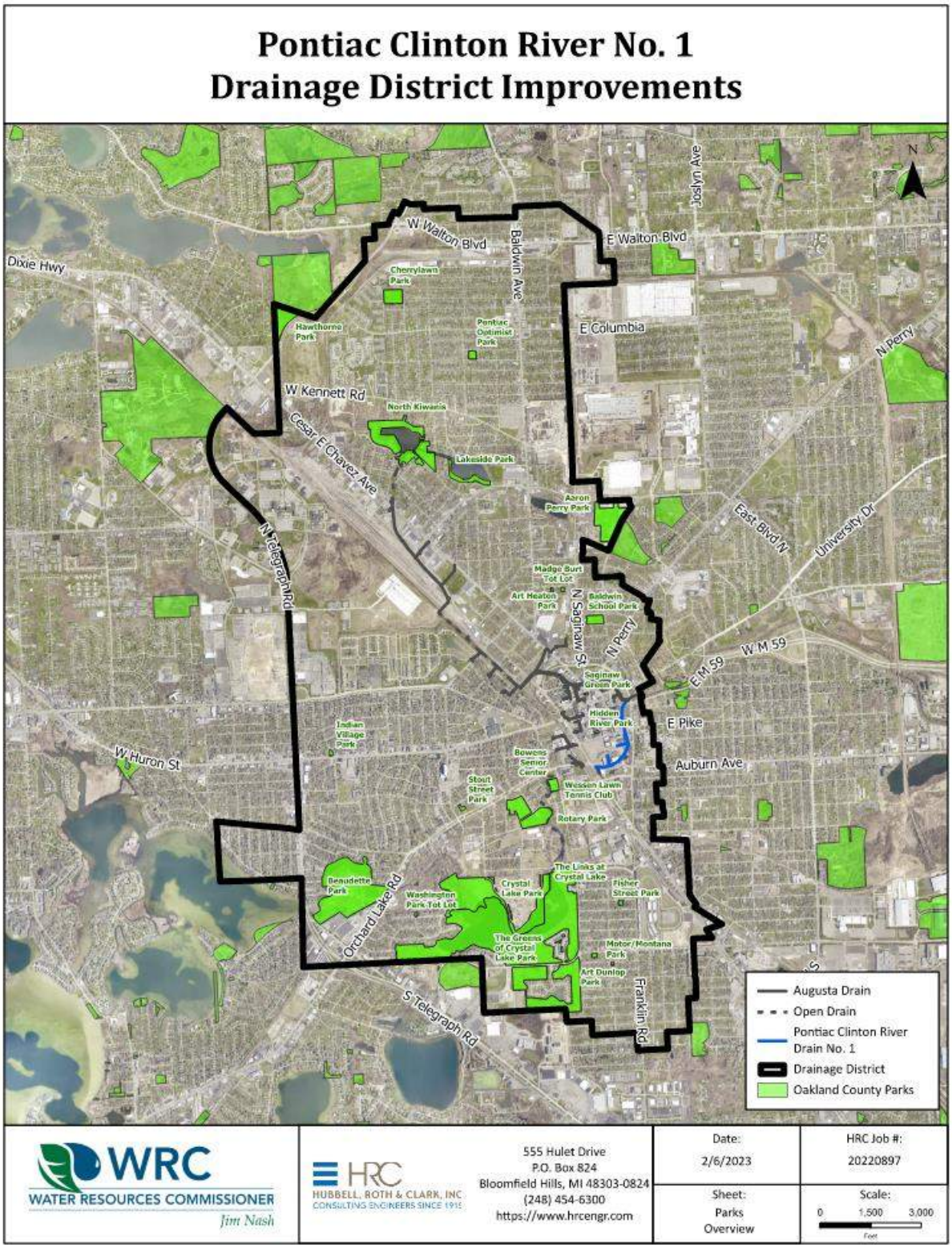


Figure 2-2: PCR No. 1 Drain Drainage District Land Use Map

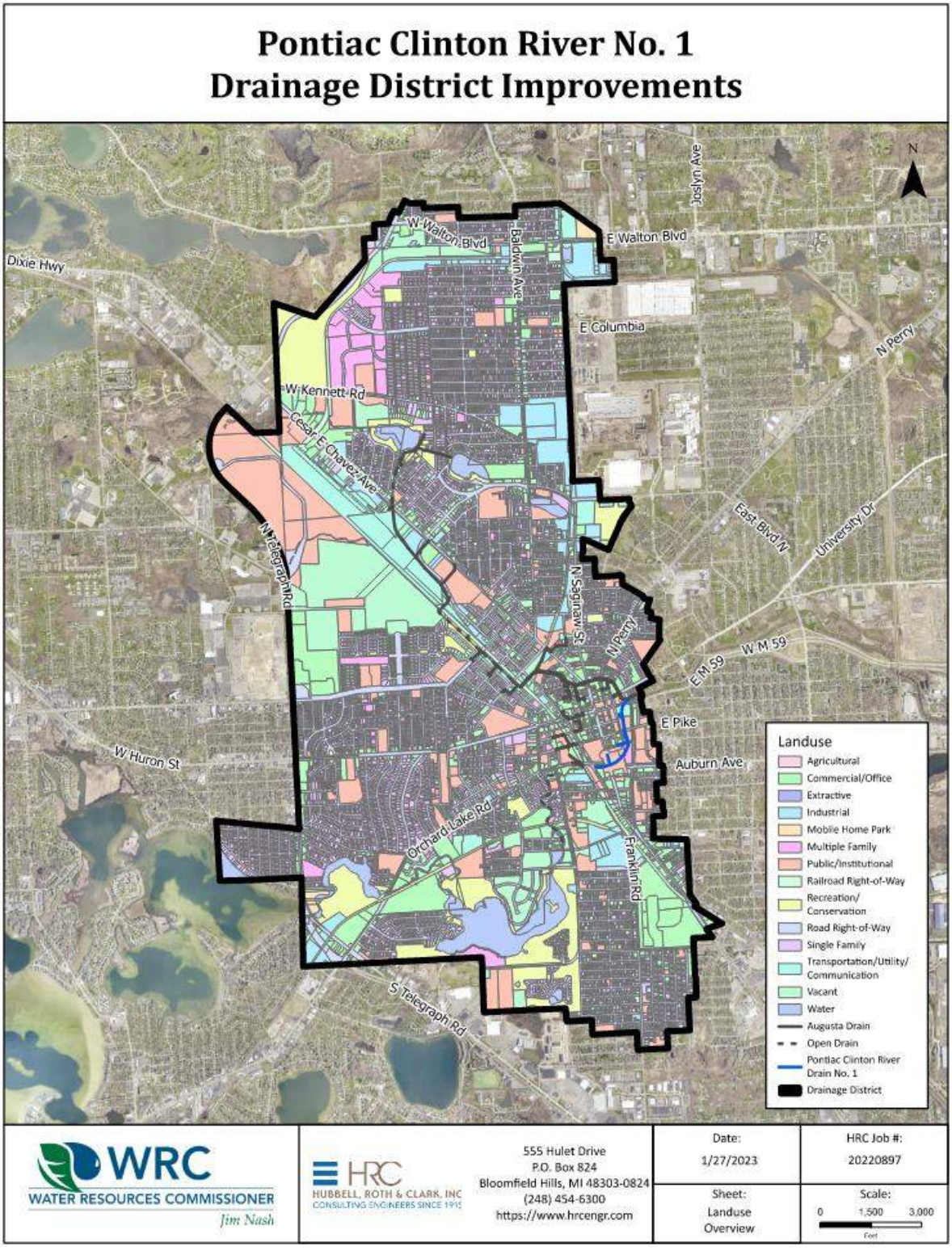


Figure 2-3: PCR No. 1 Drain Drainage District National Wetland Map

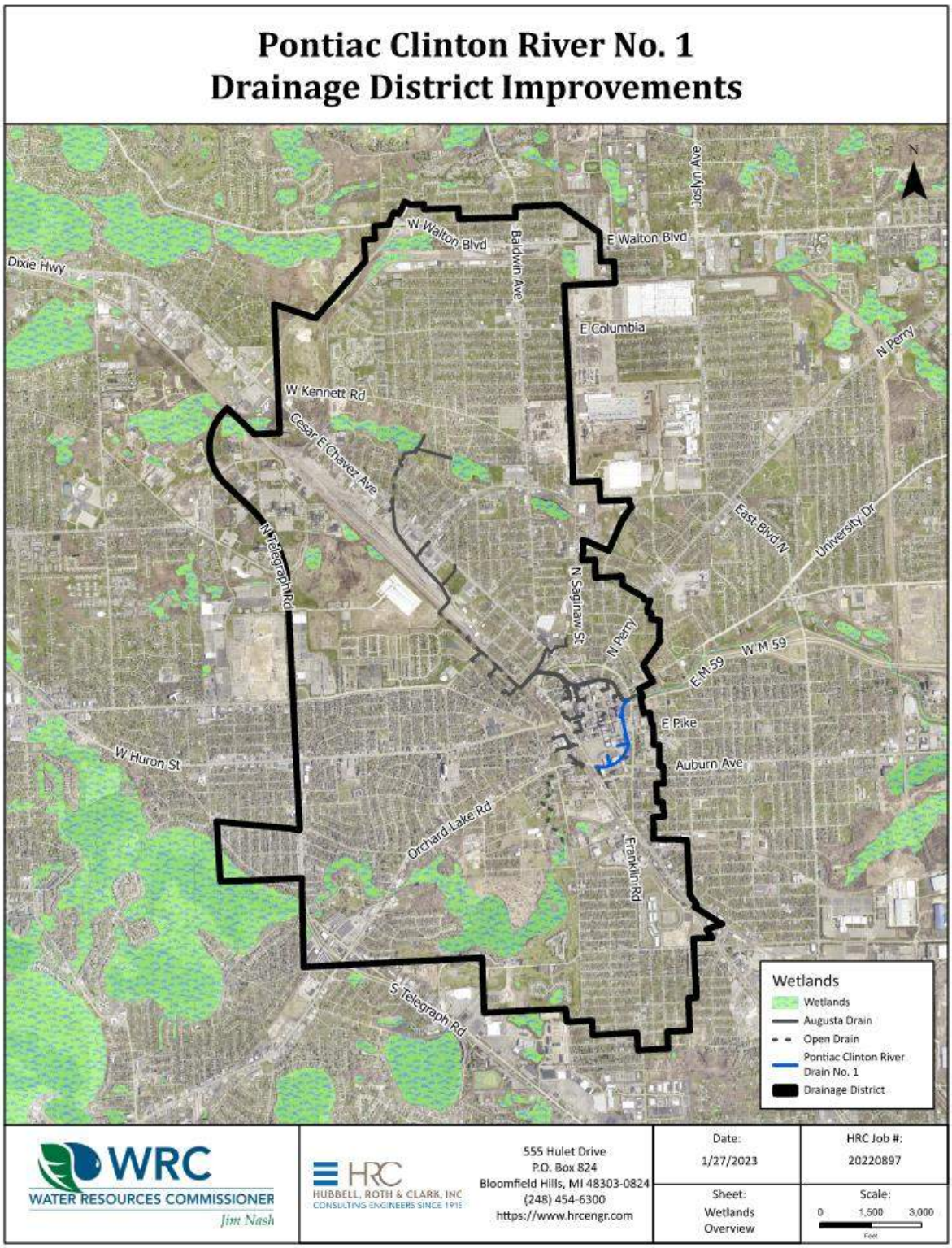


Figure 2-4: PCR No. 1 Drain Drainage District Floodplain Area

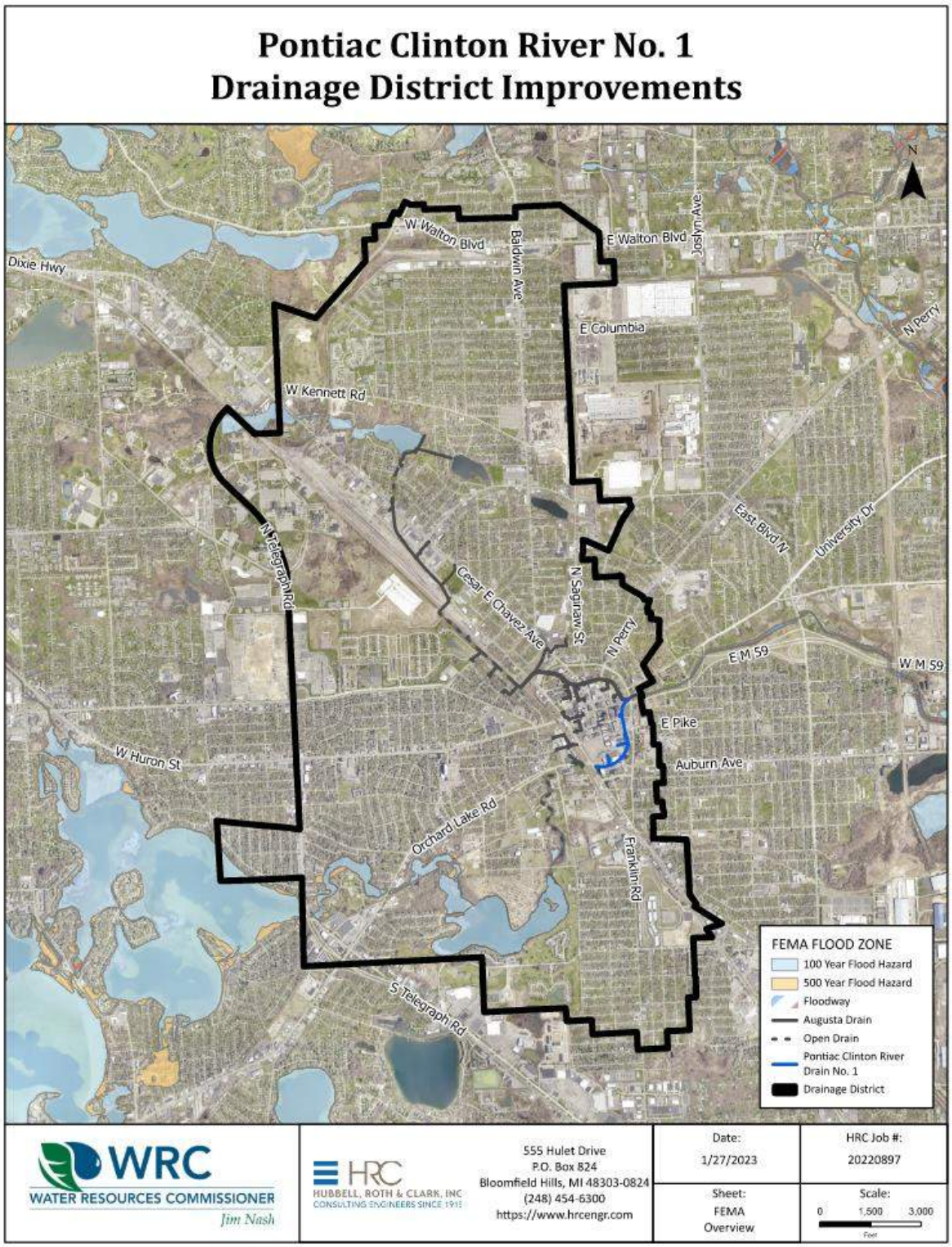


Figure 2-5: National River Inventory Map

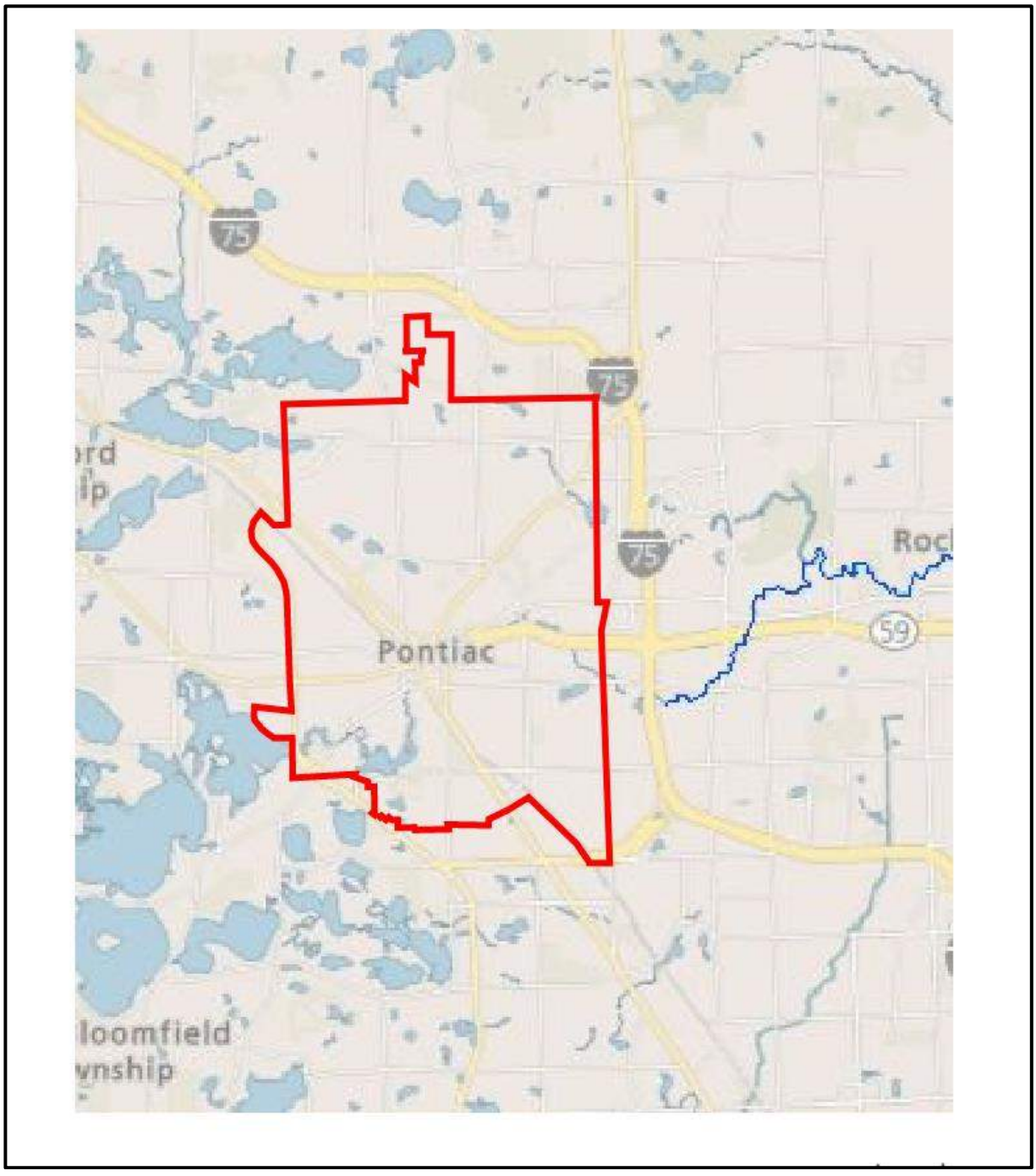


Figure 2-6: Michigan Natural River Inventory Map

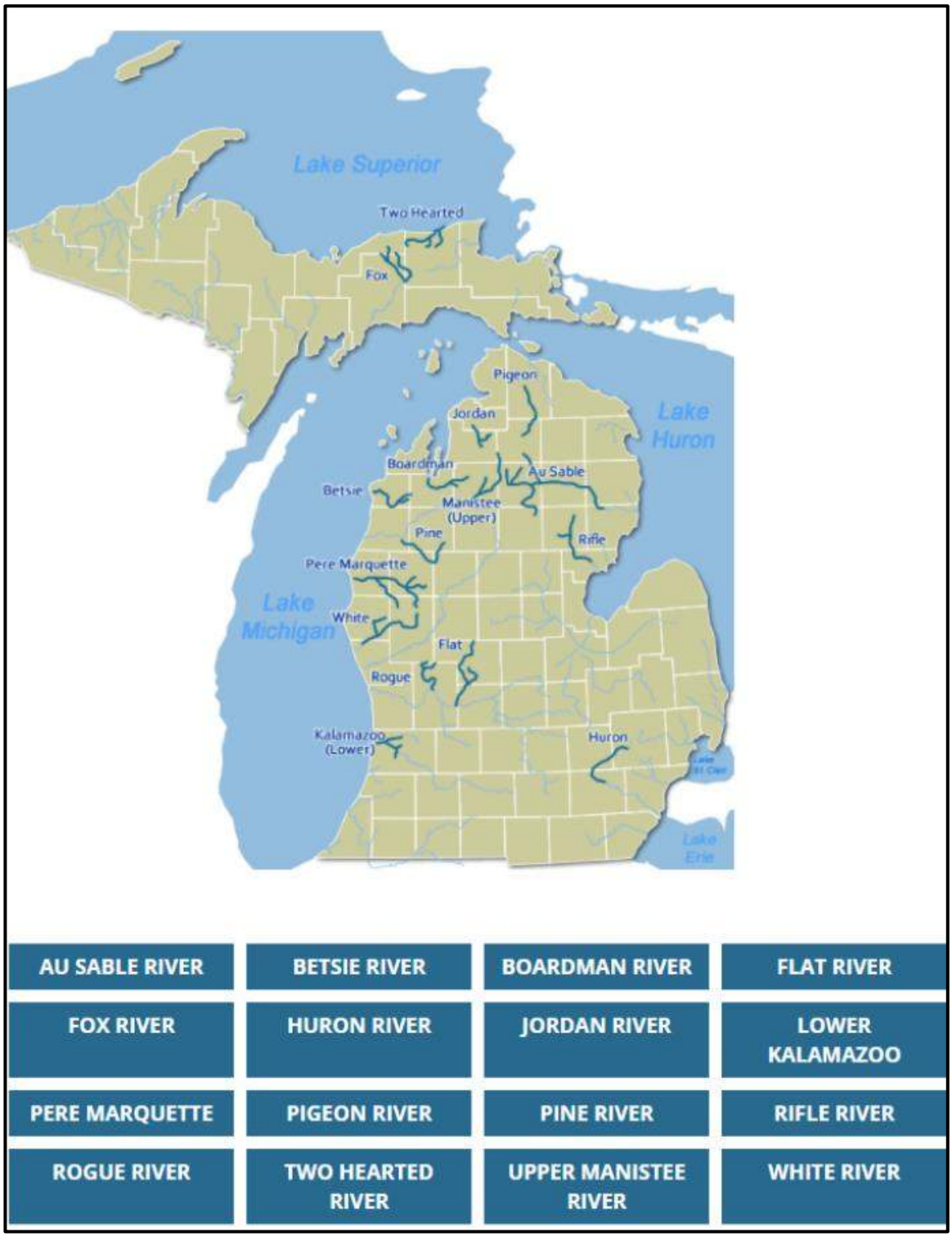


Figure 2-7: PCR No. 1 Drain Drainage District Soil Map

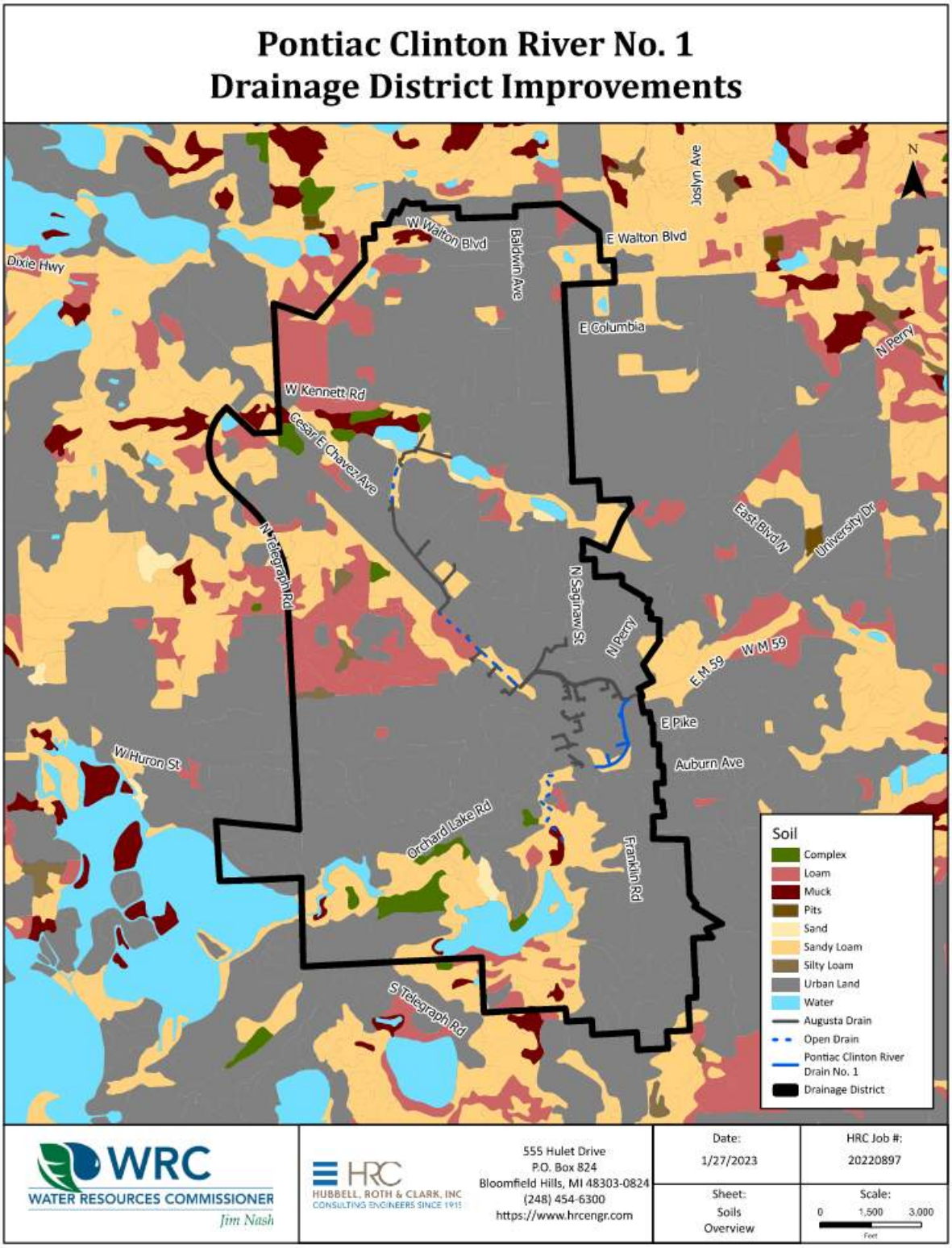
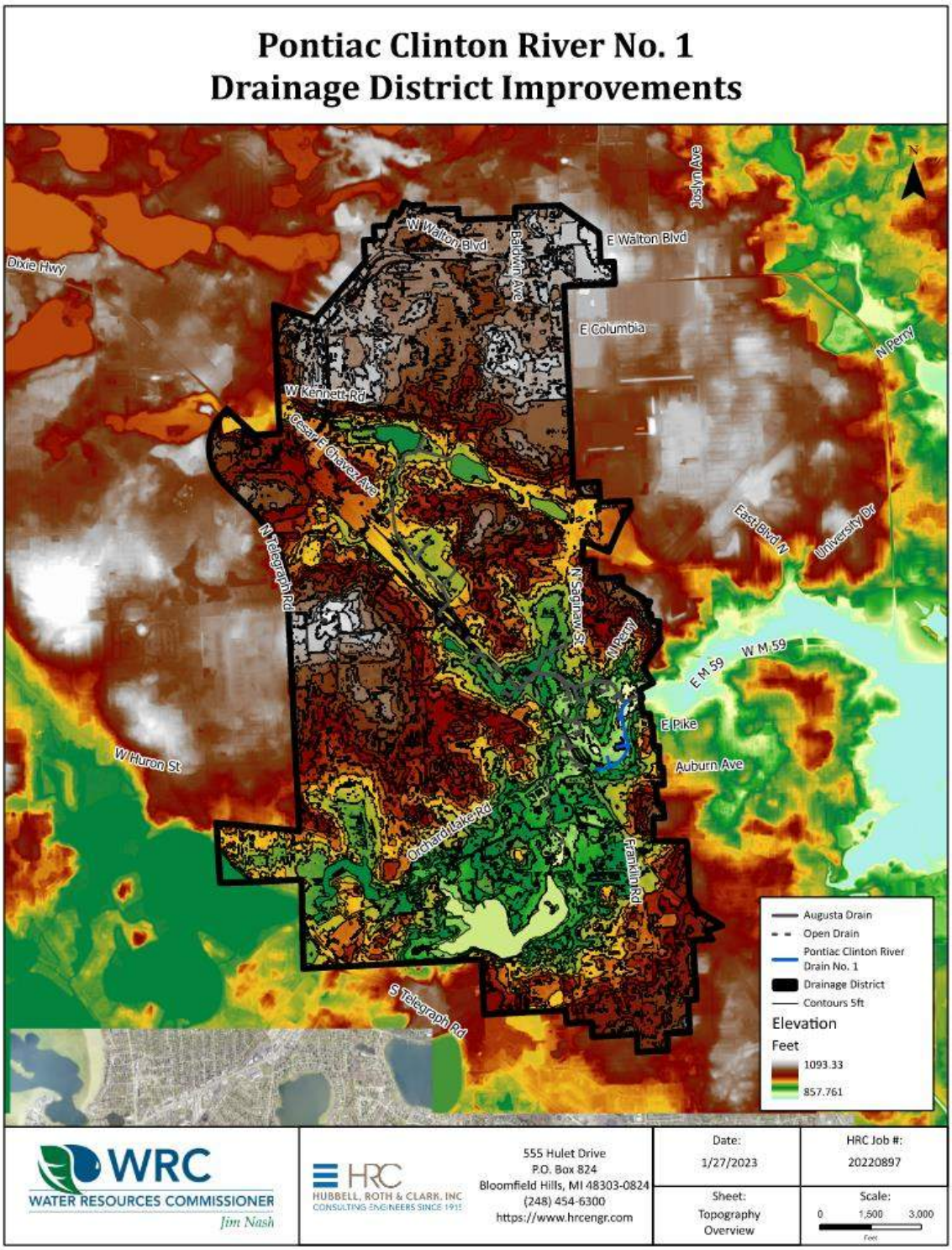


Figure 2-8: PCR No. 1 Drain Drainage Topography Map



SECTION 3.0 — ANALYSIS OF ALTERNATIVES

The follow project is required to address deficiencies in the existing system that are being evaluated as part of this Project Plan, as follows:

- Storm Pipes and Storm Sewer System Structures Improvements

It is important to recognize the proposed project was developed in conjunction with the PCR No. 1 Drain Drainage District Improvements asset management plan developed as part of the SAW grant based on the condition assessment and recommendations that were made. A technical basis has been developed for each improvement element and an economic comparison of alternatives has been completed for technically viable alternatives.

3.1 PROJECT ALTERNATIVES

The CWSRF administrative rules require an analysis of alternatives to address the issues identified in the "Need for Project." The alternatives must consider the objectives of the project, technical constraints, and discharge permit requirements. They also require analysis of the following, "No Action," "optimum performance of existing system," and "regionalization," along with any system-specific alternatives. A technical basis has been developed for each improvement element and an economic comparison of alternatives has been completed for technically viable alternatives.

3.1.1 No Action

The Drain's storm sewer pipes and associated structures have undergone condition assessment and it was determined that there are several areas of high consequence that pose a high risk of failure. If no action is taken within the pipes, manholes, and storm structures, they will continue to fail, and the assets lose their performance and reliability.

For the reasons above, the "No Action" alternative is not considered a viable alternative.

3.1.2 Optimum Performance of Existing System

The existing system is currently sized and operated adequately to meet its required level of service. The primary concern is sudden failure of structures, pipes and the system due to further deterioration and facilities being beyond their anticipated useful service lives.

3.1.3 Regionalization

The system provides local drainage and management of stormwater and is already part of the Clinton River watershed and is operated by the OCWRC on behalf of the District. There are no further opportunities for regionalization.

3.2 PROJECT 1 – PIPES AND STORM STRUCTURES REHABILITATION

