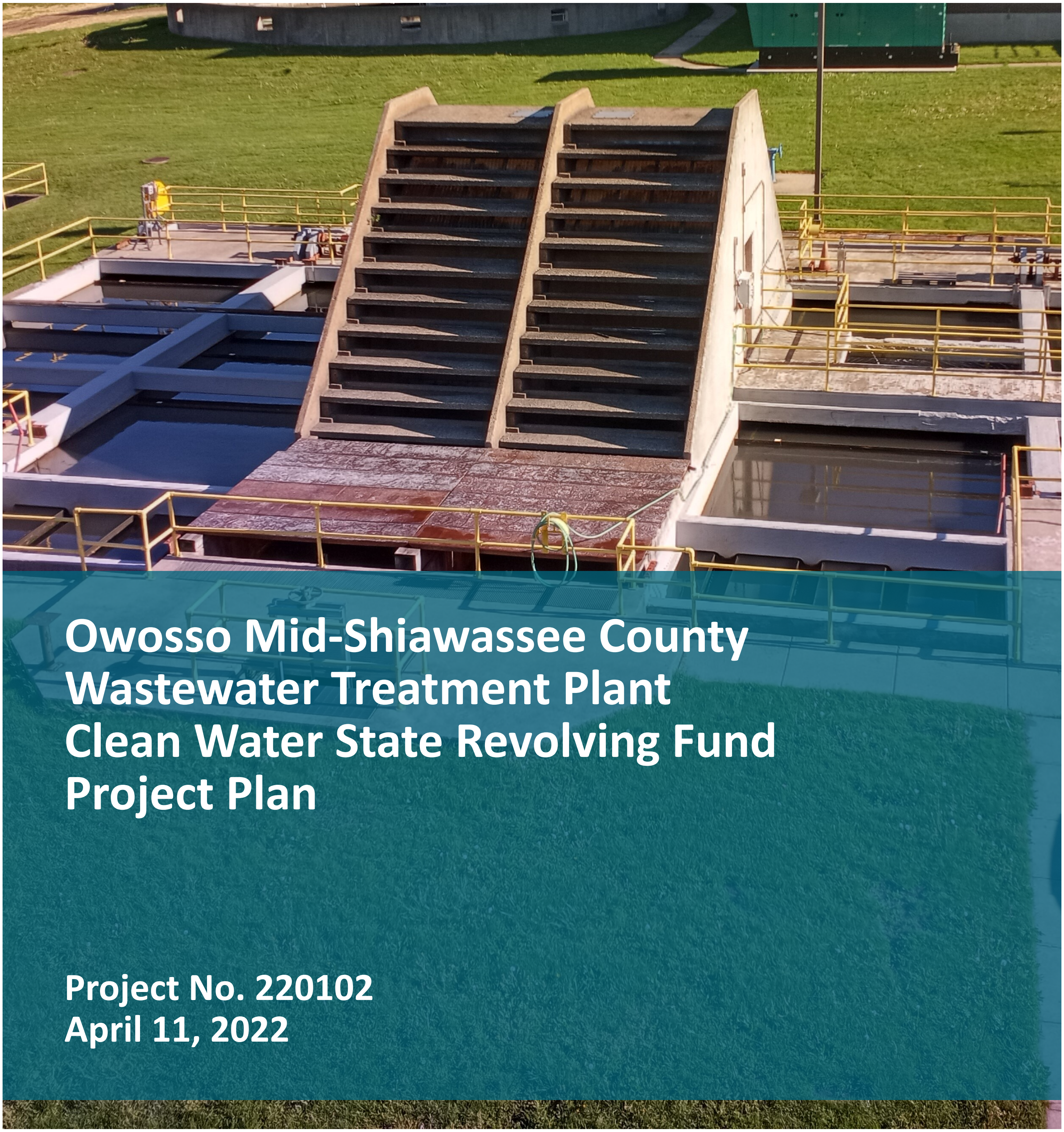

Owosso Mid-Shiawassee County Wastewater Treatment Plant Clean Water State Revolving Fund Project Plan

Project No. 220102
April 11, 2022

DRAFT

fishbeck
Engineers | Architects | Scientists | Constructors

5913 Executive Drive, Suite 100
Lansing, Michigan 48911

517.882.0383 | fishbeck.com

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Prepared For:

City of Owosso, Michigan

April 11, 2022
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Draft

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List of Abbreviations/Acronyms

ACO	Administrative Consent Order
ACS	American Community Survey
AGS	Activated Granular Sludge
AMP	asset management plan
$CBOD_5$	five-day carbonaceous biochemical oxygen demand
CIP	Capital Improvements Plan
City	City of Owosso
Cm	Ceresco Loam

CO	carbon monoxide
CSO	combined sewer overflow
EGLE	Michigan Department of Environment, Great Lakes, and Energy
EQ	equalization
FEMA	Federal Emergency Management Agency
hp	horsepower
I/I	infiltration and inflow
I/O	input/output
MBR	Membrane Bioreactor
MGD	million gallons per day
MsA	Metamora Sandy Loam
MuE2	Miami Loam
NAAQS	National Ambient Air Quality Standards
NASSCO	National Association of Sewer Services Companies
NO_2	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
O&M	operations and maintenance
O_3	ozone
OM&R	operation, maintenance, and replacement
PACP	Pipeline Assessment Certification Program
Pb	Lead
PBB	power panelboard
PLC	programmable logic controller
$PM_{2.5}$	fine particulate matter less than 2.5 microns
PM_{10}	fine particulate matter less than 10 microns
SAD	Special Assessment District
SCADA	Supervisory Control and Data Acquisition
SF	Square Feet
SHPO	State Historical Preservation Office
SIU	significant industrial users
SO_2	sulfur dioxide
SRF	State Revolving Fund
SSO	sanitary sewer overflow
THPO	Tribal Historic Preservation Offices
TSP	suspended particulate matter
TSS	Total Suspended Solids
UIS	Utilities Instrumentation Service
USEPA	U.S. Environmental Protection Agency
UV	Ultraviolet
VPN	virtual private network
WWTP	Wastewater treatment plant

1.0 Introduction

This Project Plan was prepared to obtain a State Revolving Fund (SRF) loan from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for the construction of proposed improvements to the City of Owosso Wastewater Treatment Plant (WWTP) in Owosso, MI. The City of Owosso (City) is located along the I-69 corridor, approximately 20 miles northeast of Lansing. Recently, the City has experienced capacity limitations for both flow and loading at the WWTP. These limitations have led to discharges of poorly treated or untreated wastewater into the environment. Over the next 20 years, the WWTP will be unable to operate at the designed efficiency as equipment continues to age and fail. This will cause harm to the service area if left unaddressed. Over the next 20 years, costs will only increase as more parts of the facility deteriorate and reach the end of their respective life cycles. Aging infrastructure must be replaced and capacity limitations must be addressed in order to ensure the facility can remain operational and meet its National Pollutant Discharge Elimination System (NPDES) discharge permit.

In the 1930s, a 2 MGD (million gallons per day) primary wastewater facility was constructed to serve the City of Owosso. Chlorination was added in the 1960s. The WWTP was upgraded to a 6 MGD independent physical-chemical treatment facility in the early 1980s to serve the Mid-Shiawassee County area including the City of Owosso, City of Corunna, and the sewered portions of Owosso Township and Caledonia Township. The plant was renamed the Owosso Mid-Shiawassee County Wastewater Treatment Plant. The treatment process did not perform to the permit requirements and was costly and problematic to operate. A major process modification was constructed in 1986 to incorporate biological treatment with the properly functioning elements of the physical-chemical treatment plant. In 1987, revisions were made to the filter backwash system. Year-round disinfection requirements went into effect in 1991. Sodium hypochlorite storage and feed equipment was installed to replace gaseous chlorine for disinfection. The granular activated carbon modules were repurposed for dechlorination with sodium bisulfite polishing.

In 1998, minor odor control measures were installed, including: forced draft ventilation on the first stage (“roughing”) trickling filter. The previous comminutors/bar screens were replaced with combination grinding/screening units to improve pretreatment. In 1999, a centrifuge system was installed to replace the previous plate and frame filter press for sludge dewatering. Polymer sludge conditioning replaced ferric chloride and lime.

In 2012, a main electrical busway and main electrical breakers were replaced and the switchgear between the electrical feeds was upgraded. Use of granular activated carbon for dechlorination was eliminated and the sodium bisulfite system upgraded as the primary means for dechlorination. Since 2016, the plant has seen additional improvements including the additions of ¼” bar screens and compactors, replacement of mechanical parts in primary clarifiers and sludge thickener. In 2020, headworks improvements included replacement of screw pumps and installation of grit vortex chamber. The project area includes the Owosso WWTP property area. Figure 1 shows recent plant improvement areas and proposed project areas.

Key components of the secondary and tertiary treatment have reached or are beyond the end of their useful life, including the tricking filters, pressure filters, intermediate clarifiers, and disinfection. In May 2020, heavy rains on saturated ground caused plant flows necessitating complete process bypass. This resulted in multiple sanitary sewer overflows (SSOs) and excessive Total Suspended Solids (TSS) in plant effluent. High flow events such as this are expected to increase over the next 20 years as improvements in the collection system increase conveyance to the plant and as the severity and frequency of wet-weather events are expected to increase. The proposed project addresses the critical issue of aging infrastructure and also addresses the current flow capacity limitations. The proposed improvements will restore the plant to its design capacity, increase the longevity of the WWTP, and mitigate peak wet-weather flow limitations at the WWTP.

2.0 Project Background

2.1 Delineation of the Study Area

The Study Area is defined as the area serviced by the Owosso WWTP. See Figure 2 for a delineation of the study area.

The Study Area provides the basis for planning the proposed project and covers the geographic area served by the existing wastewater system. The current Sewer District, which includes the City of Owosso, the City of Corunna, and parts of Owosso and Caledonia Townships, represents the area that is currently served by the Owosso WWTP. Specific plans to expand the sewer district do not currently exist. On a case by case basis, sanitary sewer service may be extended to areas upon the request of landowners. The current Sewer District represents the 20-Year Study Area.

2.2 Environmental Setting

2.2.1 Cultural Resources

The proposed wastewater system improvements will have no direct historical or archeological impacts.

The Michigan State Historical Preservation Office (SHPO) and the Tribal Historic Preservation Officers (THPO) were not contacted since the proposed improvements have been deemed non-equivalency projects.

2.2.2 Natural Environment

2.2.2.1 Air Quality

The Federal Clean Air Act of 1963, as amended in 1970, 1977, and 1990, requires the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS) which define the maximum permissible concentrations for certain pollutants. In 1971, the USEPA established standards for five criteria pollutants: suspended particulate matter (TSP), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), and photochemical oxidants. On October 5, 1978, the USEPA promulgated an additional ambient air quality standard for lead (Pb). A new air quality standard for ozone (O_3) replaced the photochemical oxidant standard on February 8, 1979. In July 1987, the particulate matter standards were revised by the USEPA to place greater importance on fine particulate matter less than 10 microns (PM_{10}).

The current Air Quality Standards for Michigan are summarized by pollutant in the table below. EGLE conducts air quality monitoring throughout the state. Non-attainment areas are those that have concentrations over the NAAQS standards. The NAAQS Standards are provided in Table 1 for reference.

Table 1 – Air Quality Standards

Criteria Pollutant	Primary Criteria (Health Related)		Secondary Criteria (Welfare Related)	
	Type of Average	Standard Level Concentration	Type of Average	Standard Level Concentration
Carbon Monoxide (CO)	2^{nd} highest 8-hour	9 ppm (10 mg/m^3)	No Secondary Standard	
	2^{nd} highest 1-hour	35 ppm (40 mg/m^3)		
Lead (Pb)	Maximum 3-month average	0.15 µg/ m^3	Same as Primary Standard	
Nitrogen Dioxide (NO_2)	Annual arithmetic mean	0.053 ppm (100 µg/ m^3)	Same as Primary Standard	
Ozone (O_3)	4^{th} highest 8-hour daily maximum averaged over 3 years	0.075 ppm (147 µg/ m^3)	Same as Primary Standard	

Table 1 – Air Quality Standards

Criteria Pollutant	Primary Criteria (Health Related) Type of Average	Primary Criteria (Health Related) Standard Level Concentration	Secondary Criteria (Welfare Related) Type of Average	Secondary Criteria (Welfare Related) Standard Level Concentration
Particle Matter	PM_{10} (10 micron) 24-hour	150 µg/ m^3	Same as Primary Standard	
	$PM_{2.5}$ (2.5 micron) annual arithmetic mean	15 µg/ m^3	Same as Primary Standard	
	$PM_{2.5}$ 98th percentile 24-hour averaged over 3 years	35 µg/ m^3	Same as Primary Standard	
Sulfur Dioxide (SO_2)	Annual arithmetic mean	0.03 ppm (80 µg/ m^3)	3-hour	0.5 ppm (1300 µg/m^3)
	2nd highest 24-hour	0.14 ppm (365 µg/ m^3)		

The WWTP site resides in an area that is within attainment with all air quality standards. The proposed work will have no significant effect on the local air quality. Heavy equipment used for construction will temporarily increase emissions in work areas but is not expected to produce a significant or lasting effect.

2.2.2.2 Wetlands

Based upon the National Wetlands Inventory Map, the proposed project will not adversely impact existing wetlands. See Figure 3 for a map of the wetlands that are located within/adjacent to the study area.

2.2.2.3 Coastal Zones

The City is inland and there are no coastal areas within or adjacent the City of Owosso.

2.2.2.4 Floodplains

The floodplain area within the Owosso study/service area generally follows the Shiawassee River. The Shiawassee River passes through the City on its east side and then flows north. The 100-yr floodplain elevation is 718.00, all work will take place in the existing structures footprint. Pumps and motors will be located outside of the flood plain. A Federal Emergency Management Agency (FEMA) floodplain map of the entire study area is included in Figure 4.1. A FEMA floodplain map of the WWTP project area is included in Figure 4.2.

2.2.2.5 Natural or Wild and Scenic Rivers

Michigan river miles designated as part of the National Wild and Scenic Rivers System, administered by the National Park Service, listed on the Michigan Department of Natural Resources website were reviewed. There are no federally designated Wild and Scenic Rivers or state designated Natural Rivers in the City Owosso and in the study area.

2.2.2.6 Major Surface Waters

Figure 3 depicts the major surface waters within the study area. The Shiawassee River is the only major surface water in the study area. Treated wastewater is discharged to the Shiawassee River. The proposed wastewater improvements will not have an impact on existing future surface waters

2.2.2.7 Recreational Facilities

The City of Owosso maintains thirteen park facilities. The closest park to the site is the Harmon Partridge Park, which is about 0.5 miles north of the plant. Figure 5 illustrates the City's parks and recreational facilities.

2.2.2.8 Topography

The project service area generally slopes from the southeast to the northwest with an elevation change of approximately 780 feet to 745 feet above mean sea level. Figures 6.1 and 6.2 depicts the topography of the project service area.

2.2.2.9 Geology

The proposed project will not be affected by the geological structures/formations in/around the City of Owosso. Outside of the Shiawassee River, which runs through the middle of the city, the City of Owosso is geologically homogeneous.

2.2.2.10 Soils

No adverse soil condition exists that would impact the project and its construction. The soils within the project area consist primarily of Ceresco Loam (Cm), Metamora Sandy Loam (MsA), and Miami Loam (MuE2); refer to Figures 7.1 and 7.2.

2.2.2.11 Agricultural Resources

The study area consists predominantly of prime farmland. Most of this land has been developed for non-agricultural purposes. The proposed wastewater improvements will not have an impact on agricultural resources. See Figure 8 for a map of farmland in the service area.