3.2.1 ALTERNATIVE 1A: REHABILITATION

Using recent and ongoing gravity main CCTV inspection work in the system, the PCR No. 1 Drain District reviewed the data collected and identified sewer segments for rehabilitation projects. All pipes that have been televised and were found to have a NASSCO PACP structural defect score of 4 or 5 were evaluated to prioritize required rehabilitation work and the most cost-effective rehabilitation method.

Manholes and other structures within the PCR No. 1 Drain District system have been inspected. This data was reviewed to identify structural assets with NASSCO MACP structural scores of 4 or 5. These structures have also been individually evaluated to prioritize required rehabilitation work and the most cost-effective rehabilitation method. The actual project locations and specific types of interventions for the sewer pipe and manhole structure rehabilitations will be further evaluated and refined during the design phase.

A detailed description of the cost estimate can be found in Appendix B.

- **The Engineer's Opinion of Project Costs for the Drain rehabilitation of the storm sewer pipes and associated manhole structures is approximately $800,000.**

3.2.2 ALTERNATIVE 1B: COMPLETE REPLACEMENT

For comparative purposes a cost estimate was made to replace all of the identified storm sewer pipes and structures in-kind. This alternative would be more disruptive, as most of the rehabilitation proposed as part of Alternative 1A would be "trenchless," or performed with minimal ground-changing activities. Replacement of the storm sewer pipes and structures would require open-cut excavation to replace the assets either in the same trench or in a parallel trench and then the existing facilities abandoned. A detailed description of the cost estimate can be found in Appendix B.

- **The Engineer's Opinion of Project Costs for the Drain rehabilitation of the storm sewer pipes and associated manhole structures is approximately $XXX,000.**

3.3 ALTERNATIVES ANALYSIS

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

- Alternative 1A – Rehabilitation of the Pipes and Storm Structures
- Alternative 1B – Replacement of the Pipes and Storm Structures

3.4 MONETARY EVALUATION

Preliminary cost estimates have been prepared for each of the alternatives included in the analysis summarized above. Escalation costs were not included in this monetary evaluation. Much of the work will be completed. within the ROW or existing easements. Any new easements that are necessary will be temporary and estimates were included in the cost estimate.

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 (0.04)

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

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

where, A – annual expenditure
n – number of years
i – EPA discount rate (0.04)

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. For newly constructed pipelines, a design life of 100 years has been estimated based on manufacturer certifications for pipeline performance and testing results. The CWSRF guidance document does not provide information on useful life estimates on rehabilitation methods. Therefore, the estimated design life for the anticipated rehabilitation repairs is predicted based on engineering judgement, past sewer rehabilitation 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 the anticipated design life of the various projects and components.

Appendix B 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. provides a summary of the monetary evaluation for the alternatives. The monetary evaluation and user costs are summarized in Table 3-1.

Table 3-1. Summary of the Monetary Evaluation

Note: the recommended alternatives are shaded in the above table.

3.5 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. The social impacts generated by the lengthier construction duration for the replacement alternatives as compared to the rehabilitation alternatives. These social impacts are difficult to measure monetarily but will be considered when choosing the selected alternative should the monetary evaluation be relatively equal.

3.5.1 Conclusions

Based on the above discussion and cost estimates, Alternative 1A is recommended as the most cost-effective and environmentally-preferred alternative.

SECTION 4.0 — SELECTED ALTERNATIVES

4.1 PROPOSED FACILITIES AND DESIGN PARAMETERS

The proposed project consists of all improvements described previously under Alternatives 1C, 2C and 3B.

4.2 USEFUL LIFE

$$\textit{Weighted useful life} = \frac{(\text{sum of each asset's dollar value times its estimated useful life})}{\text{Total estimated dollars spent on assets}}$$

The overall effective useful life for each alternative is provided in the cost tables in Appendix B.

4.3 WATER AND ENERGY EFFICIENCY

Ongoing water and energy conservation efforts are also part of WRC's overall Program and any opportunities for increasing conservation were reviewed as part of the alternative. However, there is limited usage of water and energy in the existing collection system and therefore no opportunities for additional efficiency.

4.4 SCHEDULE FOR DESIGN AND CONSTRUCTION

These projects will be coordinated with other District utility projects when applicable. Table 4-1 provides a proposed third quarter loan closing schedule for the projects to be completed in Fiscal Year 2024.

Table 4-1. Proposed Design and Construction Schedule

Engineering Service	FY2024 Q3 Timeframe	
PCR No. 1 Drain Drainage Districts Improvements	Design	Feb 2024 – Jun 2024
	Construction Start	Jun 2024
	Construction End	Dec 2024

4.5 COST SUMMARY

The estimated total project cost for the proposed projects is summarized below, and detailed cost estimates for the selected alternatives are presented in Appendix B.

- Alternative 1A: The Engineer's opinion of Project Costs for rehabilitation of the Drain's storm sewer pipe and associated structures is $800,000. The operation, maintenance and replacement costs are similar to the existing conditions and are already included in the annual budget.

The total project cost for the recommended projects is therefore: $800,000.