2.2.2.12 Fauna and Flora

The proposed project was reviewed in accordance with the Endangered Species Act of 1973; it was concluded that it is possible negative impacts will occur. The occurrences of threatened and endangered species within 1.5 miles of project area are list in Table 2. Further investigation found low likelihood of occurrence of threatened or endangered species in the project area.

Table 2 – Rare Species Review

Type	Scientific Name	Common Name
Flora	*Galearis spectabilis*	Showy orchid
Flora	*Plantago cordata*	Heart-leaved plantain
Flora	*Dennstaedtia punctilobula*	Hay-scented fern
Fauna	*Alasmidonta marginata*	Elktoe
Fauna	*Pleurobema sintoxia*	Round pigtoe
Fauna	*Bombus auricomus*	Black and gold bumble bee
Fauna	*Myotis sodalis*	Indiana Bat

2.2.3 Land Use in the Study Area

The predominant land uses within the study area are residential, institutional, and industrial as seen in Figures 9.1, 9.2, 9.3, and 9.4.

2.3 Population

2.3.1 Existing Population in the Study Area

The population of the service area has seen a consistent decline since the 2010 Census. Based on the American Community Survey (ACS) Demographic and Housing Estimates program by the U.S. Census, the 2020 combined population in the study area was estimated to be 26,648 persons. This population includes the entire study area and some areas of Owosso and Caledonia Townships, which are outside of the study area. The total population for Owosso and Caledonia Townships were used for population estimates because the exact population served by the sewer district within the Townships was not available. See Figure 10 for population density in the study area.

2.3.2 Current and Future Population to be Served by the Proposed Projects

No proposed developments adding major water users are planned. Therefore, the proposed wastewater improvements will serve the current and future population.

2.3.3 Population Projection for the Study Area for the next 5, 10, and 20 Years

The projected 20-year population for the study area was estimated with consideration to past and current population numbers obtained from the U.S. Census Bureau. The estimated service area population decreased at an average rate of 0.4% annually between 2010 and 2020. This rate was used for the 5-year, 10-year and 20-year projections. See Table 3 for projections.

Table 3 – Population Projections

Year	City of Owosso	City of Corunna	Owosso Twp	Caledonia Twp	Total
2010	15,194	3,515	4,821	4,360	27,890
2020	14,373	3,363	4,765	4,157	26,658
2025	13,963	3,287	4,737	4,056	26,042
2030	13,552	3,211	4,709	3,954	25,426
2040	12,731	3,059	4,653	3,751	24,194

Source: ACS 5-year Estimates 2020 & 2010 Data

2.4 Economic Characteristics

Table 4 lists economic characteristic from the 2020 ACS Survey of Industry by Occupation for the Civilian Employed Population for persons aged 16 and over in the service area.

Table 4 – Economic Characteristics

	City of Owosso	City of Corunna	Owosso Twp	Caledonia Twp
Eligible for Employment	11,592	2,692	4,127	3,559
In Labor Force	7,502	1,433	2,518	1,850
Not in Labor Force	4,090	1,259	1,609	1,793
Percent Participating	64.4%	53.2%	61.0%	52.0%
Unemployment Rate	5.0%	3.9%	4.0%	3.1%

Source: ACS 5-year Estimates 2020 Data

2.4.1 Economic Structure and Major Employers

The three major industries in Owosso include Educational Services & Healthcare, Manufacturing, and Retail Trade. As seen in Table 4 and according to the U.S. Census Bureau, these three industries account for over 50% of industry in the City.

2.4.2 Median Annual Household Income

Table 5 lists median household income and employment statistics according to ACS 2020 data.

Table 5 – Income and Employment

	Owosso Twp	Caledonia Twp	Owosso City	Corunna City	Number of Jobs	Percent of Jobs
Median Household Income	$47,101	$53,617	$41,943	$41,905		
Civilian employed population 16 years and over	2,417	1,793	7,094	1,377	12,681	100%

Table 5 – Income and Employment

	Owosso Twp	Caledonia Twp	Owosso City	Corunna City	Number of Jobs	Percent of Jobs
Agriculture, forestry, fishing and hunting, and mining	36	26	28	29	119	1%
Construction	167	76	293	91	627	5%
Manufacturing	506	342	1,601	109	2,558	20%
Wholesale trade	83	46	164	70	363	3%
Retail trade	205	117	824	251	1,397	11%
Transportation and warehousing, and utilities	70	119	319	58	566	4%
Information	32	45	80	14	171	1%
Finance and insurance, and real estate and rental and leasing	154	43	226	26	449	4%
Professional, scientific, and management, and administrative and waste management services	182	82	506	108	878	7%
Educational services, and health care and social assistance	585	614	1,550	358	3,107	25%
Arts, entertainment, and recreation, and accommodation and food services	175	139	812	122	1,248	10%
Other services, except public administration	160	51	527	111	849	7%
Public administration	62	93	164	30	349	3%

Source: ACS 5-year Estimates 2020 Data

2.5 Existing Facilities

2.5.1 Method of Wastewater Treatment

A 2 MGD (million gallons per day) primary wastewater facility was constructed in the 1930s to serve the City of Owosso. Chlorination was added in the 1960s. The WWTP was upgraded to a 6 MGD independent physical-chemical treatment facility in the early 1980s to serve the Mid-Shiawassee County area including the City of Owosso, City of Corunna, and the sewered portions of Owosso Township and Caledonia Township. This process did not perform to the permit requirements and was costly and problematic to operate. A major process modification was constructed in 1986 to incorporate biological treatment with the properly functioning elements of the physical-chemical treatment plant. In 1987, revisions were made to the filter backwash system. Today the WWTP maintains the 6 MGD design loading of the 1980s era physical-chemical treatment plan.

The following is a description of the process flow. Flow enters the influent well and is lifted via screw pumps to the headworks building where raw wastewater is passed through, ¼" bar screens and screenings are compacted and removed. Flow then proceeds by gravity to a vortex grit chamber and on to primary clarifiers. Primary clarifier effluent flows by gravity to an intermediate pump well where is it pumped to secondary treatment. Secondary treatment consists of three towers located just east of the filter building. The towers are identical with No. 3 serving as a roughing tower with forced draft ventilation and No. 1 and No. 2 serving as nitrification towers for tertiary treatment. Primary effluent is pumped to the roughing tower from the intermediate wet well. The roughing tower discharges to intermediate clarifiers located just south of the headworks/filter building. Clarifier effluent then flows to the tertiary wet well which is separated from the intermediate wet well by a retaining wall with an overflow weir. Tertiary pumps discharge to three pressure filters. From the pressure filters, flow is further directed to the disinfection/nitrification treatment train. In the events of high flow, the overflow weir between the tertiary and intermediate well allows bypass of the secondary roughing tower/intermediate train directly to the tertiary filter/disinfection/nitrification train. The tertiary train can also be bypassed by discharging secondary effluent directly to the plant effluent point.

Year-round disinfection requirements went into effect in 1991. Sodium hypochlorite (chlorine source) storage and feed equipment was installed to replace gaseous chlorine for disinfection. Chlorinated effluent passes through spent carbon absorption modules. Hypochlorite dosing occurs after the pressure filters. The carbon absorption modules are no longer maintained as such. For a period of time, the spent granular activated carbon inside the units assisted with dechlorination. In 2012-2014, use of granular activated carbon for dechlorination was eliminated and the sodium bisulfite system was upgraded as the primary means for dechlorination. Currently the spent modules serve only for chlorine contact. All flow through the carbon modules is pressurized with ultimate discharge to the two nitrification towers. After the nitrification towers, a portion of the forward flow may be recirculated back to the tertiary wet well. Recirculation is controlled by a valve on the discharge header to the process water tanks located between the intermediate clarifiers. The portion of nitrified effluent that is not recirculated flows to process water tanks. Two process water pumps located in the filter building are used to draw water from the disinfected filter effluent with the plant building. Effluent not being returned is dechlorinated and discharged to the Shiawassee River.

2.5.2 Sludge Handling and Disposal

Sludge is removed from the primary and intermediate clarifiers. Primary sludge flows by gravity and intermediate sludge is pumped to a gravity thickener located between the primary clarifiers. The plant has seen recent improvements to its sludge processing including replacement of parts in the primary clarifiers and sludge thickener. Construction began in 2022 on solids handling improvements to replace the existing centrifuge system with a screw press system for dewatering. Dewatered solids will continue to be hauled off site to landfill.

2.5.3 Collection system

The sewer collection system consists of 14 pump stations, approximately 68.2 miles of sanitary sewer and 3.8 miles of pressurized main. Most of the gravity sewer was installed in the 1920s and 46% of the system is in failing condition. The recently completed Asset Management Plan (AMP) provides a complete description of the collection system. The AMP provides an asset inventory, identifies the critical assets, and provides a capital improvements plan (CIP). A copy of the collection system AMP can be provided upon request.

There are no proposed collection system improvements.

2.5.4 Location Map

An existing system location map is provided in Figure 2.

2.5.5 Existing Flows and Characteristics of Waste

Table 6 below provides a summary of the current annual average flow and loading.

Table 6 – Flows and Loads

Flow/Characteristic	Units	Influent	Effluent	NPDES Permit*
Average Design Flow	MGD	3.5	--	6
Peak Design Flow	MGD	12.0		
Max Plant Flow Capacity	MGD	18.0	--	
$CBOD_5$	mg/L	81	3.9	10
	lbs.	2,558	148	500
TSS	mg/L	136	6	30
	lbs.	4,283	233	1500

Table 6 – Flows and Loads

Flow/Characteristic	Units	Influent	Effluent	NPDES Permit*
Phosphorus	mg/L	2.99	0.61	1.0
	lbs.	94	20	50
Ammonia	mg/L	15.5	0.16	3.0**
	lbs.	469	6.6	150**

**NPDES permit values represent the lowest monthly limits for concentration and loading unless otherwise noted.*
***NPDES permit values listed for Ammonia Nitrogen are Daily Limits for July-September.*

2.5.6 Septage Receiving Facilities

The Owosso WWTP does not accept septage and does not have plans to accept septage withing the 20-year planning period.

2.5.7 Major industrial Discharges

Fishbeck performed a local limit evaluation for the Owosso WWTP in 2019. At that time, there were only three significant industrial users (SIU) contributing to the Owosso WWTP. The total discharge from these users was 89,000 gallons per day. Industrial discharges are not expected to change significantly over the planning period. Table 7 lists SIUs.

Table 7 – Significant Industrial Users

Name	Flow (gpd)	Type of Operation
Woodard	6,000	Metal Finishing
Sonoco	40,000	Packaging
Hospital	43,000	Healthcare Facility

2.5.8 Average and Peak Dry-Weather and Wet-Weather Flows

Currently the system experiences events that utilize the full plant secondary capacity during wet-weather conditions. As improvements are made to the collection system to correct bottlenecks currently causing backups. The flow will be allowed to flow to the plant during peak rain events increasing the volume currently received at the WWTP. Peak hourly flows currently exceed 18 MGD with no option to divert flow other than the proposed equalization basin. The equalization basin size is limited to the footprint available and will have a volume of approximately 5 million gallons. The basin will allow wastewater to be fully treated during storm events.

2.5.9 Infiltration and Inflow

An evaluation of infiltration and inflow (I/I) was completed as part of the recent collection system AMP. This evaluation identifies issues within the collection system. The capital improvements plan included in the AMP incorporates improvements to the collection system to help address known issues.

2.5.10 System Bypasses and SSOs

Wet-weather events exceeding the 18 MGD max plant hydraulic capacity have required complete bypass of the WWTP. Less severe wet-weather events have required bypass of the secondary treatment and tertiary treatment. The largest SSO that Owosso has recorded was in May 2020. During that event, 3.1 million gallons were bypassed over approximately 36 hours. Bypasses occurred at 5 different locations throughout collection system including 2 million gallons at the WWTP.

In the collection system, SSOs near the M-52 bridge are believed to stem from restrictions in the form of roots and debris in the 30” sanitary interceptor that flows west and north from that point to the WWTP (approximately 5800 ft). There is also a two-pipe river siphon near the M-52 bridge that is flowing at 50% capacity, due to a suspected collapse of one of the pipes. The river crossing is not part of the interceptor, but discharges to it on the north side of the river. As these items are corrected through cleaning/rehab/replacement activities, the result will be decreased backups and SSOs in the collection system allowing peak wet weather to flow into the WWTP. A record of SSO discharges is included in Appendix 1.

2.5.11 Combined Sewers & CSOs

There are no known combined sewers or combined sewer overflows (CSOs) within the collection system.

2.5.12 Pump Stations

There are 14 pumping stations in the WWTP service district. The City of Owosso operates and maintains three pumping stations (Palmer, Wright, Osburn Lake). Owosso and Caledonia Townships combined sewer authority operates seven pumping stations. The City of Corunna operates four pumping stations. All are adequately sized for the system. Upgrades are needed to keep them performing as design but are not included as part of this project. The collection system CIP can be made available upon request.

2.6 Physical Condition of Facilities

2.6.1 Nitrification/Roughing Towers:

2.6.1.1 Description

The towers were installed in 1986 and still function per their design specifications but have seen significant deterioration. The roughing tower was designed for 4 MGD average hydraulic loading. The nitrification towers were designed for 2 MGD each (4 MGD total) average hydraulic loading.

Mechanically the towers are in poor condition. Ventilation windows are deteriorating significantly, rotating equipment (arms, bearings) are past their life expectancy, and the wires that hold up the distributer arms periodically fail and need to be replaced. Ongoing maintenance/rehab on the pumping system is also frequently required. Piping between pumps and towers are fiberglass and difficult to repair. Pipe supports have deteriorated beyond repair and need replacement.

Structurally the towers are in critical condition. Concrete around the outside of each tank is deteriorating from moisture exposure. Some of the lintels above the openings have fallen out. The towers have structural damage and mold issues. The stairs have begun to pull away from the towers. The media support has failed in a couple of the towers, and the media is beginning to collapse.

The following description is based on the original as-built drawings of the towers, dated July 1987. The towers are capped with an aluminum dome that sits on top of an exterior concrete block wall. The walls of the towers are constructed with a single wythe of split-face concrete block. From the drawings, there appear to be three continuous bond beams around the tower. One at the top, one at the bottom, and one approximately 12 feet above the bottom of the media. There are sixteen 2-foot-high by 4-foot-wide vents at the bottom of the towers at approximately 10 feet on center. There appears to be a lintel above the vents and below the bottom bond beam. The wall is reinforced with #5 vertical bars at approximately 32 inches on center. The media sits on top of a grillage consisting of concrete beams and masonry piers. There is a center concrete pier which encases the influent pipe. The media depth is approximately 22 feet.

The concrete block wall bears on a concrete foundation wall. The top of the foundation wall is at the top of the vent openings and the bottom of the lintels above the vents. The bottom slab of the tank is a slab-on-grade with a concrete fill. The concrete fill is poured separately on top of the slab so that there is a sloped surface to the rectangular sump pit which contains the effluent pipe.

At each location that has stairs to a tower there are two stem walls which support the stair and walkway framing. The stem walls are concrete block, approximately 4 feet long and the full height of the tower.

2.6.1.2 Condition

Inside the towers, the block at the top of the wall appears to be constantly wet, but otherwise in good condition. Some of the drainage flashing at the joints of the dome is missing or displaced, causing some storm water to be directed into the tower. Water that is directed outside of the tower flows through the vented soffit and down the wall of the tower. This has caused heavy vertical staining down the full height of the tower at approximately 14 feet on center all around. There is efflorescence all around the tower. It is particularly visible near the elevations of the bond beams where water is allowed to weep out of the concrete block. There appear to be weep holes above the bond beams.