4.5.1 User Costs and Cost Sharing

The PCR No. 1 Drain Drainage District is a Chapter 20 Drain, and the proposed projects for Drain fit into the Chapter 20 category. The costs as described above will be paid through the assessments. In general, project costs will be assessed based on previously determined apportionment percentages within the appropriate drainage districts. The proposed projects must be presented and approved at a Board of Determination and

apportioned entities offered a chance to review their assessments and object, if necessary, at a Public Day of Review. Aggrieved parties have an appeal process as specified in the Drain Code.

The estimated user cost, based on the number of equivalent residences is approximately $0.16 per month per property parcel.

4.6 IMPLEMENTABILITY

The office of the Oakland County Water Resources Commissioner has the legal, financial and institutional authority and resources to successfully implement the recommended projects.

SECTION 5.0 — ENVIRONMENTAL AND PUBLIC HEALTH IMPACTS

5.1 DIRECT IMPACTS

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

5.1.1 Construction Impacts

Construction activities associated with the proposed improvements will take place on existing facilities. 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 negative impacts are expected for any alternative. Implementation of the Project Plan would create temporary disruption to nearby residents/businesses and customers due to required construction. This includes noise and 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.

The majority of the project locations are existing facilities 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.

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 proposed 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, but there are few to no residential drinking wells in the area. All restoration required post-rehab/replacement should return the impacted area to existing conditions. Short-term impacts for customers and residents include traffic disruption, dust, and noise. No long-term negative impacts are anticipated.

In addition, there are many sewer assets within the Drain System that require 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.

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.

5.1.2 Operational Impacts

The ongoing function and operation of the Drain will not be impacted by the proposed projects. All construction projects will be sequenced such that the Drain can continue to function, either by bypass pumping and/or installation of temporary facilities.

5.1.3 Social Impact

The surrounding area will not be impacted other than temporary, short-term impacts associated with construction. After the proposed projects are implemented, the risk of failure of the assets will have been reduced and additional water quality improvements achieved through the riparian buffer strip.

5.2 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 Drainage District will be completed within the existing system footprint.

Changes in Air or Water Quality Due to Facilitated Development

No changes are anticipated to the above.

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

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.

5.3 CUMULATIVE 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 and minimal possible styrene emissions from the CIPP curing material.

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 as the work is expected to take place within the current locations (existing pipe trench); 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 storm sewer service may occur as rehabilitation is completed on the sanitary sewer system. The Drainage District 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 storm system and lower future O&M costs for the Drainage District.

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 any 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 6.0 — MITIGATION

6.1 MITIGATION OF SHORT-TERM IMPACTS

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. Notifications will be provided to residents for them to note that usage during CIPP installation may need to be kept to a minimum for a short period of time in order for proper installation of the new pipe to take place. Since majority of the project locations are within the road, no mature trees are anticipated to be impacted because 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.

6.1.1 Siting Decisions

The proposed Alternative 1A includes rehabilitation that will be implemented at the location of the existing facilities.

6.1.2 Operational Impacts

The overall operation of the system will remain the same as the existing if the proposed projects are implemented. The operation and maintenance needs will be similar to the existing and are already budgeted.

6.2 MITIGATION OF INDIRECT IMPACTS

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

6.2.1 Ordinances

All required permits will be applied for during construction of the proposed projects, and local ordinances that impact construction, such as working hours, will be followed. We do not anticipate a need for a variance at this time.

6.2.2 Staging and Construction

Staging Construction

Since the selected Alternative 1A includes rehabilitation of the existing structures and pipes, staging is only required to ensure continued operation of the facilities.

Partitioning the Project

No discrete component of this project must be completed prior to completion of the entire project plan to remedy a severe public health, water quality or other environmental problem. Therefore, partitioning of the project is not necessary.

SECTION 7.0 — PUBLIC PARTICIPATION

7.1 PUBLIC MEETING

A Public Meeting is scheduled for April 25th, 2023.

- WRC Office: One Public Works Building #95W, Waterford Twp, MI 48328

7.2 PUBLIC MEETING ADVERTISEMENT

Appendix C includes the following:

- 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

7.3 PUBLIC MEETING SUMMARY

A summary of the public meeting, including any comments or questions from the public, will be provided in the final version of the project plan in Appendix D.

7.4 ADOPTION OF THE PROJECT PLANNING DOCUMENT

A resolution adopting the Project Plan, if approved by the Drain Board, will be provided in the final version of the project plan in Appendix E.

SECTION 8.0 — FISCAL SUSTAINABILITY PLAN

A Fiscal Sustainability Plan (FSP) is available for the facilities that will be replaced or rehabilitated under this project. The signed FSP form can be found in Appendix C.

WRC has an active Asset Management Program ("Program") to support the systems that they operate and/or maintain. The Program was developed with a "Common to All" framework that provides the general data standards, workflows, templates, decision trees, specifications and other elements that will be incorporated into Asset Management Plans ("Plans") for the individual funds. The Plan developed for each fund may include modifications to some of the common Program elements to reflect a given fund's individual infrastructure needs and affordability concerns. This Program will be sustained on an ongoing basis by a team of personnel at WRC, currently designated as the Capital Asset Management and Planning "CAMP" unit, together with other departments and personnel as needed.

The existing asset registry for the system will be updated and modified to reflect add any new assets constructed. Data for any existing facilities and assets impacted by the project will be updated with any new data and rehabilitation dates. At the conclusion of the project, the inventory will be fully updated to accurately reflect the improvements, including condition and performance data. This will provide a benchmark to judge future performance by. Lastly, 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 operation, maintenance and replacement costs to maintain the required level of service for the system.

Ongoing water and energy conservation efforts are also part of WRC's overall Program and any opportunities for increasing conservation were reviewed as part of the alternative. However, there is limited usage of water and energy in the existing collection system and therefore no opportunities for additional efficiency.

Appendix A — CWSRF Agency Correspondence

HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

555 Hulet Drive
Bloomfield Hills, MI 48302-0360

248-454-6300

www.hrcengr.com

February 14, 2023

EGLE Water Resources Division
Warren District Court
27700 Donald Court
Warren, MI 48092-2793

Re: Land-Water Interfaces Review
Pontiac-Clinton No.1 River Relief Drain Drainage District
FY24 CWSRF Project Plan

HRC Job No. 20220897

To Whom it May Concern:

The Oakland County Water Resources Commissioner's Office (WRC) is submitting a Project Plan to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for acceptance into the Clean Water State Revolving Fund (CWSRF) Loan Program. The Project Plan requires a review to determine any potential impacts on land-water interfaces, including Inland Lakes and Streams, Floodplains, Wetlands, Great Lakes Shorelands, Navigable Waters and Army Corps of Engineers (ACE) Regulated Activities.

On behalf of the WRC, we are requesting information regarding the impacts of the above referenced proposed project upon the previously detailed land-water interfaces in the vicinity of the project. The project construction will involve the following:

- Replacement of two pipe outlets and one storm pipe
- Replacement of several standard manholes and catch basins
- Rehabilitation of two large stormwater structures

The proposed project site covers mostly urban areas with construction taking place at existing facilities. Excavations will be used throughout the site to help with the rehabilitation of existing facilities. In conclusion, there will not be any construction that will impact inland lakes or streams On behalf of the WRC, we are requesting a review to confirm that the above referenced project will not cause an impact to any Inland Lakes and Streams, regulatory floodplain limits, or any existing wetlands. However, if project work is required within an existing wetland, necessary mitigation measures will be undertaken to protect the wetlands influenced by the project.

Since the proposed project does not involve improvements to existing facilities that are located along a shoreline or within navigable waters of the United States, no impacts are expected from the proposed project upon Great Lakes Shorelands, Navigable Waters or ACE Regulated Activities. On behalf of the WRC, we are requesting a review to confirm that the above referenced project will not cause an impact to any Great Lakes Shorelands, Navigable Waters or ACE Regulated Activities.

If not already obtained, the appropriate joint permit applications will be completed, and the necessary permits obtained prior to any construction activities in this project area.

We request, on behalf of the WRC, your concurrence with this determination. We appreciate your review and would be grateful for a response by February 24th, 2023, so that we may meet program deadlines.

If you have any questions or require any additional information, please contact the undersigned.

Very truly yours,
HUBBELL, ROTH & CLARK, INC.

Marisa J. Lavins
Graduate Engineer I

Attachment
FEMA Overview Map
Wetlands Overview Map
Project Rehabilitations Locations

pc: HRC; F. Babakhani, File

HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

555 Hulet Drive
Bloomfield Hills, MI 48302-0360

248-454-6300

www.hrcengr.com

February 14, 2023

Region 1 Planning & Development Commission
Southeast Michigan Council of Governments (SEMCOG)
1001 Woodward Avenue, Suite 1400
Detroit, MI 48226-1927

Re: Regional Environmental Planning Review
Pontiac-Clinton River Drainage District
FY24 CWSRF Project Plan

HRC Job No. 20220897

To Whom it May Concern:

The Oakland County Water Resources Commissioner's Office (WRC) is submitting a Project Plan to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for acceptance into the Clean Water State Revolving Fund (CWSRF) Loan Program. The Project Plan requires a review to determine any potential impacts on any local development plans, area wide waste treatment management plans and/or regional water quality management plans.

The project construction will involve the following:

- Replacement of two pipe outlets and one storm pipe
- Replacement of several standard manholes and catch basins
- Rehabilitation of two large stormwater structures

All population figures and projections referenced in the project plan will be collected from the United States Census Fact Finder Website Profile, which can be found at the following web address: (https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml). We request, on behalf of the WRC, notification if an alternative source for the population data is recommended.

The proposed project site covers mostly urban areas with construction taking place at existing facilities. Excavations will be used throughout the site to help with the rehabilitation of existing facilities. Since the proposed project involves improvements to existing facilities, no impacts are expected from the proposed project upon local development plans, area wide waste treatment management plans and/or regional water quality management plans. On behalf of the WRC, we are requesting a review to confirm that the above referenced project will not cause an impact to any local development plans, area wide waste treatment management plans and/or regional water quality management plans.

We request, on behalf of the WRC, your concurrence with this determination. We appreciate your review and would be grateful for a response by February 24th, 2023, so that we may meet program deadlines.

Additionally, a copy of the Project Plan Draft will be sent to your office upon completion for your review and approval.

If you have any questions or require any additional information, please contact the undersigned.

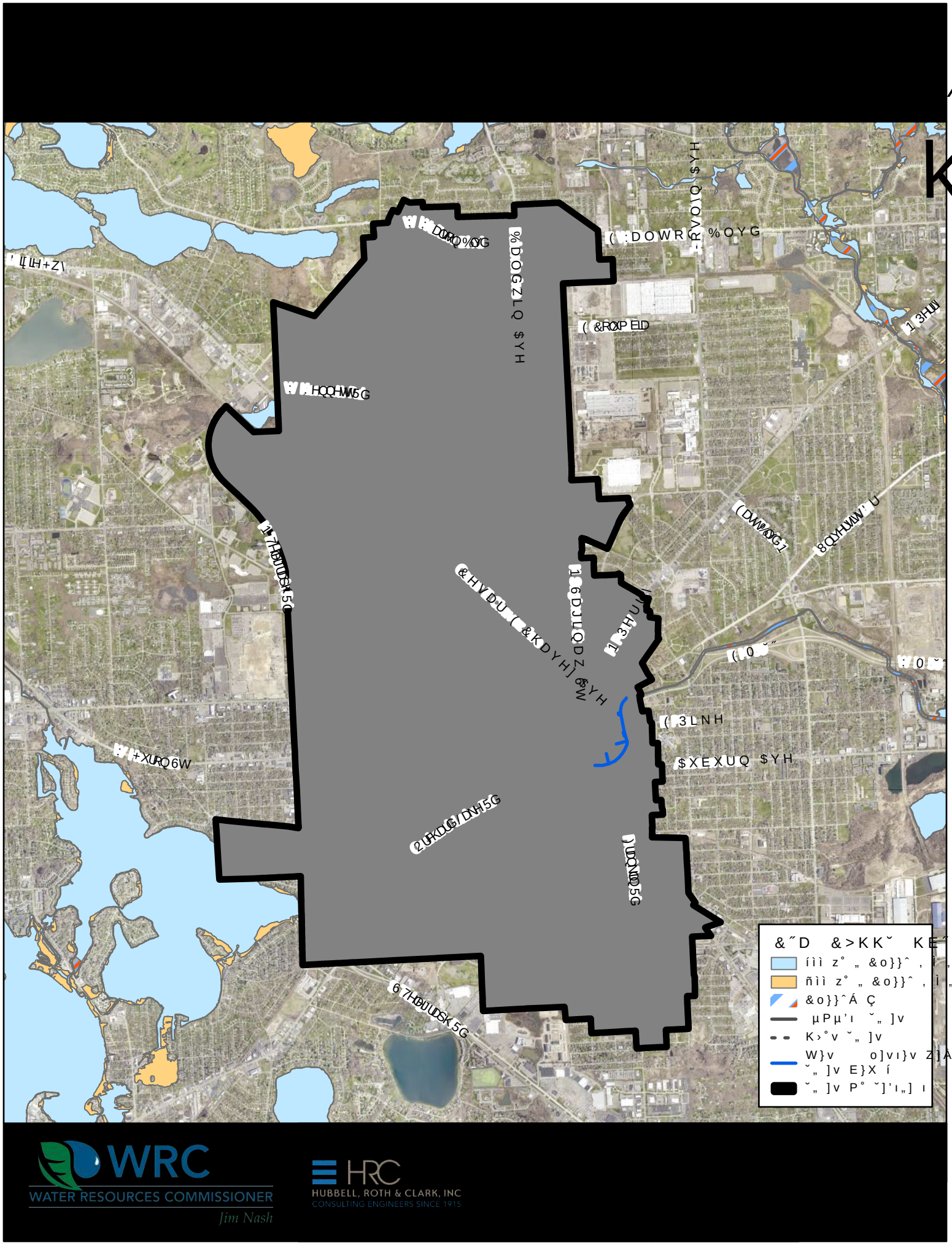
.
Very truly yours,

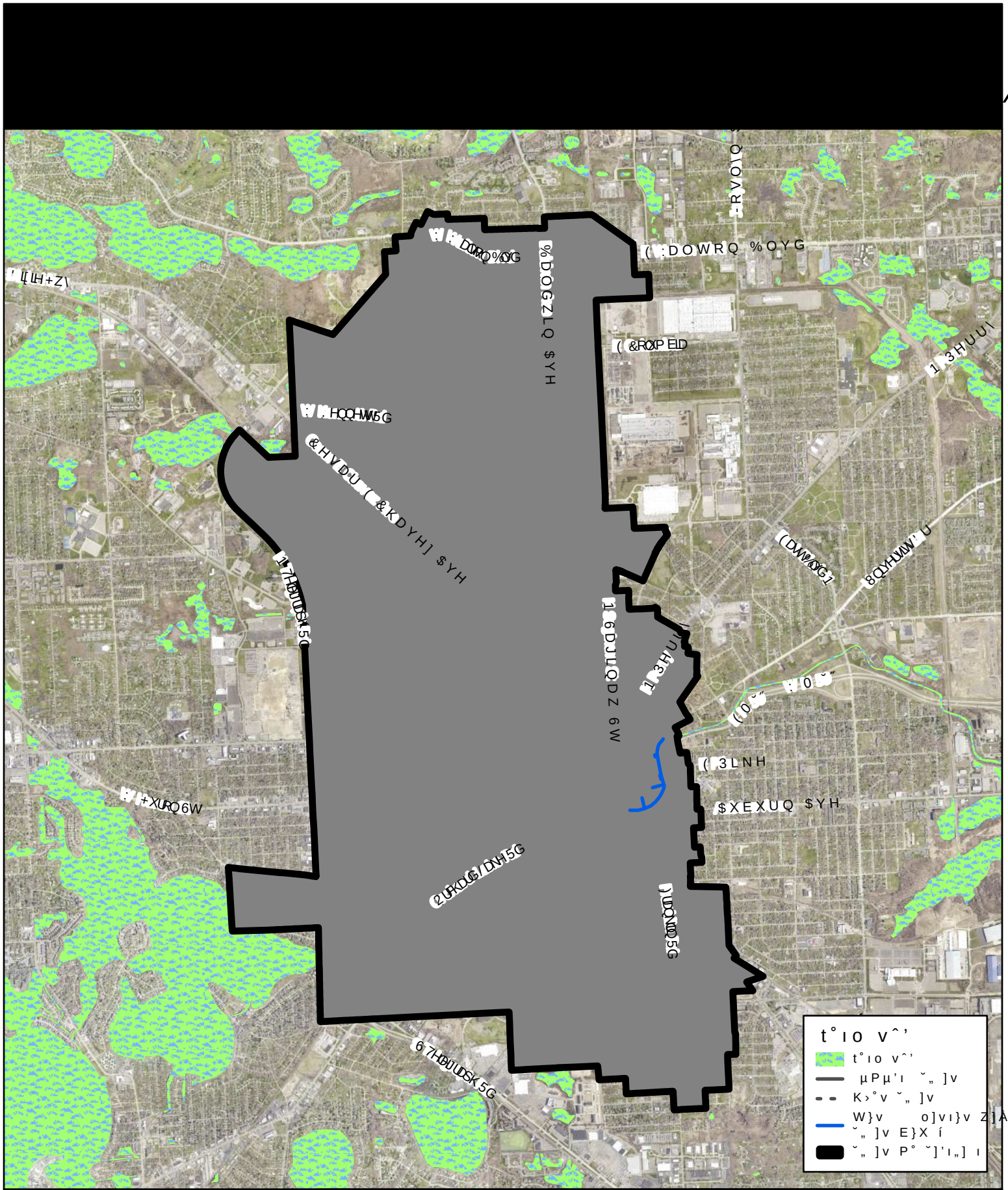
HUBBELL, ROTH & CLARK, INC.

Marisa J. Lavins
Graduate Engineer I

Attachment
Project Location Map

pc: HRC; F. Babakhani, File


WRC
WATER RESOURCES COMMISSIONER
Jim Nash
HRC
HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915



WRC
WATER RESOURCES COMMISSIONER
Jim Nash

HRC
HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

Continued on Sheet POT113

Continued on Sheet POT115

Continued on Sheet POT111

Continued on Sheet POT125

1"=200'

Permit # 12-005

Permit # 14-1032

24264
611820
24263
24262
24246
24245
22632
353
7850
7853
7852

Rehab Sewer
Rehab Structure

STORM DRAIN LEGEND

Storm Gravity Pipe
- Online Storm Pipe
- Online Storm Culvert
- Prop Storm Pipe / Culvert
- Aband Storm Pipe / Culvert
- Private / Maintained by Others
- Non WRC Culvert

Combined Gravity Main
- Comb Interceptor
- Private or Maint. by Others Interceptor
- Aband Comb Interceptor
- Comb Lateral
- Proposed Comb Lateral
- Aband Comb Lateral
- Private or Maint. by Others Comb
- Proposed Private or Main. by Others
- Storm Drain Proposed Project
- Large pipe
- Private Large Pipe
- Retention/Detention Vault/Basin
- Private Retention/Detention Vault/Basin

Storm Siphons
- Online Siphon
- Prop Siphon
- Private Siphon
- Aband Siphon

Storm Force Main
- Online Force Main
- Prop Force Main
- Aband Force Main
- Private / Maintained by Others
- Storm Drain Permit Location
- Sleeved Utility Crossing

Combined Non-Gravity Main
- Comb FM Interceptor
- Comb FM Trunk
- Aband Comb FM Interceptor
- Comb FM/PrS Lateral
- Aband Comb FM/PrS Trunk or Lateral
- Private or Maint. by Others Comb FM/PrS

Open Storm Features
- Channel
- Aband Channel
- Spillway
- Stream / River
- Sediment Basin; Stilling Basin
- WRC Retention/Detention Basin
- WRC Lake Level
- WRC Channel
- Private Retention/Detention Basin
- Non WRC Lake/Pond or Stream/River
- Non WRC Swamp / Marsh

Storm Structures
- Standard Manhole / Access Point
- Built Over Line MH
- Junction Chamber
- Siphon
- Standard Inlet
- Catch Basin
- Inlet w/ End Section
- Yard Inlet
- Rear Yard Catch Basin
- Leaching Basin
- Field/Trench Drain, NOT WRC
- Roof Drain, NOT WRC
- Inlet w/ Headwall
- Pipe Outlet w/ End Section
- Pipe Outlet w/ Headwall
- Access Manhole
- Access Point
- Air Release Valve
- Cleanout
- Bulkhead or Cap
- Increaser / Reducer
- Barrel Tap, TSV, or Blind Connection
- Restrictor / Orifice
- Weir
- Diversion Chamber
- Flow Regulator
- Dam
- Dam Maintained by Others
- Beaver Dam
- Bridge
- Dock
- Augmentation Well
- Drain / Lake Level Lift Station
- Control Structure
- Overflow Structure
- Special Structure
- Oil Grit Separator Structure

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.

PONTIAC CLINTON RIVER NO. 1 DRAIN

One Public Works Drive
Building 95 West
Waterford, Michigan
48328-1907

WRC WATER RESOURCES COMMISSIONER
Jim Nash

SE
Section 29

PONTIAC
STORM DRAIN SYSTEMS
Township of Pontiac

SHEET
116

Map Printed Jun 22, 2016

Appendix B — CWSRF Cost Analysis

PCR No. 1 DRAIN DRAINAGE DISTRCT CWSRF

SUMMARY OF MONETARY EVAULATION

	Alternative 1A: Rehabilitate Existing Storm Sewers and Structures	Alternative 1B: Replace Existing Storm Sewers and Structures
Capital Costs	**$557,000**	**$1,672,000**
Annual OM&R Costs	**$0**	**$0**
20 Year Salvage Value	**$0**	**$675,000**
Net Present Worth	**$557,000**	**$997,000**
Anuual Equivalent Present Worth	**$34,000**	**$61,000**

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 = 2.0%
ENR CCI = 13175
This Chapter 20 Drain has costs apportioned to the City's General Fund, which is paid by each parcel owner.

	Total Capital & Annual Cost:	Total Parcels:
Annual O&M Costs Alt 1A:	$557,000	21,476

	20 Year Loan
ESTIMATED MONTHLY USER COST:	
(With no principal forgiveness/grant)	$0.11

ENGINEER'S OPINION OF PROBABLE PROJECT COST

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

PROJECT: **Alternative 1A: Rehabilitate Existing Storm Sewers and Structures** — DATE: **4/6/2023**

LOCATION: **PCR No. 1 Drain Storm Sewer System** — PROJECT NO. **20220981**

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

WORK: **Rehabilitate Existing Storm Sewers and Associated Structures** — CHECKED BY: **DWM**

CURRENT ENR: **13175**

USEFUL LIFE	DESCRIPTION	QUANT.	UNIT	UNIT AMOUNT	TOTAL AMOUNT
20	Lining of Storm Pipe, 12" to 15" Dia.	331	LFT	$ 120	$39,700
20	Lining of Storm Pipe, 48" x 76"	355	EA	$ 600	$212,900
20	Rehabilitate/Repair Catchbasins	8	EA	$ 2,300	$18,400
20	Rehabilitate Two Large Storm Structures	2	EA	$ 25,000	$50,000
20	Rehabilitate Two Pipe Outlets	2	EA	$ 25,000	$50,000
20	Repairs and Rehab of Access Structures	27	EA	$ 6,000	$162,000
	Unit Cost Subtotal				***$533,000***
	Contractor General Conditions, Overhead and Permits	10	*%*		*$53,300*
	Contingencies	10	*%*		*$53,300*
	Construction Subtotal				***$639,600***
	Engineering, Legal, and Administration	25	*%*		*$159,900*
	TOTAL PROJECT COST				***$800,000***

Alternative 1A: Rehabilitate Existing Storm Sewers and Structures

PRESENT WORTH ANALYSIS

CAPITAL COST		FIRST COST[1]	SERVICE LIFE (YEARS)		PRESENT WORTH[2]
Rehabilitate Existing Pipes	$	60,000	20	$	60,000
Rehabilitate Existing Structures		497,000	20		497,000
TOTAL CAPITAL COST	**$**	**557,000**	20	$	557,000
PW OF SALVAGE VALUE ***(FIRST COST - PRESENT WORTH)***	$	0			
ANNUAL OPERATION AND MAINTENANCE COST					
TOTAL ANNUAL O&M COST[3]			$ 0		
PRESENT WORTH OF O&M COST				$	0
NET PRESENT WORTH				**$**	**557,000**
AVERAGE ANNUAL EQUIVALENT COST OF PRESENT WORTH				**$**	**34,000**

Notes:

(1) January 2023 ENR 20 Cities CCI = 13175

(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) The anticipated O&M is similar for both alternatives and to the existing budgeted OM&R costs, and therefore is not included in this analysis.