The concrete block around the vents near the bottom exterior of each tank is deteriorating. Portions of the masonry face-shell and grout in the lintels above the vent openings have spalled off. Some of the lintel reinforcing is exposed and corroded. The concrete block that bears on the foundation wall is also cracked and spalled in multiple locations. In addition to the concrete block deterioration, the concrete foundation wall is delaminated and spalled at the sides and bottom of multiple vents. The interface between the concrete block and the foundation wall has heavy staining which has covered most of the foundation wall.

At one of the stem walls on the roughing tower, the joint between the circular tower wall and stem wall has opened at the top. At most of the stem walls the base of the wall is delaminated. At the middle nitrification tower, the face-shells of the block on the bottom course of one wall have spalled off completely.

Some pieces of grating on the landings have been damaged. Some of the bearing bars are bent, most likely from objects falling onto them. This could be a walking hazard.

The aluminum domes are in good condition. The inside of the dome at the roughing tower has loose buildup on most of the surface. The middle and south nitrification towers are cleaner inside and do not have the buildup.

Photos 1 and 2 – Nitrification Tower Structural Damage

2.6.2 Intermediate Clarifiers and Process Water Tanks

2.6.2.1 Description

The intermediate clarifiers and process water tanks were constructed as part of the original plant design in the 1930s and are well past their expected useful life. The intermediate clarifiers are rated for a hydraulic loading of 4 MGD average flow and 6 MGD peak flow. The process water tanks are rated for a hydraulic loading of 4 MGD average flow and 12 MGD peak flow. The process water tanks are not designed for solids removal.

Mechanically, the intermediate clarifiers are in poor condition and require costly maintenance. The chain-and-flight mechanism is no longer manufactured, and all repairs require custom metal fabrication. Drive mechanisms (particularly chain shafting, bearings and gears) show significant deterioration and are in need of replacement. The sludge pump located in the basement of the administration building is worn past its useful life and needs replacement.

Structurally, the tanks are below grade concrete structures with beams and walkways at grade level. There is a stair step water cascade in the center with tanks all around. The beams and walkways span the top of the tanks above the water level. The tanks have seen significant concrete deterioration above the water line, on walking surfaces, and in channeling. Failure will result in process bypass until repairs can be made.

2.6.2.2 Condition

One of the tanks was emptied and sounded for site inspection. Below grade, the concrete of the tanks is in good condition. The beams and walkways were not accessible at the time of the inspection, but extreme deterioration is visually apparent. Concrete has spalled from the top and bottom of the beams and walkways. The concrete on the bottom of one walkway near the north center has spalled and completely exposed multiple reinforcing bars. The bars are sagging and are in danger of falling out of the concrete. The structural load carrying capacity of this section has been compromised. Even if concrete has not spalled from the bottom of the members, there would likely be significant delamination which will negatively impact the structural capacity and expected life of the structure.

Photos 3 and 4 – Intermediate Clarifiers Structural Damage and Sludge Pump

2.6.3 Pressure Filters

The pressure filters were installed with the 1980s plant improvements and are beyond their expected useful life and are undersized for current peak flows. There are multiple leak points on the tanks including penetrations, weld seams, and weld patches. Leaking at the surface wash header connections has been repaired three times, however weld repairs can no longer be performed due to material limitations of the steel tanks. Additionally, valves and actuators associated with filter operation and backwash are beginning to fail and could potentially cause filters to be unusable and necessitate a partial or total bypass of this process, the backwash pump is in need of rehab, fiberglass piping associated with the filters is beginning to fail as leaking is evident at various points, outdated controls periodically cause problems, along with other ongoing maintenance/rehab on the pumping system.

Photos 5 and 6 – Weld Repair at Surface Wash Header

2.6.4 Disinfection

Repurposed fiberglass storage tanks and piping currently used for chlorine detention time were not designed to contain NaOCl and are beyond their useful life. The concrete pads under the tanks are failing. The fiberglass piping is aged, periodically needs repair, and is starting to fail beyond repair. Numerous pipe supports in the building are failing. There are multiple leak points in the hypochlorite fill and process feed system. Operations and maintenance staff are almost constantly repairing leaks in the system. Also working around the NaOCl can potentially be hazardous for staff.

Photos 7 and 8 – Fiberglass Tank Base and Pipe Support

2.6.5 Sludge Handling

Sludge removed from the primary and intermediate clarifiers is thickened by gravity and then is dewatered and hauled offsite to landfill for disposal. New dewatering equipment was installed in 2022 including screw presses and sludge holding tanks. Hauling to landfill is performed using a City owned and operated dump truck. The 2010 dump truck requires periodic scheduled and demand maintenance items and repairs including box repair/rehab – some done in house, some needing to be contracted. The WWTP produces approximately 12,000 gallons of sludge per day and hauls 11 wet tons per day to landfill.

2.6.6 Electrical

The plant receives a medium voltage, 3-phase primary service from the local utility company (Consumers Energy). Power is distributed via a medium-voltage load interrupter fusible switch located near the plant's property line by Consumers Energy's primary metering equipment. The medium-voltage power is stepped down to 480Y/277-volt, 3-phase power via a 1000 KVA pad-mounted transformer. From the transformer, utility power is routed to the normal side of a 3-pole, 1200-amp, service entrance rated automatic transfer switch. An 800 KW diesel generator provides standby power and is connected to the emergency side of the transfer switch. The generator includes a sub-base fuel tank sized to allow the generator to operate for 24 hours at full load. As long as there are no significant load changes (increases), the pad-mounted transformer, automatic transfer switch, and diesel generator should be able to be reused for the foreseeable future.

From the load side of the transfer switch, power is routed to a 2500-amp, double-ended main switchboard on a mezzanine above the intermediate pumps. The switchboard includes a main-tie-main circuit breaker configuration because the plant previously received two separate electrical services from the utility company. Previously, the two main and tie breakers were configured to operate as an automatic transfer switch. The second service has been disconnected and the corresponding main circuit breaker locked out (open). The other main and tie breakers are locked closed.

From the main switchboard, power is distributed to power panelboard PPA (via two feeders and a manual transfer switch), power panelboard PPB, power panelboard PPC, power panelboard PPD, motor control center MCCB, motor control center MCCC, motor control center MCCD, incinerator motor control center, sludge dewatering motor control center, and five intermediate pumps. Three of the intermediate pumps are 150 HP and two are 100 HP. Each pump is controlled by a variable frequency drive that includes a line reactor. The variable frequency drives and line reactors are located next to the main switchboard. Much of the main switchboard, power panelboards, and motor control center equipment is nearly 40 years old and has outlived its rated life.

Power panelboard PPA is in the administration building and includes feeder circuit breakers for HVAC equipment, welder outlet, intermediate sludge pump, and a step-down transformer and panelboard.

Power panelboard PPB is in the southeast corner of the main building and includes feeder circuit breakers for two heating ventilating units, roughing tower blower, shop welder, door operator, shop hoist, process water pump, and a step-down transformer and panelboard.

Panelboard PPD was installed in 1986 upgrades to replace an existing power panelboard (PPD) in the cascade building and includes feeder circuit breakers for drive and cross collector equipment, twist-lock outlet, and a step-down transformer and panelboard.

New motor control center MCCC was recently installed to replace an existing motor control center (MCCC) in the screw pump building as part of the headworks improvements project. Motor control center MCCC includes power distribution and motor controls for four 40 HP screw pumps, two clarifiers, screen equipment, grit equipment, and HVAC equipment. A manual transfer switch is provided ahead of motor control center MCCC for connecting a portable generator. Motor control center MCCC should be able to be reused for the foreseeable future.

Motor control center MCCD includes power distribution and motor controls for the backwash pump and surface wash pump.

Power panelboard PPC, motor control center MCCB, incinerator motor control center, and sludge dewatering motor control center will be disconnected and removed as part of a solids handing project that will be starting construction in the coming months. New motor control centers MCCB and MCCS will be installed as part of that project to replace existing equipment and power and control new loads.

2.6.7 Supervisory Control and Data Acquisition SCADA

The WWTP does not have SCADA capabilities. The plant is operated with three personnel shifts 24/7, costing the City additional wages/benefits for additional full-time employees.

The Palmer Street pump station utilizes a cellular-based Cruise Scada system by Utilities Instrumentation Service (UIS). The Wright Street and Osburn Lake pump stations utilize radio-based SCADA systems by SCADATA. All three pump stations communicate to workstations at the water treatment plant. This causes a delay in response as the water plant personnel need to call WWTP personnel in response to issues.

2.6.8 Climate Resiliency

Climate changes, including more frequent and intense storms and flooding events could result in increased flow to the Owosso WWTP. Increasingly severe wet weather events may also result in more frequent loss of utility power. The existing facility does not have the ability to equalize wastewater during high flow events and would not adequately accommodate increased flows that may result from climate change.

The facility is equipped with a standby generator that provides back-up power for the critical infrastructure at the WWTP in the event of a power outage.

2.7 Fiscal Sustainability Plan

2.7.1 Inventory of Critical Assets

An inventory of all WWTP assets was completed as a part of the AMP. A summary of the 2021 Asset Management Report is included in Appendix 2 and the full AMP can be provided upon request. This list consists of 131 WWTP assets. In general, the existing assets have a low or medium probability of failure and a low or medium consequence of failure. 9 WWTP assets were rated to have a high probability of failure.

2.7.2 Condition and Performance Evaluation

A condition assessment and performance evaluation for the WWTP were completed as a part of the AMP and can be provided upon request.

2.7.3 Water and Energy Conservation

Water and energy conservation efforts will be implemented where fiscally and operationally practical throughout the proposed project. A certification that the City has evaluated and will strive to implement water and energy conservation efforts as a part of the proposed project plan will be submitted with the Part III Application.

2.7.4 Plan for Maintaining, Repairing, Funding, and Replacing the Treatment Works

Replacement costs for WWTP assets were identified as a part of the AMP. A summary of these costs can be found in Appendix 3. The City's AMP is designed to allow for maintenance, repairing, funding and replacement planning. A formal plan will be submitted with the Part III application.

2.8 Need for Project

2.8.1 Compliance Status

In general, the WWTP meets the NPDES permit limitations for Ammonia- Nitrogen and $CBOD_5$. However, from 2015 to 2022, there were 61 recorded violations including TSS, $CBOD_5$, Ammonia Nitrogen, and Fecal Coliform. Violations were commonly attributed to flows exceeding plant capacity. A list of EGLE permit violations from 2015-2022 can be found in Appendix 4. The proposed project includes the development of a new equalization basin at the facility. Improvements to the secondary treatment process will prevent future violations.

2.8.2 Orders, Sanitary Sewer Overflow, Violations

The City has experienced multiple SSOs at the WWTP and in the collection system. During very high rain events the influent volume can exceed the capacity of the WWTP and excess effluent is pumped into the Shiawassee River.

A main sanitary interceptor sewer in the City of Owosso collection system is partially clogged with roots and debris causing backups in the system and SSO's into the Shiawassee River during peak rain events. The City has plans to correct the problem within the collection system which are not part of this project plan. A compilation of SSO's can be found in Appendix 1.

Following SSOs from 1995-2005, the City received an Administrative Consent Order (ACO) to address the SSO problems in the collection system. This ACO can be found in Appendix 7.

2.8.3 Water Quality Problems

There are no water quality problems associated with this project. This project will not necessarily impact water quality. If this project is not undertaken, the plant functionality will be diminished resulting in detrimental impacts to water quality.

2.8.4 Projected Needs for the Next 20 Years

The equipment that is proposed to be removed and replaced has reached the end their respective lifecycles. Over the next 20 years, the WWTP will be unable to operate at the designed efficiency. This will cause harm to the service area as poorly or untreated water would be discharged into the environment. Over the next 20 years, project costs could increase as more parts of the facility deteriorate and reach the end of their respective life cycles. Completion of the proposed project will mitigate these issues and increase the longevity of the WWTP. These improvements will restore the plant to its design capacity.

2.8.5 Future Environment Without the Proposed Project

The future environment without the proposed project will remain the same. However, the quality of the effluent water will decrease as the infrastructure ages making it difficult to meet permit limits. The WWTP is adjacent to the Shiawassee River which it discharges to. The improperly or partially treated wastewater discharged to the river will have a significantly negative impact to the river. This project will increase the efficiency of WWTP and its ability to properly treat water to the service area.

3.0 Analysis of Alternatives

An analysis of alternatives for improvements to the Owosso WWTP is included in this report. Alternatives considered included:

Alternative 1 – No Action

Alternative 2 – Optimize Existing Facilities

Alternative 3 – Membrane Bioreactor (MBR)

Alternative 4 – Activated Granular Sludge (AGS)

Alternative 5 – Regional Alternative

An in-depth analysis for each principal alternative includes a monetary evaluation, an implementability assessment, an evaluation of potential environmental impacts, and an evaluation of technical differences between alternatives.

3.1 Potential Alternatives

The analysis that follows presents options for the Owosso WWTP.

3.1.1 Alternative 1 – No Action

As described above, the intermediate clarifiers have deteriorating concrete and are structurally unsound, the pressure filters are deteriorating and no longer can sustain repairs. The towers are becoming structurally unsound, media supports have deteriorated, and media is falling down. Outside of demolition and replacement, an alternate for this project is to build activated sludge or membrane bioreactors. Issues that arise with these alternatives are real estate and power demand for the WWTP. The land needed for bioreactors and activated sludge is large enough to warrant additional demolition and limit future on-site improvements. These facilities in combination will require a larger operation power demand source for the WWTP, making them unfeasible as an alternative.

While the plant currently remains in compliance with their NPDES permit, taking no action will likely result in additional SSO events or permit violations in the near future. The “no action” alternative is not acceptable.

3.1.2 Alternative 2 – Optimize Existing Facilities

Alternative 2 involves optimizing the existing facility. This would include rebuilding the roughing tower, nitrification towers, intermediate clarifiers, replace pressure filters with disc filters, replace all pipe hangers and equipment pads, replace chlorination/dechlorination with ultraviolet (UV) for disinfection, remove carbon modules, building modifications, electrical upgrade, SCADA, install sludge dryer, and equalization tank.

3.1.3 Alternative 3 – MBR option

Alternative 3 involves optimizing some existing treatment systems and also replacing some systems. The following systems would be removed; pressure filters, intermediate tanks, and chlorine disinfection. The following treatment systems and improvements would be included; rebuild existing roughing and nitrification towers, install MBR, UV disinfection, equalization basin, building modifications, implementing new SCADA, and new sludge dryer.

3.1.4 Alternative 4 – AGS option

Alternative 4 involves optimizing existing treatment systems and also replacing some systems. The following systems would be removed; pressure filters, intermediate tanks, and chlorine disinfection. The following treatment systems and improvements would be included with Alternative 4; equalization basin, rebuild existing roughing and nitrification towers, AGS, UV disinfection, building modifications, implementing new SCADA, and new sludge dryer.

3.1.5 Alternative 5 – Regional Alternative

City of Owosso is currently a regional WWTP system. The communities served include the City of Owosso, City of Corunna and the sewered portions of Owosso Township and Caledonia Township.