ENGINEER'S OPINION OF PROBABLE PROJECT COST

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

PROJECT: **Alternative 1B: Replace Existing Storm Sewers and Structures** — DATE: **4/6/2023**

LOCATION: **PCR No. 1 Drain Storm Sewer System** — PROJECT NO. **20220981**

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

WORK: **Replace Existing Storm Sewers and Manhole Structures** — CHECKED BY: **DWM**

CURRENT ENR: **13175**

USEFUL LIFE	DESCRIPTION	QUANT.	UNIT	UNIT AMOUNT	TOTAL AMOUNT
20	Replace Storm Pipe, 12" to 15" Dia.	331	LFT	$ 400	$132,000
20	Replace Storm Pipe, 48" x 76"	355	LFT	$ 850	$302,000
20	Replace Catchbasins	8	EA	$ 8,000	$64,000
20	Replace Two Large Storm Structures	2	EA	$ 150,000	$300,000
20	Replace Two Pipe Outlets	2	EA	$ 150,000	$300,000
20	Replace Access Structures	27	EA	$ 25,000	$675,000
	Unit Cost Subtotal				***$1,773,000***
	Contractor General Conditions, Overhead and Permits	10	*%*		*$177,300*
	Contingencies	10	*%*		*$177,300*
	Construction Subtotal				***$2,127,600***
	Engineering, Legal, and Administration	25	*%*		*$531,900*
	TOTAL PROJECT COST				***$2,700,000***

Alternative 1B: Replace Existing Storm Sewers and Structures

PRESENT WORTH ANALYSIS

CAPITAL COST		FIRST COST[1]	SERVICE LIFE (YEARS)		PRESENT WORTH[2]
Replace Existing Pipes	$	201,000	50	$	120,000
Replace Existing Structures		1,471,000	50		877,000
TOTAL CAPITAL COST	**$**	**1,672,000**		$	997,000
PW OF SALVAGE VALUE ***(FIRST COST - PRESENT WORTH)***	$	675,000			
ANNUAL OPERATION AND MAINTENANCE COST					
TOTAL ANNUAL O&M COST[3]			$ 0		
PRESENT WORTH OF O&M COST				$	0
NET PRESENT WORTH				**$**	**997,000**
AVERAGE ANNUAL EQUIVALENT COST OF PRESENT WORTH				**$**	**61,000**

Notes:

(1) January 2023 ENR 20 Cities CCI = 13175

(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) The anticipated O&M is similar for both alternatives and to the existing budgeted OM&R costs, and therefore is not included in this analysis.

Appendix C — EGLE Submittable Forms

SRF/SWQIF Project Nos. _____

Project Priority List (PPL) Scoring Data Form

Please complete the information requested below and indicate the page numbers or appendices in the project plan which verify the information provided. Enter "N/A" if information is not pertinent.

PROJECT APPLICANT: _____

PROJECT LOCATION: _____

1. Water Pollution Severity Data (0 to 500 points)

page _____ **1. Pre-project conditions, including wastewater collection/treatment deficiencies and water quality problems currently occurring.**

page _____ **2. Post-project conditions, including proposed facilities and water quality improvements.**

Does the existing facility (or facilities) being upgraded, expanded, or replaced by this project file either surface water or groundwater discharge monitoring reports?

☒ **YES, Proceed to Section C or** ☐ **NO, Proceed to Section A or B**

Note: If a project with either a surface water or groundwater discharge is also causing a nitrate problem in the groundwater (i.e., leaky lagoons), please be sure to complete Item B.5. Projects may receive points for both surface water and groundwater contamination.

A. Data on Existing Surface Water Discharge

page _____ **1. Discharge type:**

☐ Continuous

☐ Seasonal

☐ Intermittent (***if CSO, or SSO, please complete Sections E and F below***)

page _____ **2. Flow**. For facilities that discharge to regional treatment plants and do not file surface water discharge monitoring reports, provide the average daily metered flow *(identify whether units are MGD or MGY*) _____

page _____ **3. Identify Receiving Water and Type** _____

page _____ **4. Location** (*town, range, and section*) _____

page _____ **5. Existing Treatment**

☐ Untreated ☐ Secondary ☐ Combined Sewer Overflow ☐ Tertiary

☐ Primary (including septic systems with direct surface water discharge)

page _____ **6. Existing Disinfection Process:**

☐ None

☐ Chlorination

☐ Alternative Technology (*specify type*) _____

B. Data on Existing Groundwater Discharge

page _____ **1. Discharge Type:**

☐ Continuous

☐ Seasonal

☐ Intermittent

2. **Flow.** For unsewered areas, flow should be calculated using a figure of 70 gpcd. For facilities that do not file
page groundwater discharge monitoring reports, provide the existing metered flow figure *(identify whether units are MGD or MGY*)

page 3. **Location** (*provide town, range, and section*)

page 4. **Existing Treatment**

☐ Untreated ☐ Primary (including septic with tile field) ☐ Secondary

page 5. **Nitrate contamination of public or private wells caused by the discharge of effluent/waste from the treatment system or systems**

☐ Public well(s) in vicinity contains nitrates > 10 mg/L (100 points)

☐ Private well(s) in vicinity contains nitrates > 10 mg/L (75 points)

☐ Monitoring well(s) in vicinity contains nitrates > 10 mg/L (50 points)*

☐ No evidence of nitrate contamination in local wells

*Note: If only the total inorganic nitrogen ("TIN" ammonia + nitrite + nitrate) concentration is available, a separate sampling and nitrate analysis should be performed to document the nitrate concentration.

C. Information on Proposed Surface Water/Groundwater Discharge
(Attach additional pages if necessary; a copy of the effluent limits letter/permit table may suffice.)

page 1. **Discharge Type:**

☐ Continuous

☐ Seasonal Identify all discharge points and receiving waters.

☐ Intermittent

page **2-6** 2. **Average Design Flow** *(identify units as MGD or MGY*)

page 3. **Identify receiving water for a surface water discharge**

page 4. **Location** (*town, range, and section*)

5. **List Effluent Limits:**

Minimum Dissolved Oxygen

$CBOD_5$

Ammonia

Phosphorus

Total Inorganic Nitrogen (TIN)
(from Groundwater Permit)

page 6. **Will the proposed facility address <u>documented</u> total residual chlorine (TRC) violations?**

☐ YES, proceed to 7 ☐ NO

7. **Will the proposed disinfection improvements involve either dechlorination or an alternative disinfection technology (e.g. ultraviolet disinfection, ozonation) that eliminates the use of chlorine?**

☐ YES ☐ NO

D. Data on Existing (Pre-Project) CSO and SSO Discharges

*Information must be provided **for each outfall** directly associated with the proposed correction project.*

Outfall #	Receiving Stream	Location* Town/Range/Section	Estimated Overflow Volume (MG) for 1-year, 1-hour storm event
001			

Outfall #	Estimated Overflow Duration (Hours)	Estimated Annual Overflow Volume (MG)	Tributary Residential Population
001			

* A map showing the discharge locations by number is highly preferable and can be attached to this sheet.

E. Data on Future (Post-Project) CSO and SSO Discharges

List each outfall from Section E. For outfalls which will cease to function as combined sewer outfalls upon the completion of this project, simply enter "Eliminated" under Receiving Stream*. List any new outfalls (e.g., for a retention/treatment basin) created by this project and include its associated discharge data.*

Outfall #	Receiving Stream	Location* Town/Range/Section	Estimated Overflow Volume (MG) for 1-year, 1-hour storm event
001			

Outfall #	Estimated Overflow Duration (Hours)	Estimated Annual Overflow Volume (MG)	Detention Time Prior to Discharge for 1-year, 1-hour storm event
001			

* A map showing the discharge locations by number is highly preferable and can be attached to this sheet.

Please attach additional pages if necessary.

2. Enforcement Actions (0 or 300 points)

Is the proposed project necessary for compliance with a fixed-date construction schedule established by an order, permit, or other document issued by the DEQ, or entered as part of an action brought by the state against a municipality?

☐ **YES, Proceed to Item A** **or** ☐ **NO, Proceed to Section 3**

page _____ **A. Copy of the enforcement action, order, permit or other DEQ document.**

3. Population Data (30 to 100 points)

page _____ **A. Existing residential population to be served by the proposed project:** _____

page _____ **B. Existing population of the POTW service area:** _____

4. Dilution Ratio (25 to 100 points)

The data for the dilution ratio scoring category is collected from several questions in the Water Quality Severity Data section of this document and information in DEQ files, therefore, ***no action is required from the applicant for the completion of this item of the PPL Scoring Data Form****. The primary purpose of this section is to clarify and document the figures utilized in the dilution ratio calculation. Please note that for new collection system projects, the existing discharge is calculated by multiplying the residential population to be served by the proposed project by 70 gallons per capita per day (gpcd). For projects with existing Groundwater and NPDES permits, the Discharge Monitoring Report (DMR) data will be obtained by the DEQ staff. For projects that discharge to regional facilities and do not have individual discharge permits, the existing discharge will be based on the average daily metered flow.*

The following information will be completed by DEQ staff:

The dilution ratio is _____ and was calculated from _____/_____.

(Specify the units for both the numerator and denominator).

5. Failing On-Site Septic Systems (0 or 100 points)

Does the project propose to correct failing on-site septic systems that have no suitable replacement?

☐ **YES, Proceed to Item A** **or** ☐ **NO, Proceed to Section 6**

page _____ **A. Documentation of site limitations that prevent septic system replacement.**

6. Septage Receiving/Treatment Facilities (0 or 100 points)

Does the project propose to construct, upgrade, or expand a septage receiving or treatment facility?

☐ **YES, Proceed to Item A** **or** ☐ **NO**

page _____ **A. Description of the proposed septage facility improvements.**

Fiscal Sustainability Plan Certification Form

Describe SRF Project to be Funded: OR SRF Project Number _____

Pontiac-Clinton River No. 1 Drain Drainage District Improvements

Check one box below:

☐ FSP does not apply because:

- ☐ The project is for a new treatment works system.
- ☐ The project involves an upgrade that does not involve repair/replacement or expansion of a treatment works system.
- ☐ The project is for nonpoint source work.
- ☐ Other (explain)

☒ FSP is complete for the SRF-funded project and is available for review by contacting:

Sally Duffy (Name) 734-776-7336 (Phone)

I certify that PCR No.1 Drain Drainage District (Applicant's Name) has developed and implemented a plan that meets the requirements of Section 603(d)(1)(E)(i) of the Water Resources Reform and Development Act of 2014. The FSP includes an inventory of critical assets, an evaluation of the condition and performance of inventoried assets, a plan for maintaining, repairing, and as necessary, replacing the treatment works, and a plan for funding such activities. The applicant also certifies that the water and energy conservation efforts have been evaluated and will be implemented.

Carrie Cox, P.E., Special Projects Manager

Name and Title of Authorized Representative *(Please Print or Type)*

Signature of Authorized Representative Date

Project Useful Life and Cost Analysis Certification Form

Project Information

Applicant Name: Pontiac Clinton River No.1 Drain Drainage District

SRF Project to be Funded: _____

Per Section 602(b)(13) of the Federal Water Pollution Control Act (FWPCA), all Clean Water State Revolving Fund (CWSRF) assistance recipients must certify that they have conducted the studies and evaluations described in 602(b)(13)(A) and (B), collectively known as a cost and effectiveness analysis.

☒ 1) The applicant has studied and evaluated the cost and effectiveness of the processes, materials, techniques, and technologies for carrying out the proposed project or activity for which assistance is sought under the CWSRF; and

☒ 2) The applicant has selected, to the maximum extent practicable, a project or activity that maximizes the potential for efficient water use, reuse, recapture, and conservation, and energy conservation, taking into account the cost of:
- constructing the project or activity;
- operating and maintaining the project or activity over the life of the project; and
- replacing the project or activity.

☒ 3) The applicant has completed a Project Useful Life analysis for the project or activity. **Attach appropriate documentation**

I certify that requirements (1), (2), and (3) as checked above have been met.

Sally Duffy

Name of Professional Engineer *(Please Print or Type)*

Signature of Professional Engineer Date

Carrie Cox, P.E., Special Projects Manager

Name and Title of Authorized Representative *(Please Print or Type)*

Signature of Authorized Representative Date

Appendix D — Project Planning Public Meeting

(to be provided in final version)

NOTICE OF PROJECT PLANNING PUBLIC MEETING

The **Pontiac Clinton Relief No. 1 Drain Drainage District** will hold a public meeting on the proposed **Clean Water State Revolving Fund (CWSRF) Storm System Improvements** project for the purpose of receiving comments from interested persons.

The meeting will be held at **2:00 p.m.** on **Tuesday, April 25, 2023, virtually and at the Oakland County Water Resources Commissioner's Office (1 Public Works Dr., Waterford, MI.)**

The purpose of the proposed project is **to make improvements to the existing storm water systems in order to continue to meet the required level of service for the systems.**

Project construction will involve **upgrades to and rehabilitation of existing stormwater pipes and structures.**

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 that will reduce the likelihood of system failures.**

The estimated cost to users for the proposed project is approximately **$0.16 per household over 20 years. However, the Drain will likely qualify as "overburdened" and may be eligible for additional grant funding and/or principal forgiveness, which would reduce the cost. The Drain will also have the opportunity to reduce the scope of work and potential cost during the design phase and/or defer the project should funding not be awarded.**

Copies of the plan detailing the proposed project are available for inspection at the following location: **Oakland County Water Resources Commissioner's Office (1 Public Works Dr., Waterford, MI.)**

Written comments received before the meeting record is closed on **Tuesday, April 25, 2023,** will receive responses in the final project planning document. Written comments should be sent to Stephanie Lajdziak at lajdziaks@oakgov.com before TUESDAY, APRIL 25, 2022 at 2:00 P.M.

Appendix E — Resolution and Project Plan Submittal Form

(to be provided in final version)

A RESOLUTION ADOPTING THE
PONTIAC-CLINTON RIVER NO. 1 DRAIN DRAINAGE DISTRICT'S
2024 CLEAN WATER STATE REVOLVING FUND PROJECT PLAN AND
DESIGNATING AN AUTHORIZED PROJECT REPRESENTATIVE

WHEREAS, the Drainage Board for the Pontiac-Clinton River No. 1 Drain Drainage District recognizes the need to make improvements to its existing storm sewer system; and

WHEREAS, the Drainage Board for the Pontiac-Clinton River No. 1 Drain Drainage District authorized Hubbell, Roth & Clark, Inc. to prepare a Clean Water State Revolving Fund Project Plan, which recommends the construction of various improvements to the system; and

WHEREAS, said Project Plan was presented at a Public Hearing held at the offices of the Oakland County Water Resources Commissioner held on April 25, 2023;

NOW THEREFORE BE IT RESOLVED, that the Drainage Board for the Pontiac-Clinton River No. 1 Drain Drainage District formally adopts said Project Plan and agrees to implement the selected alternatives for improvements.

BE IT FURTHER RESOLVED, that the Manager of Special Projects, a position currently held by Carrie Cox, P.E., is designated as the authorized representative for all activities associated with the project referenced above, including the submittal of said Project Plan as the first step in applying to the State of Michigan for a Clean Water Revolving Fund Loan to assist in the implementation of the selected alternative.

Yeas:
Nays:
Abstain:
Absent:

I certify that the above Resolution was adopted by the Drainage Board for the Pontiac-Clinton River No. 1 Drain Drainage District on Tuesday, April 25, 2023.

BY:

_____ April 25, 2023
Jim Nash, Oakland County Water Resources Commissioner and Chairperson of the Pontiac-Clinton River No. 1 Drain Drainage District — Date

Michigan Department of Environment, Great Lakes, and Energy
Gretchen Whitmer, Governor
Liesl Eichler Clark, Director

http://www.michigan.gov/egle

Clean Water Revolving Funds
SRF/SWQIF Project Plan Submittal Form

Name of the Project Pontiac-Clinton No.1 Drain Drainage District Improvements	**Applicant's Federal Employer Identification Number (EIN)**
Legal Name of Applicant (The legal name of the applicant may be different than the name of the project. For example, a county may be the applicant for bonding purposes, while the project may be named for the particular village or township it serves.) Pontiac-Clinton No.1 Drain Drainage District	**Areas Served by this Project** Counties Oakland County Congressional Districts 11 State Senate Districts 7 State House Districts 54
Address of Applicant (Street, P O Box, City, State & Zip) One Public Works Building #95W Waterford Twp, MI 48328	
NPDES Permit Number (if permit holder)	**Associated SAW Grant Number** (if applicable)
Brief Description of the SRF/SWQIF Project Storm pipe improvements	
Disadvantaged Community Determination ☒ The applicant is requesting a disadvantaged community determination, and a completed *Disadvantaged Community Status Determination Worksheet* is attached.	
Estimated Total Cost of the SRF/SWQIF Project	**SRF/SWQIF Construction Start Target Date**
Name and Title of Applicant's Authorized Representative Carrie Cox, P.E., Special Projects Manager	
Address of Authorized Representative (if different from above) One Public Works Building #95W Waterford Twp, MI 48328	**Telephone** 248-858-0958 **E-Mail Address** coxc@oakgov.com
Signature of Authorized Representative	**Date**
Joint Resolution(s) of Project Plan Adoption/Authorized Representative Designation is attached. check here ☒	

A final project plan, prepared and adopted in accordance with the Department's *Clean Water Revolving Funds (SRF and SWQIF) Project Plan Preparation Guidance*, must be submitted by July 1st in order for a proposed project to be considered for placement on a Project Priority List for the next fiscal year. Please send your final project plan with this form to:

WATER INFRASTRUCTURE FINANCING SECTION
FINANCE DIVISION
MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
P O BOX 30457
LANSING MI 48909-7957

Appendix F — Asset Management Plan and Asset Lists

AUGUSTA DRAIN DRAINAGE DISTRICT
SUMMARY OF PROPOSED REHABILITATION/REPLACEMENT ASSETS
Structures

Asset-Asset ID	Asset-Asset Type	Asset-Current Condition	Asset-Criticality Score	Action
12763	Storm - Catchbasin	5	5	Rehab/repair
12758	Storm - Catchbasin	5	5	Rehab/repair
13648	Storm - Catchbasin	5	5	Rehab/repair
13647	Storm - Catchbasin	5	5	Rehab/repair
611823	Storm - Catchbasin	5	5	Rehab/repair
12754	Storm - Catchbasin	5	5	Rehab/repair
12757	Storm - Catchbasin	5	5	Rehab/repair
12756	Storm - Catchbasin	5	5	Rehab/repair
7858	Storm - Access Str	5	5	Rehab/repair
1081426	Storm - Access Str	5	5	Rehab/repair
347	Storm - Access Str	5	5	Rehab/repair
353	Storm - Access Str	5	5	Rehab/repair
7502	Storm - Access Str	5	5	Rehab/repair
7852	Storm - Access Str	5	5	Rehab/repair
7498	Storm - Access Str	5	5	Rehab/repair
352	Storm - Access Str	5	5	Rehab/repair
349	Storm - Access Str	5	5	Rehab/repair
348	Storm - Access Str	5	5	Rehab/repair
7850	Storm - Access Str	5	5	Rehab/repair
341	Storm - Access Str	5	5	Rehab/repair
432	Storm - Access Str	5	5	Rehab/repair
7103	Storm - Access Str	5	5	Rehab/repair
7855	Storm - Access Str	5	5	Rehab/repair
346	Storm - Access Str	5	5	Rehab/repair
7854	Storm - Access Str	5	5	Rehab/repair
355	Storm - Access Str	5	5	Rehab/repair
356	Storm - Access Str	5	5	Rehab/repair
354	Storm - Access Str	5	5	Rehab/repair
359	Storm - Access Str	3	5	Rehab/repair
7102	Storm - Access Str	5	5	Rehab/repair
946182	Storm - Access Str	5	5	Rehab/repair
7853	Storm - Access Str	5	5	Rehab/repair
2518	Storm - Access Str	5	5	Rehab/repair
7499	Storm - Access Str	5	5	Rehab/repair
2517	Storm - Access Str	5	5	Rehab/repair

Total Count: 35

AUGUSTA DRAIN DRAINAGE DISTRICT
SUMMARY OF PROPOSED REHABILITATION/REPLACEMENT ASSETS
Pipes

Asset ID	Diameter, inches	Length, lineal feet	Pipe Material	PACP Structural Quick Rating	PACP Maintenance Quick Rating	Action
22632	48x76	355	C76-IV	5400	2300	Full Line
24246	12	117	CMP	5143	2C00	Full Line
24262	12	44	CMP	4100	0	Full Line
24264	15	108	CMP	4100	0	Full Line
611820	12	9	CMP	4100	0	Full Line
24263	12	52	CMP	4B3B	2C00	Full Line
	Total Length:	**685**				

HRC 100 YEARS
CONSULTING ENGINEERS SINCE 1915

MEMORANDUM

To: Michigan Department of Environmental Quality (MDEQ)
Revolving Loan Section, Attn: Jonathan Berman

From: Hubbell, Roth & Clark, Inc.

CC: WRC/PCRDDD

Date: October 31, 2017

Re: Pontiac Clinton River No.1 Drain Drainage District
MDEQ Stormwater, Asset Management and Wastewater (SAW) Grant #1148-01
Summary of Stormwater Asset Management Plan

The following is a summary of the work completed under the MDEQ SAW Grant work performed by the Pontiac Clinton River No.1 Drain Drainage District (PCRDDD). It includes a summary of the project scope, results and findings of activities covered by the grant, grant amount spent and match amount, and contact information. It has been prepared as required under Section 603 of Public Act 84 of 2015, and follows recent MDEQ guidance.

GRANTEE INFORMATION

Pontiac Clinton River No.1 Drain Drainage District, SAW Grant Project #1148-01

Project Grant Amount: $235,000

Applicant Match Amount: None

Authorized Representative
Jim Nash, PCRDDD, Chairman
(248) 858-0958
wrc@oakgov.com

Consultant Contact
Karyn Stickel, HRC, Associate
(248) 454-6566
kstickel@hrcengr.com

WRC Project Manager
Mike McMahon, WRC, Chief Engineer
248-858-5397
mcmahonm@oakgov.com

EXECUTIVE SUMMARY

The Pontiac Clinton River No.1 Drain Drainage District (PCRDDD) applied for and received a grant to further develop an Asset Management Plan (AMP) for its stormwater system through the Michigan Department of Environmental Quality's (MDEQ) Stormwater, Wastewater and Asset Management (SAW) program. Because the SAW program was funded through monies appropriated for water quality,

other related infrastructure systems, such as drinking water, were not eligible for funding through the grant, but are considered in analysis and recommendations where appropriate.

The PCRDDD is operate and maintained by the Oakland County Water Resources Commissioner (WRC) on behalf of the Drainage Board of PCRDDD created under Chapter 20 in Oakland County under the Drain Code. The WRC has various tools used to manage the assets it owns or operates and maintains, including a GIS geodatabase, collaborative asset management system, hydraulic models, condition assessment methods, risk and prioritization models, capacity studies, asset deterioration models, and an operating and capital improvement project prioritization model. These tools are used to guide the short and long-term strategies for WRC to operate the various systems in a sustainable manner that meets the required level of service, with a focus on prioritizing assets that are most critical and being cost-effective. The funding strategy for each fund is also evaluated annually through WRC's "Long-Term Plan" (LRP) process that includes a review of the current fund balances and anticipated future funding needs.

The WRC "Common to All" approach was generally followed in development of the asset management plan for this system. The following is a summary of the AMP, as required by the grant, which includes a brief discussion of the five major AMP components, a list of the plan's major identified assets, and contact information for the grant.

STORMWATER INVENTORY

WRC uses its existing Geographic Information System (GIS) geodatabase as the primary means to inventory and map the assets in the system. The geodatabase includes key attributes associated with each asset, such as installation date (age), size, material, along with other information as appropriate for a given asset type.

WRC currently uses the Cityworks software package for its Computer Maintenance Management System (CMMS,) which then collaborates with the GIS to present a single interface to the user via the Collaborative Asset Management System (CAMS.) CAMS assists in managing inspections and maintenance work by generating and tracking work orders, collecting inspection and condition data, and compiling costs and hours spent on each asset. Maintenance history and costs can be tracked on an asset and/or fund level.

Condition assessment tools and protocols were developed by WRC to allow for efficient and consistent recording of asset condition. For sanitary, combined, and stormwater sewer assets, a NASSCO-compliant software program stores data collected during sewer televising. The data stored can be shared with the existing CAMS system. Inspection work orders in the CAMS system are used for evaluation of other types of assets, such as manholes and other collection system structures, and for most vertical asset types, such as pumps, valves, structures, etc.

As part of the grant for PCRDDD, the GIS geodatabase inventory was reviewed for completeness and to ensure critical attributes were populated. Approximately 11,148 lineal feet of storm underwent condition assessment via cleaning and televising. Approximately 68 access structures were evaluated using the CAMS inspection work orders.