3.1.6 Life Cycle Cost of Alternatives

The following life cycle assessment shows the current and 20-year present worth of the capital cost, operation and maintenance (O&M) costs, and salvage value of materials associated with the three alternatives:

Table 8 – Treatment Alternatives Life Cycle Assessment

	Alternative 2	Alternative 3	Alternative 4
Equalization Tank	$3,900,000	$3,900,000	$3,900,000
Secondary Treatment	$13,975,000	$22,340,000	$20,460,000
Disinfection	$900,000	$900,000	$900,000
Biosolids Dryer	$5,500,000	$5,500,000	$5,500,000
Electrical & SCADA Upgrades	$1,350,000	$1,350,000	$1,350,000
Total Capital	$25,625,000	$33,990,000	$32,110,000
Annual O&M Cost	$200,000	$500,000	$400,000
20-year Salvage Value	$5,400,000	$4,600,000	$8,900,000
Present Worth of O&M Cost	$4,300,000	$10,600,000	$8,500,000
Present Worth of Salvage Value	$4,900,000	$4,200,000	$8,100,000
20-Year Present Worth	$25,025,000	$40,390,000	$32,510,000

3.2 Analysis of Principal Alternatives

The alternatives analysis identified Alternative 2 as the only principal alternative. The following section provides the monetary evaluation, environmental evaluation, and evaluates other technical aspects of Alternative 2.

3.2.1 Monetary Evaluation

A monetary evaluation has been completed for Alternative 2 using a 20-year net present worth analysis. A summary table for the monetary evaluation is provided in Table 9. Additional information on the monetary evaluation for Alternative 2 can be found in Appendix 3.

Table 9 – Monetary Evaluation Summary

Category	Alternative 2
Capital Cost	$25,625,000
Annual OM&R Cost	$200,000
Salvage Value	$5,400,000
Present Worth of OM&R Cost	$4,300,000
Present Worth of Salvage Value	$4,900,000
20-Year Total Present Worth	$25,025,000

3.2.1.1 Sunk Costs

Sunk costs are the investments or financial commitments made before or during project planning. Sunk Costs have not been included in the cost-effectiveness analysis since they have already been committed regardless of the alternative selected.

3.2.1.2 Present Worth

Present worth is the sum that if invested now at a given interest (discount) rate, would provide exactly the funds required to pay all present and future costs. Total present worth, used to compare alternatives, is the sum of the initial capital cost plus the present worth of operation, maintenance, and replacement (OM&R) costs minus the present worth of the salvage value at the end of the 20-year planning period. The present worth values for the OM&R and salvage value for Alternative 2 and the current operation are provided in Table 9.

3.2.1.3 Salvage Value

The planning period for the monetary evaluation is 20 years. At the end of this period, portions of the proposed structures and equipment will have a salvage value. A straight-line depreciation has been used to calculate the salvage values for the principal alternatives. The present worth of the salvage value for the assets has been computed using the real discount rate. The present worth of the salvage value is shown in Table 9.

3.2.1.4 Escalation

The monetary evaluation allows for energy costs and land values to be escalated. The cost of labor, equipment, and materials is not escalated. For this monetary evaluation, energy costs have not been escalated and land values are not included in the evaluation.

3.2.1.5 Mitigation Costs

No mitigation costs are anticipated as part of the project.

3.2.2 Partitioning the Project

The project partitioned into two phases, Phase 1 construction will start in 2023 and Phase 2 construction will start in 2027.

3.2.3 Environmental Evaluation

Alternative 2 includes addition of an equalization basin which will mitigate SSOs previously experienced during severe wet-weather events. Alternative 2 will increase the loading capacity of the plant through rehabilitation of the intermediate clarifiers and replacement of tertiary filters which will result in a reduction in TSS released to the environment. Alternative 2 will replace chlorine disinfection with UV disinfection. This will eliminate the possibility of chlorine being released to the Shiawassee River.

3.2.4 Implementability and Public Participation

The public was provided an opportunity to participate in a public hearing at the Owosso City Hall. A copy of the meeting transcription can be found in Appendix 5. The following key comments were addressed:

- Existing condition
- Proposed upgrades
- Environmental considerations

The public has been and will continue to be provided with opportunities to comment on the project. Public concerns will be considered whenever possible throughout the design and construction of the proposed improvements.

3.2.5 Technical and Other Considerations

3.2.5.1 Infiltration and Inflow Removal

I/I is defined as clear water entering the system during wet weather or high groundwater conditions. In certain instances, I/I removal may be cost-effective compared to the operational costs for transport and treatment of the clear water. The City will continue to maintain the collection system and remove sources of I/I through their current O&M program.

3.2.5.2 Structural Integrity

The collection system was evaluated as part of a recently completed collection systems AMP. The National Association of Sewer Services Companies (NASSCO) Pipeline Assessment Certification Program (PACP) grading system was used to define the severity of pipe defects. Any possible structural deficiencies in the collection system will be addressed separately from this project. The collection system AMP will be made available upon request.

3.2.5.3 Sludge and Residuals

The Owosso WWTP currently dewaters and landfills sludge and residuals removed from the waste stream. The Alternative 2 is not anticipated to impact biosolids quantity, volume, or disposal methods. Handling of sludge and solids will change and improve with the replacement of the existing solids centrifuge.

3.2.5.4 Industrial Pretreatment

The Owosso WWTP receives some portion of influent flow from significant industrial users. Industrial pretreatment measures have been incorporated into the City rules and regulation.

3.2.5.5 Growth Capacity

The capacity of the proposed facilities under Alternative 2 consider the wastewater needs during the 20-year planning period. A balance has been struck between building facilities for the entire planning period and building facilities that will require expansion in less than 20 years. Alternative 2 improvements are planned to provide treatment for the projected 20-year flows and loadings.

3.2.5.6 Areas Currently Without Sewers

The City of Owosso does not currently have any specific intentions of expanding the Sewer District. On a case by case basis sanitary sewer service may be extended to areas upon the request of landowners. The current Sewer District represents the 20-Year Study Area.

3.2.5.7 Reliability

Each alternative has been evaluated based on its ability to meet and consistently maintain permit limitation throughout the useful life of the project. Alternative 2 improvements will be designed to meet all USEPA reliability requirements for wastewater treatment plants. Alternative 2 provides the best overall system reliability of the alternatives evaluated.

3.2.5.8 Alternative Sites and Routings

Because of the existing collection system and treatment infrastructure already in place, relocating the existing treatment plant was found to be infeasible.

3.2.5.9 Combined Sewer Overflows

The collection system for the Owosso WWTP is a separated system and does not have any CSOs.

3.2.5.10 Contamination at the Project Site

There are no known contaminated sites within the vicinity of the proposed WWTP improvements. Figure 11 indicates the locations of contaminated sites within the City.

3.2.5.11 Green Project

Installation of the sludge dryer reduces man hours needed for transport of sludge to the landfill. The dry sludge produced would be classified as class A biosolids allowing for environmental reuse and qualifies as a green project.

4.0 Selected Alternative

Based on a detailed evaluation, Alternative 2 is the selected alternative. The following description of the selected alternative provides detail on the project and discusses the benefits as well as its adverse impacts. An explanation of how the proposed project fits into comprehensive plans to address wastewater for the planning period is included in the sections below.

4.1 Relevant Design Parameters

4.1.1 Influent Equalization Basin

An equalization basin is recommended because of the length of time required to eliminate I/I in the system. A 5 MG equalization basin will be installed to reduce peak flow, allow WWTP to consistently flow pace into the WWTP, and eliminate SSO events. 2020 recorded the largest SSO at 3.1 MG over 36 hours.

4.1.2 Roughing and Nitrification Tower Rehabilitation

The roughing and nitrification towers still perform per specifications but are in poor structural and mechanical condition. The following improvements are recommended for each tower:

- Repair concrete block and concrete foundation wall around 16 vents.
- Repair the bottom of the stem walls supporting the stair structure at 8 locations.
- Clean CMU and concrete face, removing efflorescence and buildup.
- Install aluminum drainage flashing at dome joints.
- Install exterior drainage system to prevent water from running down walls.
- Replace damaged grating.
- Clean the inside of the aluminum dome of the roughing tower.
- Replace media.

4.1.3 Intermediate Clarifiers

The existing intermediate clarifiers have either reached their expected useful life and are in critical condition both structurally and mechanically. The clarifiers will have all concrete removed and replaced above operating water line, all the mechanisms replaced, and the existing sludge pump will be replaced and relocated to the main building. The existing tank process water tank in the center of the structure will be converted to a clarifier for additional treatment capacity.

4.1.4 Tertiary Filtration

The existing pressure filters have either reached their expected useful life or are in critical condition. Disc filters will be installed to replace the pressure filters and be located in the main building. The disc filters will be sized to treat the max day flow. This will require removal of existing carbon module tanks and all associated piping. Installation of building crane and overhead door.

4.1.5 UV Disinfection

The existing chlorine disinfection system equipment is aging and can be difficult to operate. The existing disinfection system will be eliminated and replaced with a UV disinfection system. The proposed disinfection system will be housed in the main building. An effluent meter will be installed after the UV disinfection. Disinfected plant effluent will be discharged to the Shiawassee River through the existing gravity outfall.

4.1.6 Biosolids Drying

Dewatered sludge is currently hauled to a local landfill. As tipping fees increase and landfill regulations become more stringent, landfill disposal may not be a viable option in the future. Drying the dewatered solids a dryer will reduce the total volume of solids to be disposed and also produce a Class A Biosolid. Class A Biosolids will open up several disposal options for the City.

4.1.7 Electrical Upgrades

The existing pad-mounted transformer, automatic transfer switch, diesel generator, and motor control center MCCC, and its associated equipment (including a line-side manual transfer switch) should be able to be reused for the foreseeable future.

It is recommended that the main switchboard, variable frequency drives for the five intermediate pumps, power panelboard PPA and associated step-down transformer and panelboard, power panelboard PPB and associated step-down transformer and panelboard, power panelboard PPD, associated set-down transformer and panelboard, and motor control center MCCD be replaced in the same general location.

Power panelboard PPC, motor control center MCCB, incinerator motor control center, and sludge dewatering motor control center will be disconnected and removed as part of a solids handing project that will be starting construction in the coming months. New motor control centers MCCB and MCCS will be installed as part of that project to replace existing equipment and power and control new loads.

4.1.8 SCADA

Treatment equipment, disinfection systems, and instrumentation and controls will be monitored and controlled by a programmable logic controller (PLC) based control system. Control panels with distributed PLCs and input/output (I/O) racks will be strategically located throughout the plant. Signals from level, flow, pressure, temperature, and analytical instruments will be wired to local control panels. Each control panel will include an uninterruptible power supply to allow equipment to ride through momentary power interruptions. A network of computer servers and client workstations will interface with the PLCs and be programmed to provide operator interface visualization, alarming, reporting, trending, data collection, storage, and archiving features. Industrial workstations with touchscreen capabilities can be provided in certain control panels as necessary. Control system equipment will be connected on an Ethernet network. Category 6 (copper) cabling will be used for network connections shorter than 300 feet. Multi-mode fiber optic cabling will be used for longer runs and between buildings.

Recently upgraded process equipment control panels for screw pumps, bar screens, grit removal, primary clarifiers, sludge thickener, sludge dewatering, chemical additions, and influent flow meters will be utilized (reused) and integrated as part of the new SCADA system. New control panels will be installed for the equalization tank, roughing/nitrification towers, intermediate tanks, disc filters, UV disinfection process, and effluent flow meter, and integrated as part of the new SCADA system.

Remote access to the control system can be provided via an Internet connection and virtual private network (VPN). Managed Ethernet switches will be utilized to provide network security. Access via cell phones, tablets, and hand-held devices can also be incorporated.

PLCs and remote communications with wastewater pumping stations and other sites will be upgraded as part of the SCADA system. A new control panel with local PLC, I/O rack, and cellular modem will be provided at each site. Existing instruments and motor controls will be reused where possible.

4.2 Project Maps

Figure 12.1 and Figure 12.2 depict the proposed site plan and the main building interior elements for the selected alternative. Elements of this layout may change through the detailed design phase.

4.3 Controlling Factors

The selected alternative is intended to provide treatment for the 20-year projected service area population, which is not expected to grow significantly as discussed in Section 2.3.3. The selected alternative is intended to provide treatment for the current influent waste strength which will provide treatment for the required 20-year planning horizon. The selected alternative is intended to meet the discharge permit requirements set in the NPDES permit. Following SSOs from 1995-2005, the City received an ACO to address the SSO problems in the collection system. This ACO can be found in Appendix 7. The proposed improvements are intended to mitigate environmental impacts related to wastewater treatment.

4.4 Special Assessment District Projects

A Special Assessment District (SAD) will not be created as a part of the project. As the proposed improvements are for the benefit of all sewer users within the sewer district, the creation of a SAD will not be necessary.

4.5 Sensitive Features

Environmentally sensitive features such as wetlands, floodplains, prime or unique agricultural lands, archaeological sites, or threatened/endangered species were evaluated when assessing alternatives. Sensitive features are not anticipated to be affected by the project after review of the wildlife and cultural resources within the project vicinity.

4.6 Schedule for Design and Construction

Many preliminary design tasks have been completed through past actions taken by the City. These past activities will allow the design for the proposed improvement to proceed upon completion of this Project Plan. See Table 10 for a summary of the design and construction activities schedule.

Table 10 – Design and Construction Schedule

Activities	Start Date	End Date
Phase 1 Design Engineering & Permitting	June 2022	February 2023
Phase 1 Bidding	March 2023	March 2023
Phase 1 Construction	June 2023	June 2025
Phase 2 Design Engineering & Permitting	January 2026	December 2026
Phase 2 Bidding	January 2027	February 2027
Phase 2 Construction	May 2027	November 2028

Note that funding availability and permitting may impact the construction schedule. The project will require an Act 451 Part 41 Permit (Wastewater Construction).

4.7 Cost Summary

A high-level summary of the project cost is provided in Table 11 for Phase 1 and Table 12 for Phase 2. The detailed breakdown of the costs associated with planning, design, and construction of the selected alternative is included in Appendix 3. Table 11 and 12 are presented in 2022 dollars.

Table 11 – Proposed Phase 1 Project Cost Summary

Item	Estimated Cost
Tower Rehabilitation	$7,250,000
Tertiary Filtration	$3,925,000
UV Disinfection	$900,000
Electrical & SCADA Upgrades	$1,350,000
Total Cost of Proposed Project	**$13,425,000**

Table 12 – Proposed Phase 2 Project Cost Summary

Item	Estimated Cost
Influent Equalization	$3,900,000
Rehab Intermediate Clarifiers	$2,800,000
Biosolids Dryer	$5,500,000
Total Cost of Proposed Project	**$12,200,000**

4.8 Authority to Implement the Selected Alternative

The City owns and operates the WWTP facilities and the land on which they are located. The City is responsible for providing adequate wastewater treatment to its customers. With the support of the City's staff and professional consultants, the City has the authority, capability, and willingness to plan, seek funding, finance, build, operate, and maintain the wastewater facilities.

4.9 User Costs

Sewer rates will be increased by a total of 39.6% over years one and two, with 3% increases in years 3-5. The new rates will start taking effect July 1, 2022.

4.10 Disadvantaged Community

Part 53, Clean Water Assistance, of the Natural Resources Environmental Protection Act, 1994 PA 451, as amended, provides benefits to municipalities who meet the state's criteria for disadvantaged community status. City of Owosso submitted the Disadvantaged Community Status Determination Worksheet with the

Intent-to-Apply. The submitted Disadvantaged Community Status Determination Worksheet is provided in Appendix 6.

4.11 Project Useful Life

The proposed projects involve a variety of different assets including structural, mechanical, electrical, and process equipment. To determine the overall useful life of the projects, a weighted useful life was calculated using each individual dollar value multiplied by the individual useful life for each asset type, divided by the total estimated project cost. The useful life for the individual components is based on the SRF project guidance documentation. A summary of the costs and useful life for the major components of each project is provided in Table 13.