CRITICALITY OF ASSETS

WRC implemented PowerPlan asset optimization software as part of the "Common to All" Program. Baseline Probability of Failure (POF) and Consequence of Failure (COF) factors were configured into the

software as part of that Program, and were used to estimate the overall risk of the horizontal assets (sewers and associated structures.)

Both the POF and COF were scored on a scale of 1 to 5, with 1 being the lowest probability or consequence of failure, and 5 corresponding to the highest probability or consequence of failure. The Business Risk Evaluation (BRE or Risk) score is the product of the POF score and the COF score (POF times COF equals Risk,) and has a scale of 1 to 25. Higher BRE scores identify the assets with the greatest overall risk.

The POF and COF for horizontal assets are determined using scoring values developed uniquely for each asset type, such as gravity main, non-gravity main, manhole, etc. The POF and COF scores for each asset type are calculated using attribute data from the GIS geodatabase, inspection data from the CAMS system, and NASSCO PACP and MACP ratings. The primary attribute for determining the POF of gravity mains (storm sewers) was the PACP Structural Quick Score. The PACP Maintenance Quick Score and age are also incorporated into the POF rating. Where PACP scores were not available, the POF score was based on the age-based assumed condition.

For manholes and other access structures, the POF is based primarily on the MACP fields cover condition, frame condition, chimney condition, cone condition, wall condition, bench condition, and channel condition along with age. If the MACP data was not available, the score was based on just age.

The COF for mains and access points (storm and related structures) was determined based on asset depth, size, proximity to groundwater and flood zones, and proximity to roads and intersections.

LEVEL OF SERVICE DETERMINATION

At the strategic level, the Level of Service (LOS) identifies the long-term goals and strategies of the organization. An overall LOS guiding matrix was developed to document the goals and strategies of the WRC organization. The WRC Mission Statement and the annual LRP process form additional elements of the LOS.

The WRC's current Mission Statement is:

> *The Oakland County Water Resources Commissioner's Office is dedicated to the preservation and protection of our water environments, public health, welfare, convenience and the citizen's right to quality water. We are committed to acting with integrity and professionalism and will always seek collaboration among our Oakland County communities and regional partners.*
>
> *We commit ourselves to providing our customers with high value services that are fairly priced, environmentally sound and sustainable in the long term. We are committed to an open dialogue with our communities and promise to keep lines of communication open.*
>
> *In our pursuit of excellence and continuous improvement, every member of our staff will respond to issues of the public promptly, safely, respectfully and with sensitivity to their individual needs. Our office will always endeavor to provide an appropriate resource when an issue is not within our authority.*
>
> *We will install a culture that perpetuates an environment promoting trust, respect and teamwork, both within our organization and among our communities and region.*

The WRC strategic Level of Service Goals included:

- Financial Viability and Impact. Goal: Emergency repairs can be repaired within Utility Reserve Budgets of the system. Measurable: Exceedances of reserve budgets
- Public Confidence and System Service Impact. Goal: Minimal to some loss of service or impact on other services for less than four hours. No sewer system or basement backups. Minor disruption (e.g., traffic, dust, noise.) Measurable: Number of service interruptions, complaints, and backups.
- Regulatory Compliance. Goal: No state permit violations and comply with all MDEQ policies. Measurable: Number of violations
- Safety of Public and Employees. Goal: Non-reportable injuries, no lost-time injuries or medical attention required. No impact to public health. Measurable: Number of injuries and any public health advisories.
- Redundancy. Goal: Comply with 10 State Standards. Measurable: Number of violations.
- Risk and BRE score: Goal: 70% of assets have a BRE less than 15. Measurable: System risk score.
- Staffing. Goal: Staffing levels and training maintained to meet level of service. Measurable: Number of open positions, training hours.

At the tactical level, the LOS focuses on the prioritization in the medium-term and identification of factors and indicators related to performance, cost, risk, and failure probability. The Probability of Failure and Consequence of Failure scoring matrices used in the criticality and risk analysis were developed using the strategic LOS guidance. Progress toward the goals are measured through the CAMS analytic data, and is reviewed as part of the LRP process with internal staff and customers.

At the operational level, the LOS is related to procedures and information related to the short-term, day-to-day operation. Performance is measured at the asset level using work orders to collect data, and annual reporting of measurables and progress toward goals with operational staff.

REVENUE STRUCTURE

The annual operation and maintenance budget includes the typical costs spent each year to operate the system and to perform normal maintenance activities. This baseline O&M budget does not include major capital improvements that are required to increase capacity, meet new regulatory requirements, or replace items that have failed or reached the end of their useful service life.

The asset optimization software assisted WRC staff by developing recommended strategies for inspection, rehabilitation and replacement needs over the long-term for each system based on condition and risk. WRC project management staff then reviewed the recommendations generated by the software and rationalized the recommendations to “real world” needs, including any improvements required due to capacity or regulation changes. The WRC uses this information as part of its existing LRP process to prioritize projects and ensure adequate funding is available.

The LRP process is a tool to determine utility rates and charges to provide sufficient revenues to cover the anticipated operation, maintenance, replacement, capital improvement projects, and debt costs associated with a given system, as well as to maintain a reserve balance for emergencies or a significant one-time charge. It ensures adequate revenues are collected for budgeted needs in the current year, and over the long term. The stormwater and Drainage District funds do not currently use the LRP rate

process due to the lack of reliable funding mechanisms for stormwater systems, but the overall framework is set up to accommodate these systems in the future.

Because of the lack of funding for the drainage district, a rate sufficiency study was not completed for this task.

CAPITAL IMPROVEMENT PLAN

The asset optimization software forecasts and prioritizes assets that require replacement in the planning period. The individual replacements can be combined into projects and scheduled with budget amounts established. This information is then used in the LRP process to determine revenue needs for funding the project established. A list of capital projects was developed for PCRDDD, using recommendations from the asset optimization software, and consideration of other system needs. These projects will be constructed as funding allows.

The recommended projects are summarized below. Projects listed for implementation in the 0 to 5 year range include cost estimates prepared on data available at the study/feasibility level. Projects in the 5 to 20 year range are based on broad concepts only and costs are based on cost curves and other general tools. All projects are listed for financial and resource planning purposes only. Changes to project inclusion, scope, cost and/or timing are expected as resources are allocated and changes occur in prioritization, regulations, technology, cost and other data becomes available.

Capital Projects, 0 to 5 years:

- 2018 – 2020 – Program to replace two pipe outlets and one storm pipe. Total replacement cost is approximately $45,000.

- 2021 – 2023 – Replacement of several standard manholes and catch basins. Total replacement costs of approximately $45,000. Rehabilitation of two large stormwater structures. Replacement of these structures would be cost prohibitive due to the locations, therefore, it is recommended that $25,000 be budgeted for each, for a total project cost of $50,000

Capital Projects, 6 to 10 years:

- 2024 – Replacement of one storm pipe. Total replacement cost is approximately $7,000.

Capital Projects, 10 to 20 years:

- 2024 – Replacement of one storm pipe. Total replacement cost is approximately $7,000.

- 2027 – 2031 - Rehabilitation of five storm pipes, two storm catch basins and one storm manhole structure. The total rehabilitation cost is $200,000.

- 2032 – 2037 – Rehabilitation of four storm pipes, two storm catch basins and eight storm manhole structures with a total budgeted cost of $200,000.

RECOMMENDATIONS

In order to keep this AMP sustainable into the future, overall framework has been set up to be able to utilize the LRP process for future needs. The LRP process will be undertaken annually to review existing recommendations, status of current projects, and forecasted needs against available reserves and anticipated funding. The asset optimization tool will be regularly synced with CAMS to incorporate any new GIS and operational and condition data. The software will then automatically update recommended events, treatment and replacement strategies, and capital projects. The updated recommendations will be reviewed quarterly and as part of the annual LRP to ensure the availability of required funds for the projects.

LIST OF MAJOR ASSETS

The PCRDDD's major assets include:

- 11,148 LF of storm sewer
- 68 access structures

Department of Environmental Quality
SAW Grant
Stormwater Asset Management Plan
Certification of Project Completeness

Completion Due Date **October 31, 2017**
(no later than 3 years from executed grant date)

The **Pontiac-Clinton River Drain No. 1 Drainage District** *(legal name of grantee)* certifies that all stormwater asset management plan (SWAMP) activities specified in SAW Grant No. **1148-01** have been completed and the SWAMP, prepared with the assistance of SAW Grant funding, is being maintained. Part 52 of the Natural Resources and Environmental Protection Act, 1994, PA 451, as amended, requires implementation of the SWAMP within 3 years of the executed grant (Section 5204e(3)).

Attached to this certification is a summary of the SWAMP that identifies major assets. Copies of the SWAMP and/or other materials prepared through SAW Grant funding will be made available to the Department of Environmental Quality or the public upon request by contacting:

Jim Nash	at **248-858-0958**	**wrc@oakgov.com**
Name	Phone Number	Email

10/27/17

Signature of Authorized Representative (Original Signature Required) Date

Jim Nash, Chairman of the Drainage Board and Oakland County Water Resources Commissioner
Print Name and Title of Authorized Representative

Appendix G — Overburdened and Significantly Overburdened Form

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

OVERBURDENED AND SIGNIFICANTLY OVERBURDENED COMMUNITY STATUS DETERMINATION WORKSHEET

The following data is required from each State Revolving Fund (SRF) applicant requesting a determination for overburdened and significantly overburdened community status.

The most recent census and tax data are available in a searchable table on EGLE's State Revolving Fund – Overburdened Community Definition and Scoring Criteria Development webpage along with an excel worksheet to help determine blended Median Annual Household Income (MAHI) and blended taxable value per capita for regional systems. The MAHI and taxable value per capita table will be used to make all FY24 determinations. Applicants are encouraged to visit this page prior to completing this form to see if they qualify based on MAHI (blended MAHI if applicable) or taxable value per capita (blended taxable value per capita if applicable) alone. If so, they only need to fill out lines 1 and 2 of this form, electronically sign it on page 2, and submit.

Alternately, **if the applicant's MAHI or blended MAHI is above the state average - $63,498 for FY24 – they cannot be determined as being overburdened or significantly overburdened for FY24 funding and should not complete or turn in this form**.

For applicants whose MAHI or blended MAHI is below $63,498 but do not automatically qualify based on MAHI or taxable value per capita alone, please complete the entire form and return to:

Mark Conradi
conradim@michigan.gov

Name of Applicant

Pontiac Clinton River No1 Drain Drainage District (Oakland County WRC)

Please check the box indicating which funding source this determination is for:

DWSRF ☐

CWSRF ☑

1. Is this a regional system? A regional system refers to any system that serves more than one municipality (cities, townships, and/or villages)

Yes ☐
No ☑

If yes, refer to the instructions at the end of this form to complete calculations for a blended MAHI and blended taxable value per capita. Additionally, page 3 of this form will also need to be completed.

2. Median Annual Household Income from table on the overburdened webpage (blended if applicable)

$36,214

3. Taxable Value Per Capita from table on the overburdened webpage (blended if applicable)

$14,274

4. Total amount of anticipated debt for the proposed project (amount of loan requested for FY24 loan)

0

5. Annual payments on the existing debt for the system

N/A

6. Total operation, maintenance, and replacement expenses (OM&R) for the system on an annual basis

N/A

7. Number of residential equivalent users (REUs) in the system

N/A

***I (**Sally Duffy**) hereby certify that the information in this form is complete, true, and correct to the best of my knowledge.**

Signature Date

For determinations made using anticipated debt, a final determination will be made based upon the awarded loan amount and not the anticipated amount provided on this form.

Overburdened and Significantly Overburdened Calculation Worksheet

2. Median Annual Household Income (blended if necessary)	$36,214
3. Taxable Value Per Capita (blended if necessary)	$14,274
4. Amount of anicipated debt - FY24 SRF loan only	
Terms	20
Rate	2.75%
New Annual debt from SRF loan	$0
5. Annual Payments on existing debt	
6. Total OM&R	
7. Number of REUs	
Total Annual Cost	$0
Annual User Cost	$0
MAHI Threshold $ amount	**$362**

Applicant Name:
Pontiac Clinton River No. 1 Drainage District
Oakland County Water Resources Commissioner

			Result
125% of Federal Poverty MAHI	$37,500	**Significantly Overburdened**	**YES**
Lowest 10% TVPC	$15,170	**Significantly Overburdened**	**YES**
Lowest 20% TVPC	$22,920	**Overburdened without calculation needed**	**YES**
Michigan MAHI	$63,498	**Overburdened with calculation**	**NO**

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