Table 13 – Weighted Project Useful Life

Proposed Improvement Activity	Activity Weighted Useful Life
Influent Equalization	48.0
Tower Rehabilitation	29.2
Rehab Intermediate Clarifiers	32.7
Tertiary Filtration	25.7
UV Disinfection	28.6
Biosolids Dryer	20.2
Electrical & SCADA Upgrades	20.0
Overall Project Weighted Useful Life	**35.7**

5.0 Mitigation

Where adverse impacts cannot be avoided, structural and non-structural measures will be taken to avoid, eliminate and mitigate adverse impacts on the environment. Structural measures include mitigation related to the design and construction of the facility. Non-structural measures include mitigation related to governmental, institutional, or private plans/policies/regulations as well as phasing of facility construction.

5.1 Mitigation of Short-Term Impacts

The following are short-term construction impacts of the project and the associated mitigation measures:

- Construction operations will be limited to hours set by the City. Noise, odor, and dust will be kept to a minimum using soil erosion and sedimentation control procedures established in the project plans and specifications.
- Standard methods for dust control such as water and/or calcium chloride application will be used during construction and restoration of vegetation.
- All ditches and lawns will be re-seeded and/or sodded. Care will be taken to only remove trees necessary for the construction. Vegetation that is removed as a part of the construction will be replaced.
- Any surplus or waste material resulting from construction will be disposed of properly in a suitable upland disposal site.
- All areas will be restored to their existing grade.
- The proposed improvements taking place at the WWTP are adjacent to the Shiawassee River. The project work will be confined to the area of work, and all precautions will be taken not to store, locate or pile any construction materials near the river.
- The proposed project will be located within the 100-year floodplain. No stockpiling of excess material will be allowed in the 100-year floodplain.

5.2 Mitigation of Long-Term Impacts

Every effort will be made to prevent long-term or irreversible impacts because of the project. The selected alternative has been evaluated to determine any potential of long-term impacts. Where short-term impacts are unavoidable, mitigation measures will be considered to ensure that sensitive features do not suffer permanent or irreversible adverse impacts.

The long-term impacts of the short-term construction activities required to implement the proposed improvements are negligible, relative to the benefits to the environment and the community that the improvements will provide. Significant long-term impacts of the project have not been identified as there are no justifiable long-term impacts associated with the project.

5.2.1 Siting Decisions

Alternative WWTP locations were not evaluated as a part of the selection process. Expanding the WWTP at the existing site was the only feasible option. The proposed improvements have the fewest environmental impacts at the current WWTP location when compared to relocating the WWTP to other locations.

5.2.2 Operational Impacts

The proposed improvements are not anticipated to result in any odor, aerosol, or noise issues. Operational accidents are always possible. The proposed improvements provide redundancy and resiliency in the event of a WWTP upset. The existing plant does not currently have many provisions for handling a WWTP upset. Chemicals used in the treatment process will be stored indoors in a bulk storage tank, and all chemical feed piping will be routed such that a break in the pipe will either drain to a treatment tank or to a secondary containment area, thereby mitigating the chance for a chemical spill.

5.3 Mitigation of Indirect Impacts

The WWTP flow capacity will remain the same but the loading capacity will be increased with the completion of the improvement project. This capacity accommodates expected residential, commercial, and industrial growth within the sewer district for the foreseeable future. There are no negative indirect impacts identified that would be detrimental to the goals outlined in the City of Owosso Master Plan.

6.0 Public Participation

6.1 Public Hearing Advertisement

On April 12, 2022, a Notice of Public Hearing for the CWSRF Project Plan for the proposed wastewater system improvements appeared in the Argus Press Newspaper. The advertisement briefly described the proposed projects and estimated costs, mentioned the availability of the report for viewing, and invited written. The Project Plan was made available on the City’s website for public review and comment starting April 12, 2022. Written comments were requested to be received no later than May 16, 2022, the date of the Public Hearing.

The public notice affidavit of publication is provided in Appendix 8.

6.2 Public Hearing Contents

A formal public hearing will be held at City Hall on May 16, 2022. The following items will be discussed during the public hearing:

1. A description of the clean water needs and problems to be addressed by the proposed project and the principal alternatives that were considered.

2. A description of the selected alternative, including its capital costs and a cost breakdown by project components.
3. A discussion of project financing and costs to users, including the proposed method of project financing and estimated monthly debt retirement; the proposed annual, quarterly, or monthly charge to the typical residential customer; and any special fees that will be assessed.
4. A description of the anticipated social and environmental impacts associated with the recommended alternative and the measures that will be taken to mitigate adverse impacts.

A certified stenographer will be retained by the City to transcribe the presentation, questions, and comments at the public hearing. The transcript is provided within the final project plan.

6.3 Public Hearing

The public hearing comments received will be included within the final project plan

6.4 Adoption of the Project Plan

The City Council meeting for a resolution to adopt the CWSRF Project Plan is scheduled on May 16, 2022, during the regular session.

The resolution to adopt the Project Plan will be is included within the final project plan.

Figures

LEGEND

- Future Project Areas
- WWTP Features
- Project Location

NORTH

WWTP PROJECT AREA

FEET 0 100 200

fishbeck
Engineers | Architects | Scientists | Constructors

Hard copy is intended to be 11"x17" when plotted. Scale(s) indicated and graphic quality may not be accurate for any other size.

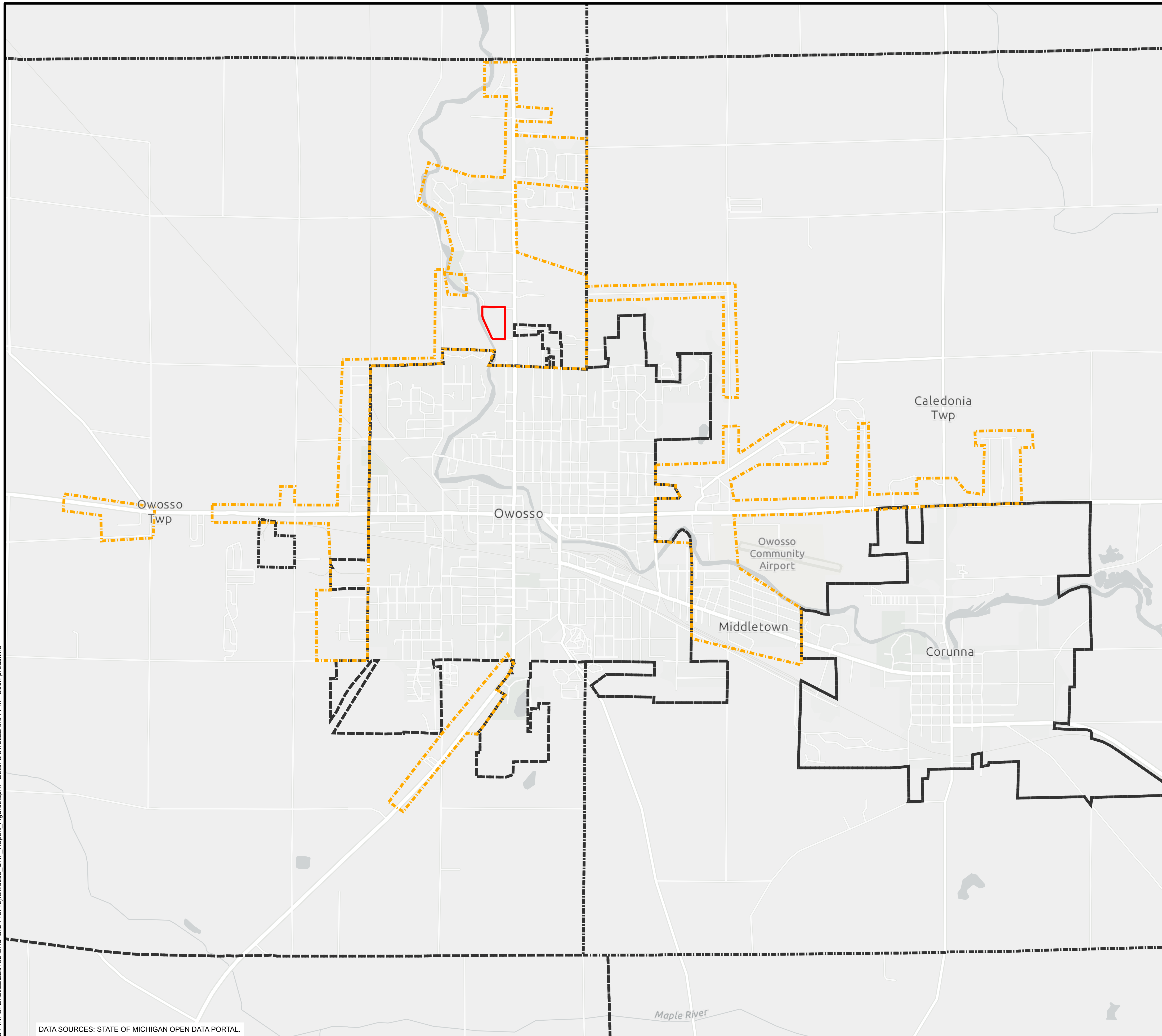
City of Owosso
Shiawassee County, Michigan

Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
1

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 4/1/2022 11:10 AM User: prbaskins



LEGEND

- Project Location
- Sewer System Boundary

NORTH

LOCATION MAP

0 2,500 5,000 FEET

fishbeck

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City of Owosso

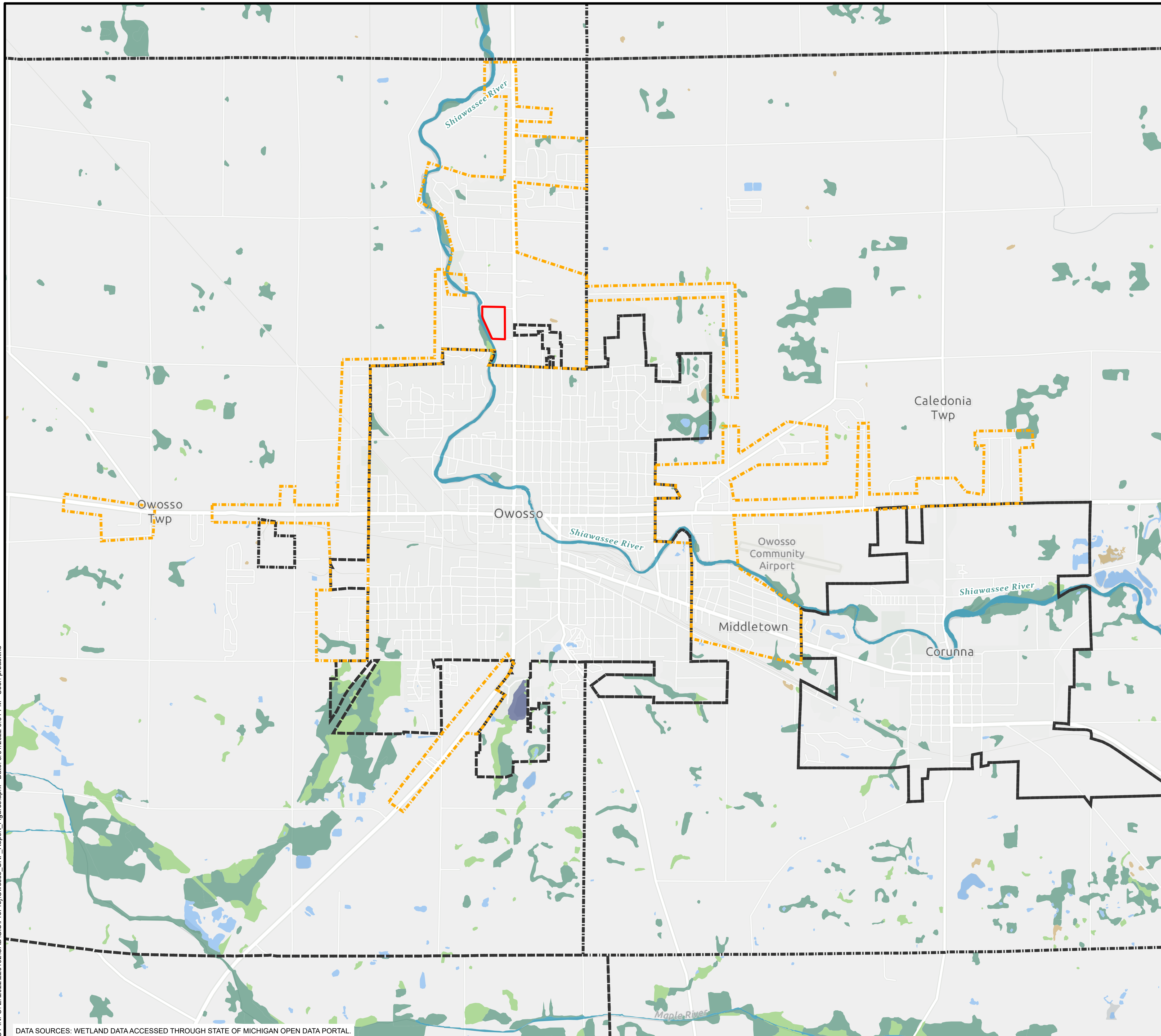
Shiawassee County, Michigan

Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
2

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 3/31/2022 3:54 PM User: prbaskins



LEGEND

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Project Location
- Sewer System Boundary

NORTH

0 2,500 5,000 FEET

WETLANDS AND MAJOR SURFACE WATERS

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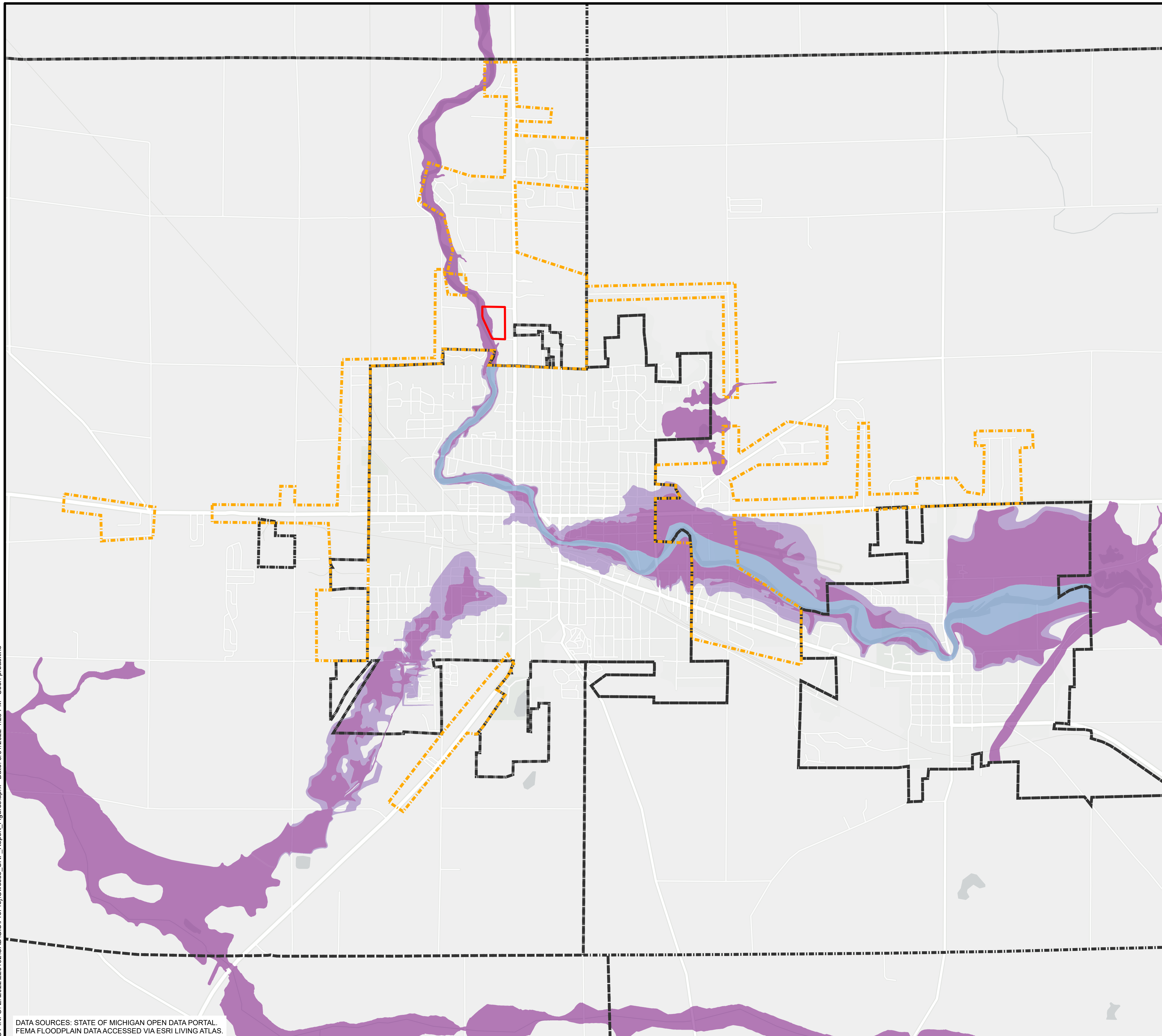
City of Owosso
Shiawassee County, Michigan
Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
3

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 3/31/2022 3:54 PM User: prbaskins



FEMA FLOODPLAIN

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Engineers | Architects | Scientists | Constructors

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City of Owosso
Shiawassee County, Michigan

Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
4.1

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 3/31/2022 4:28 PM User: prbaskins

LEGEND

- 1% Annual Chance Flood Hazard
- Future Project Areas
- Project Location

NORTH

WWTP FEMA FLOODPLAIN

0 100 200 FEET

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City of Owosso

Shiawassee County, Michigan

Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
4.2

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 4/1/2022 11:10 AM User: prhaskins

DATA SOURCES: CITY OF OWOSSO CITY PARKS & FACILITIES.

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 3/31/2022 4:20 PM User: prbaskins

LEGEND

Project Location

NORTH

OUTDOOR RECREATIONAL FACILITIES

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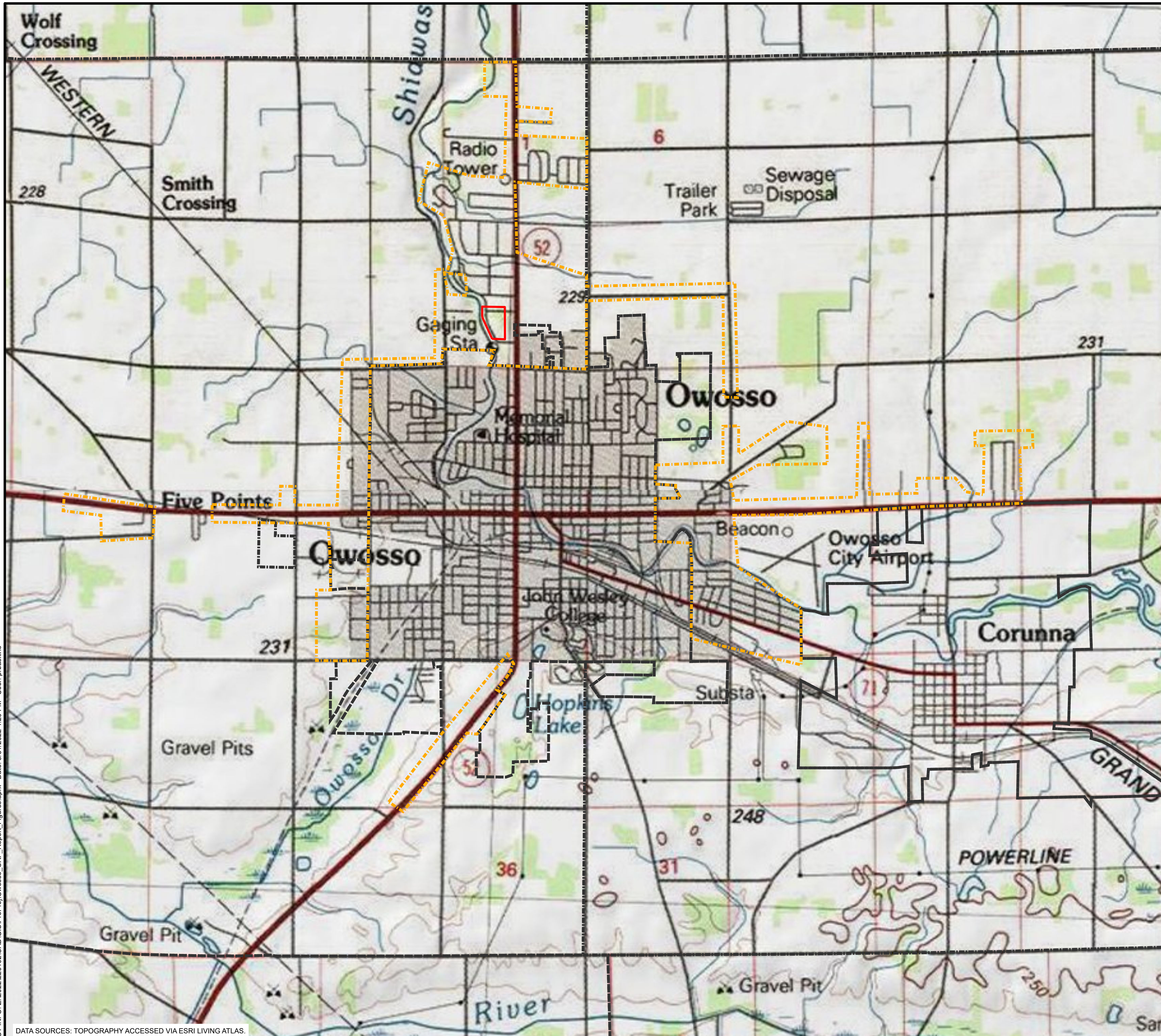
City of Owosso
Shiawassee County, Michigan

Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
5



DATA SOURCES: TOPOGRAPHY ACCESSED VIA ESRI LIVING ATLAS.

LEGEND

- Project Location
- Sewer System Boundary

NORTH

TOPOGRAPHY

0 2,500 5,000 FEET

fishbeck | Engineers | Architects | Scientists | Constructors

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City of Owosso
Shiawassee County, Michigan

Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
6.1

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 3/31/2022 4:20 PM User: prbaskins

LEGEND

Contours (5 ft)

Project Location

NORTH

WWTP TOPOGRAPHY

0 100 200 FEET

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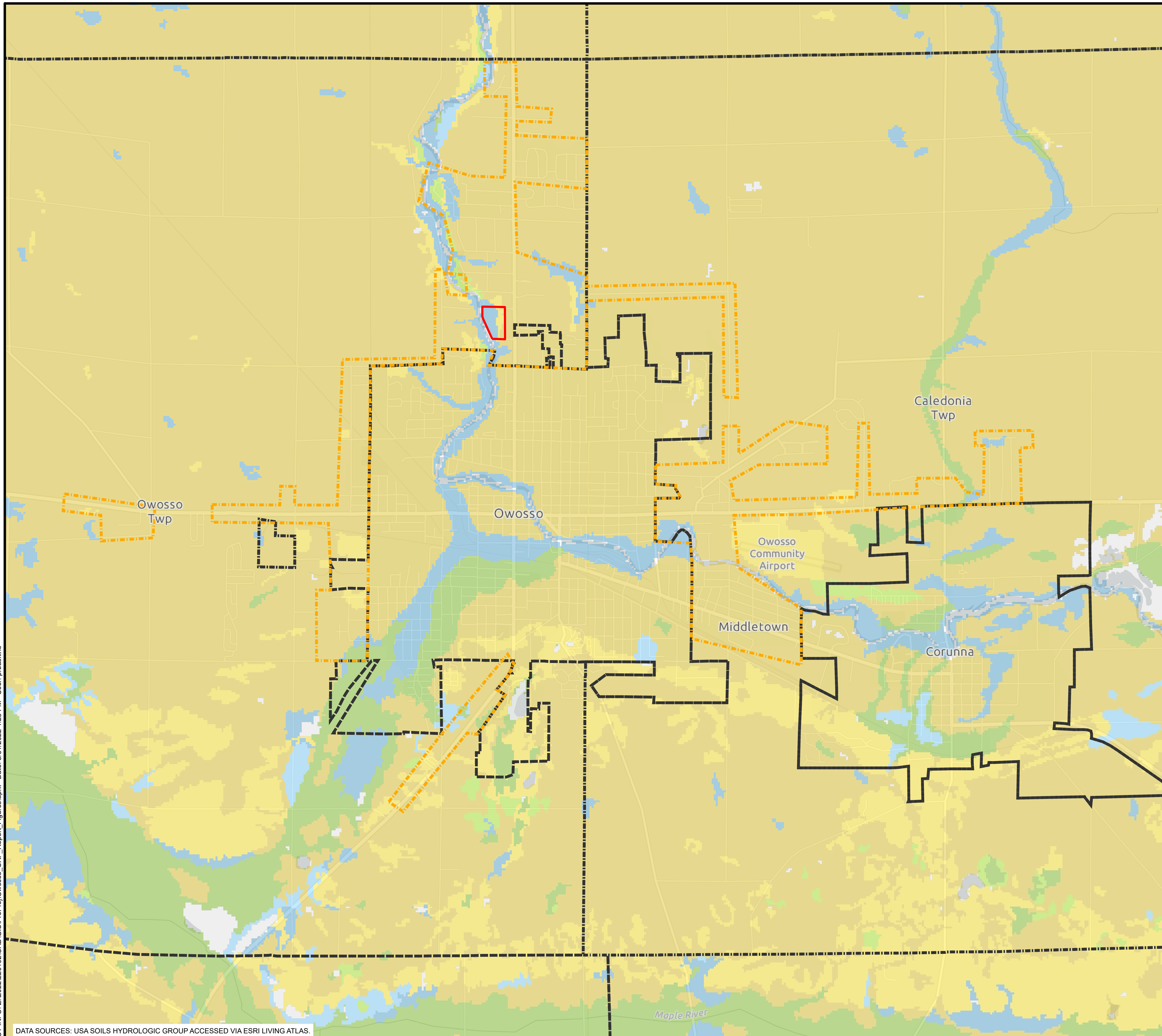
City of Owosso
Shiawassee County, Michigan

Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
6.2

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 3/31/2022 3:42 PM User: prbaskins



LEGEND

USA Soils Hydrologic Group

- Group A
- Group B
- Group C
- Group A/D
- Group B/D
- Group C/D
- Project Location

NORTH

SOILS

0 2,500 5,000 FEET

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City of Owosso

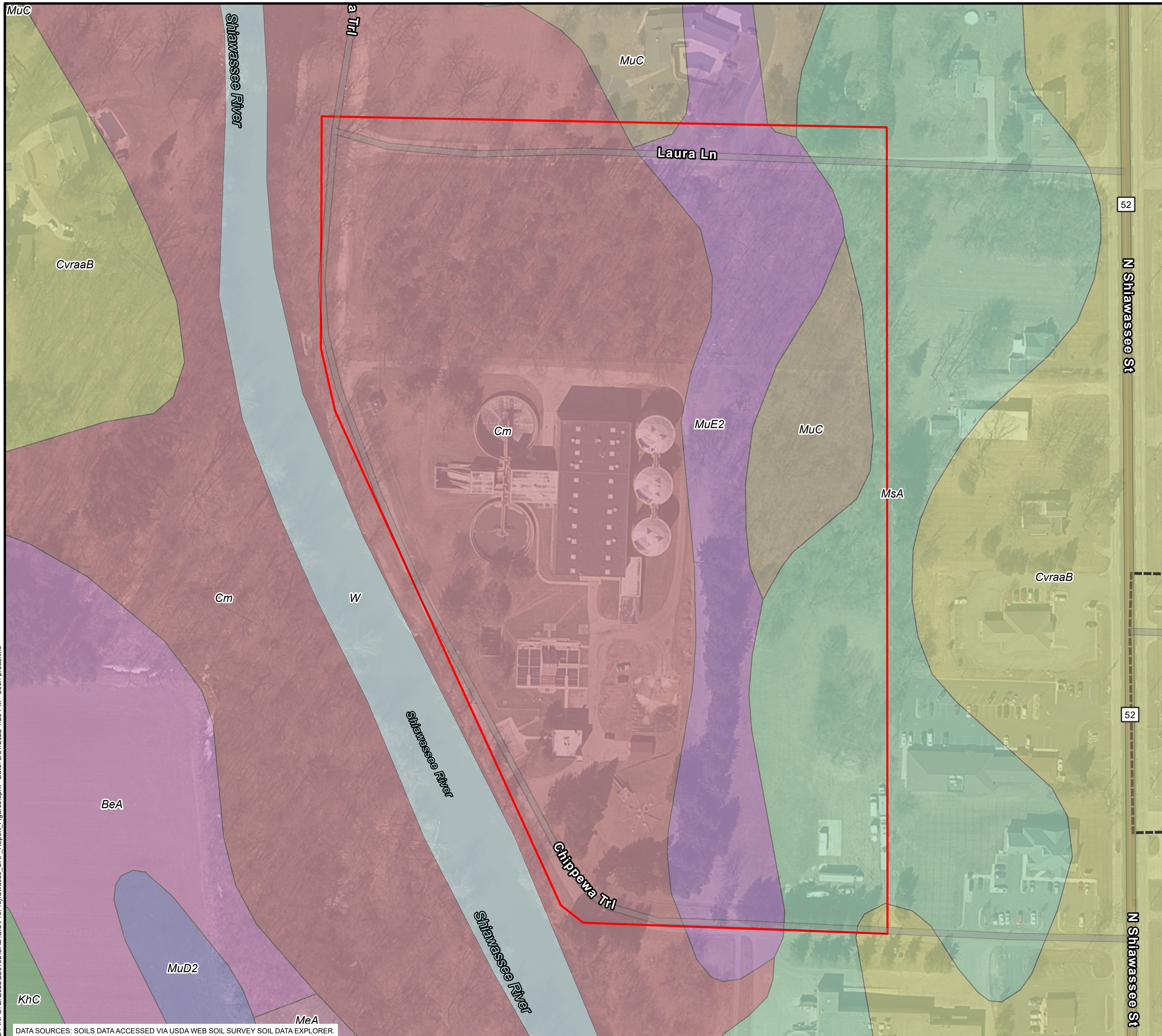
Shiawassee County, Michigan

Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
7.1

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 3/31/2022 4:28 PM User: prbaskins



LEGEND

- Belding sandy loam, 0 to 2 percent slopes (BeA)
- Ceresco loam (Cm)
- Conover loam, 0 to 4 percent slopes (CvraaB)
- Kendallville sandy loam, 6 to 12 percent slopes (KhC)
- Mancelona loamy sand, 0 to 2 percent slopes (MeA)
- Metamora sandy loam, 0 to 2 percent slopes (MsA)
- Miami loam, 12 to 18 percent slopes, moderately eroded (MuD2)
- Miami loam, 18 to 25 percent slopes, moderately eroded (MuE2)
- Water (W)
- Wawasee loam, 6 to 12 percent slopes (MuC)
- Project Location

NORTH

WWTP SOILS

0 100 200 FEET

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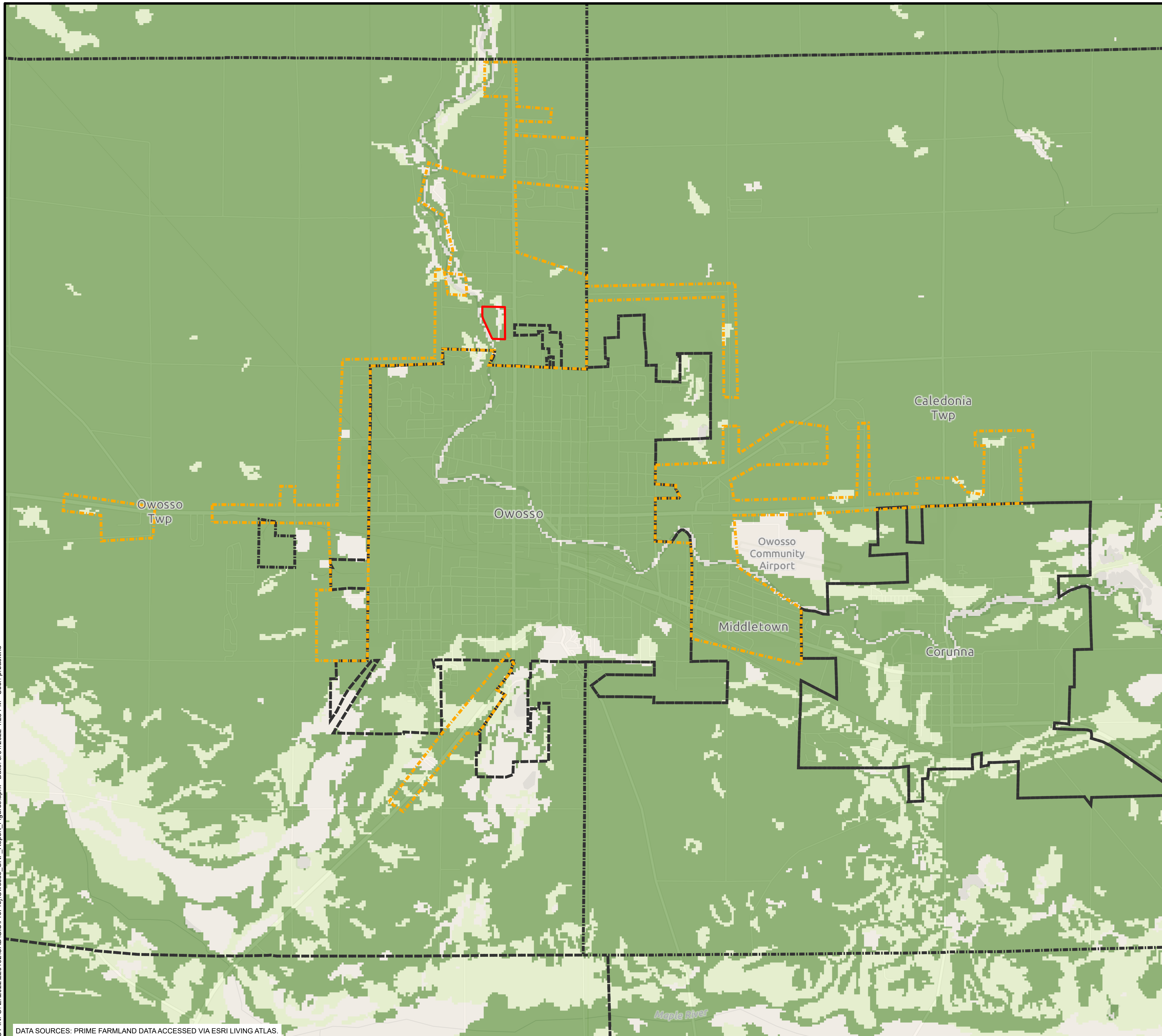
City of Owosso
Shiawassee County, Michigan
Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
7.2

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 3/31/2022 4:28 PM User: prbaskins



LEGEND

- Prime Farmland
- Farmland of Local Importance
- Not Prime Farmland
- Project Location

NORTH

PRIME FARMLAND

0 2,500 5,000 FEET

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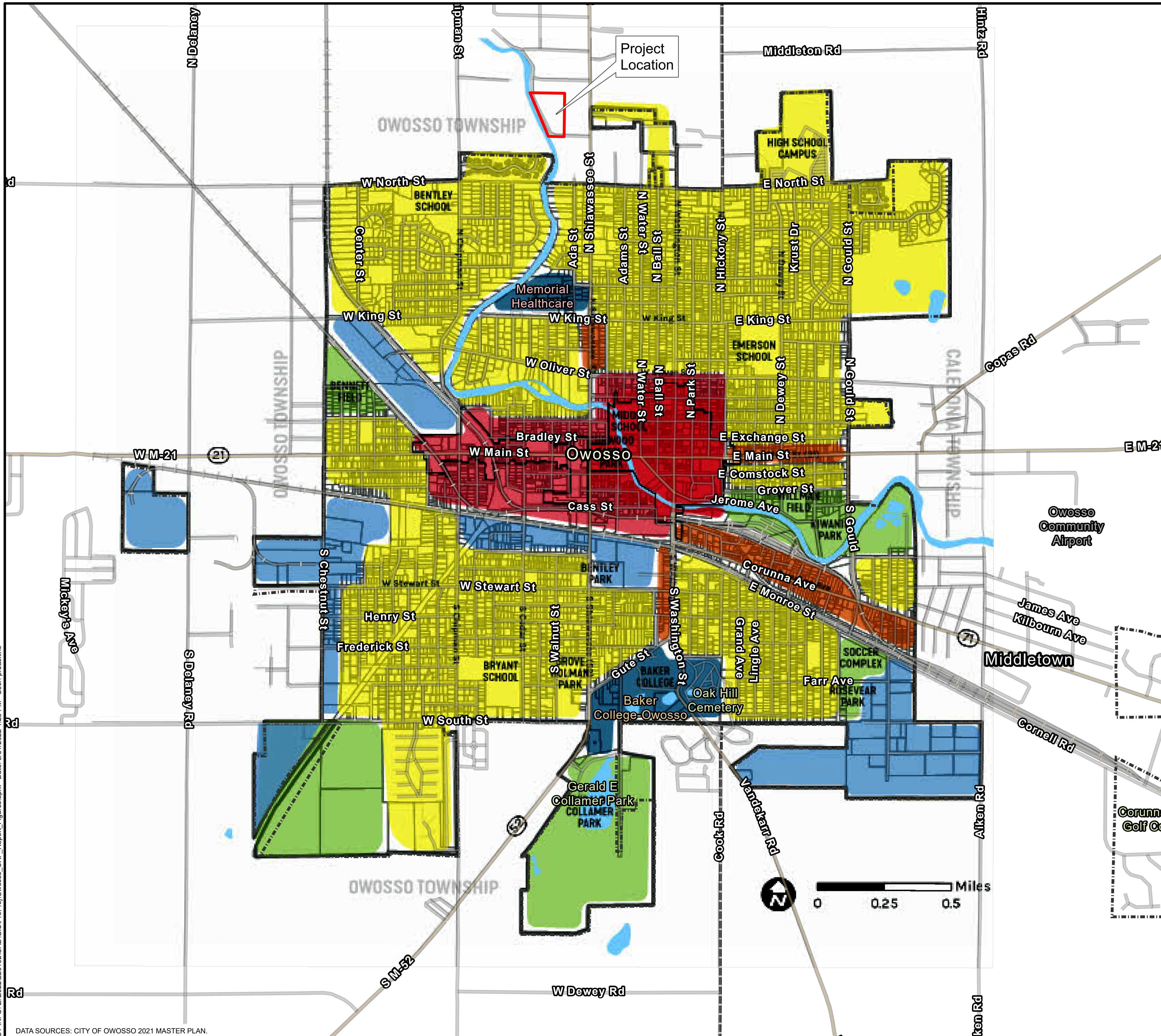
City of Owosso
Shiawassee County, Michigan

Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
8

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 3/31/2022 4:28 PM User: prhaskins



Neighborhoods

Centers

Corridors

Districts

Open Space

NORTH

EXISTING LAND USE
CITY OF OWOSSO

0 1,000 2,000 FEET

DATA SOURCES: CITY OF OWOSSO 2021 MASTER PLAN.

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 3/31/2022 4:28 PM User: prbaskins

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Engineers | Architects | Scientists | Constructors

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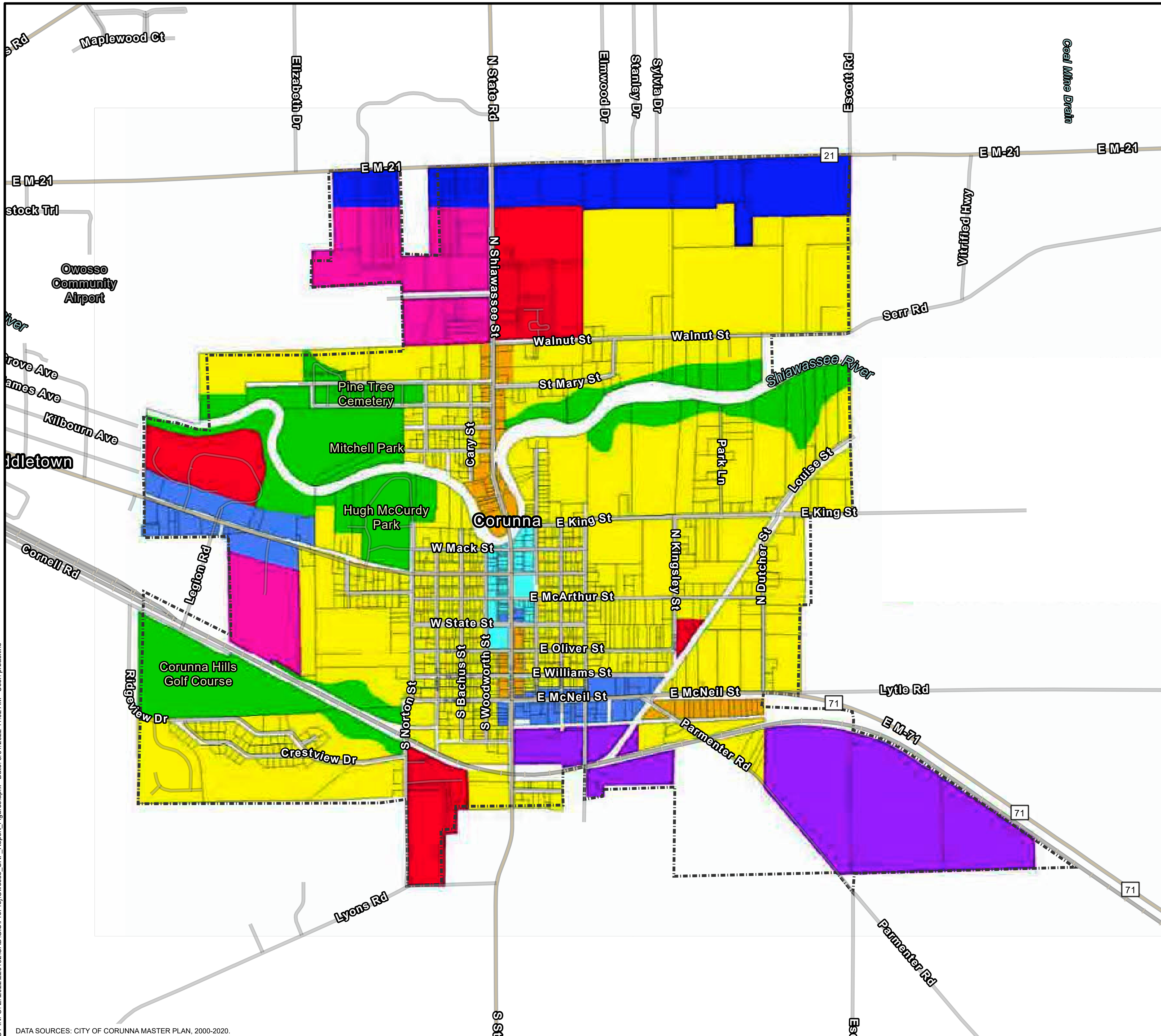
City of Owosso
Shiawassee County, Michigan

Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
9.1



- Single Family Residential
- Multiple Family Residential
- Residential - Office
- Central Business District
- Business Service District
- General Business District
- Light Industrial
- Heavy Industrial
- Recreation - Conservation

EXISTING LAND USE
CITY OF CORUNNA

NORTH

FEET
0 750 1,500

DATA SOURCES: CITY OF CORUNNA MASTER PLAN, 2000-2020.

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 3/31/2022 11:02 AM User: prbaskins

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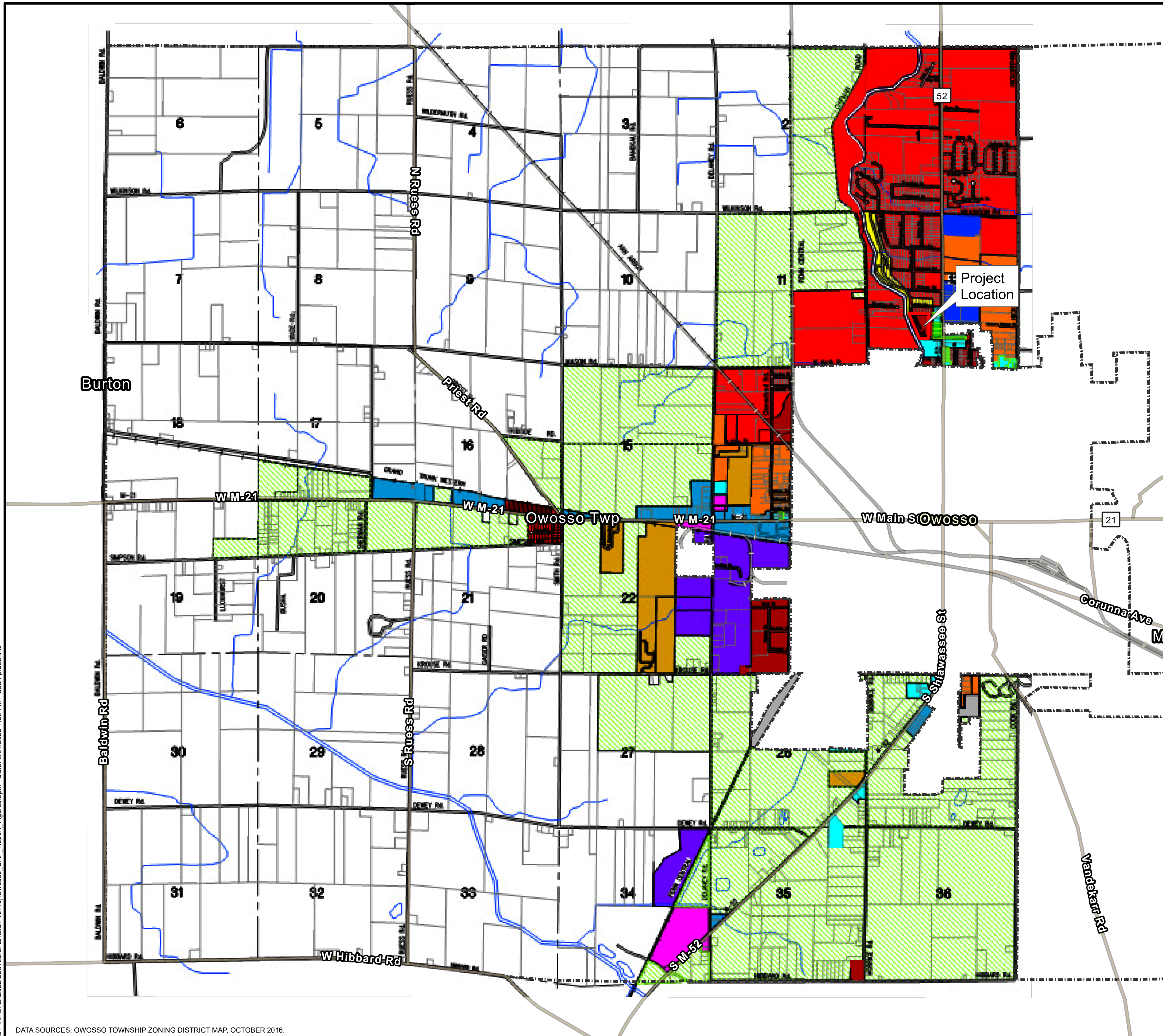
City of Owosso
Shiawassee County, Michigan

Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
9.2



R-1 RESIDENTIAL/ SINGLE FAM.	
R-2 RESIDENTIAL/SINGLE & 2 FAM.	
R-3 RESIDENTIAL/ MULTI-FAM	
R-4 MOBILE HOME PARK/ PLAT	
R-5 RESIDENTIAL-RECREATIONAL	
O-1 OFFICE	
C-1 LOCAL COMMERCIAL DIST.	
C-2 GENERAL COMMERCIAL DIST.	
C-3 SHOPPING CENTER DIST.	
M-1 LIGHT MANUFACTURING DIST.	
M-2 GENERAL MANUFACTURING DIST.	
A-1 AGRICULTURE-PRIME DIST.	
A-2 AGRICULTURE DIST.	

NORTH

EXISTING LAND USE OWOSSO TOWNSHIP

FEET
0 1,750 3,500

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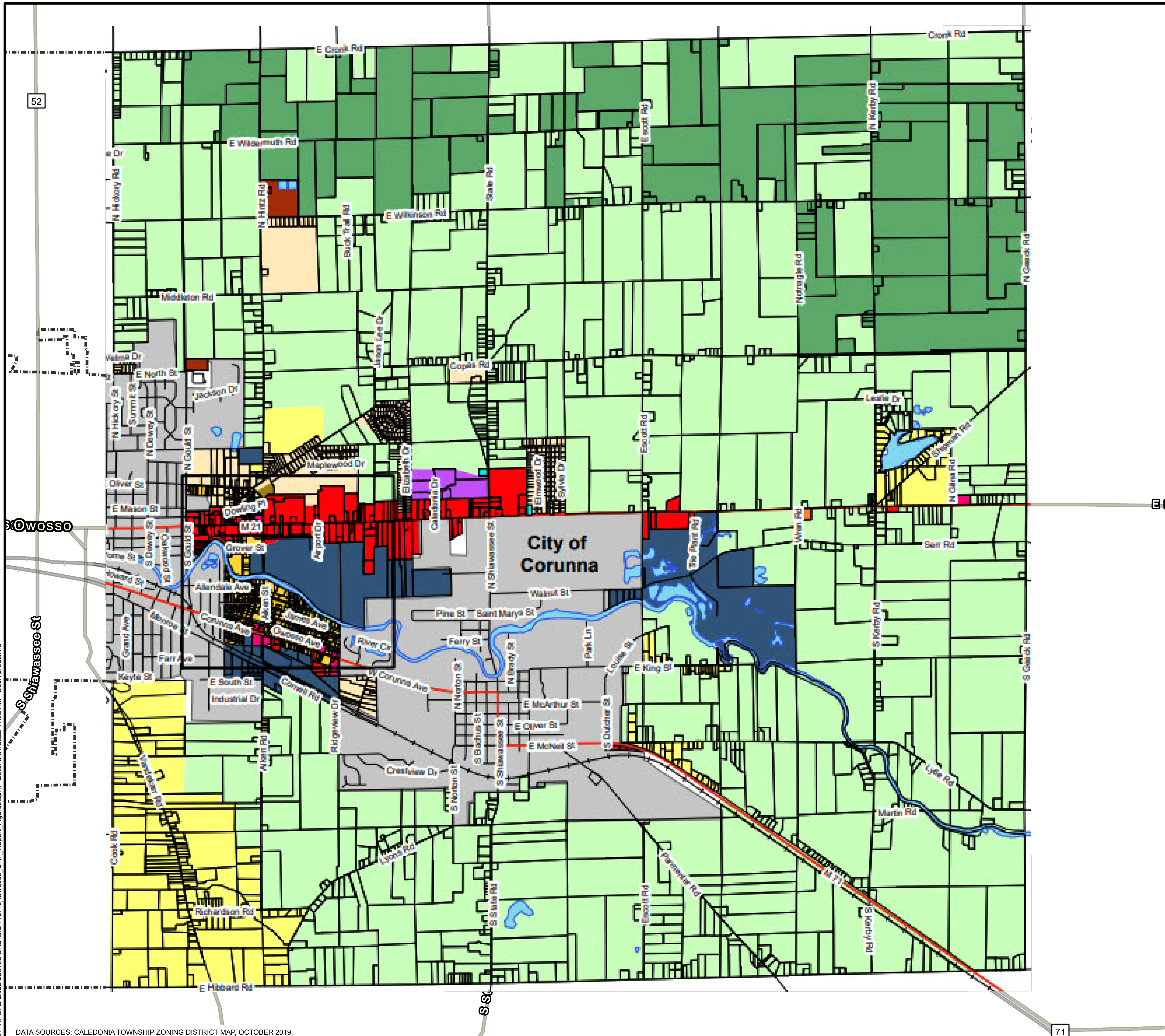
City of Owosso
Shiawassee County, Michigan
Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
9.3

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 3/31/2022 4:28 PM User: prbaskins

DATA SOURCES: OWOSSO TOWNSHIP ZONING DISTRICT MAP, OCTOBER 2016.



- Agricultural Production (A-1)
- Agricultural Production/Rural Residential (A-2)
- Office (O-1)
- One-Family Residential (R-1A)
- One-Family Low Density Residential (R-1B)
- One-Family Medium Density Residential (R-1C)
- Mobile Home Development (RM-T)
- Multiple Family Residential (RM-1)
- Planned Unit Development (PUD)
- Commercial Business (B-1)
- General Business (B-2)
- Rural Business (B-3)
- Light Manufacturing (M-1)

EXISTING LAND USE
CALEDONIA TOWNSHIP

DATA SOURCES: CALEDONIA TOWNSHIP ZONING DISTRICT MAP, OCTOBER 2019.

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 3/31/2022 11:02 AM User: prbaskins

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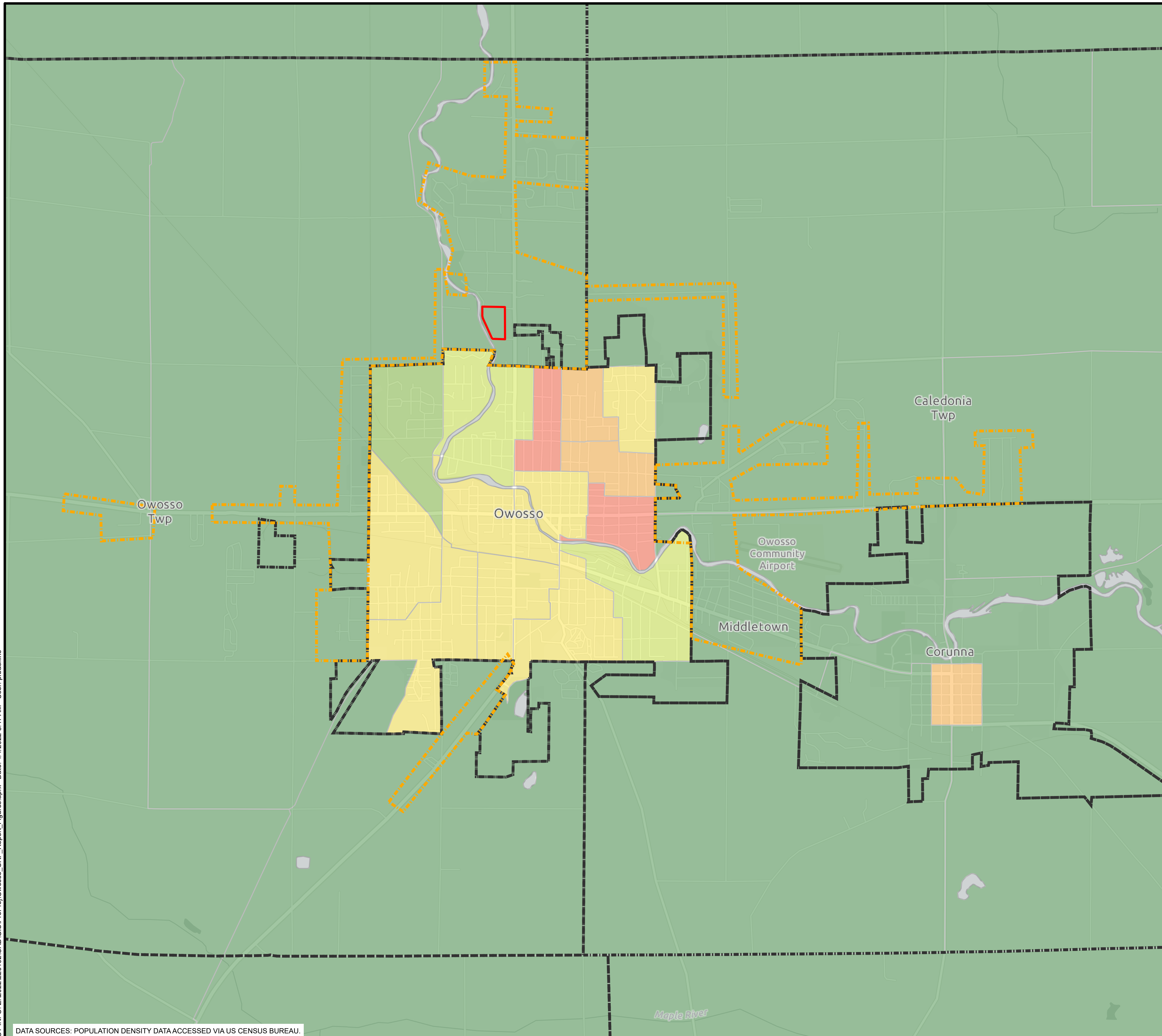
City of Owosso
Shiawassee County, Michigan
Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
9.4



LEGEND

2019 Population Density (People per Square Mile)

- 0 - 1,000 People per sq mi
- 1,000 - 2,000 People per sqmi
- 2,000 - 3,000 People per sq mi
- 3,000 - 4,000 People per sqmi
- 4,000 - 5,000 People per sq mi
- 5,000 - 6,000 People per sqmi
- Project Location

NORTH

POPULATION DENSITY

FEET
0 2,500 5,000

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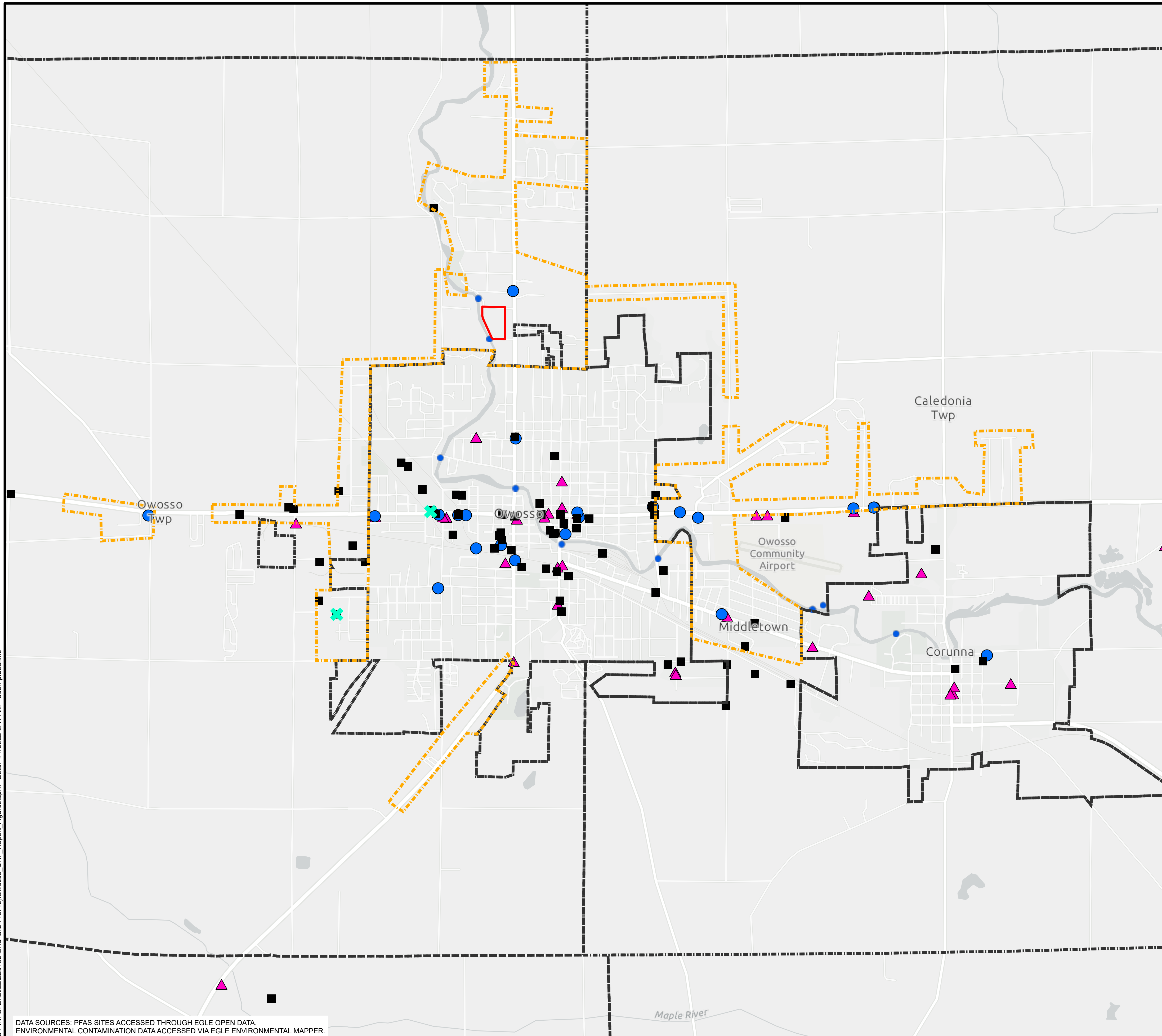
City of Owosso
Shiawassee County, Michigan
Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
10

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 4/1/2022 8:47 AM User: prbaskins



DATA SOURCES: PFAS SITES ACCESSED THROUGH EGLE OPEN DATA.
ENVIRONMENTAL CONTAMINATION DATA ACCESSED VIA EGLE ENVIRONMENTAL MAPPER.

LEGEND

- Sites of Environmental Contamination (Part 201)
- Leaking Underground Storage Tanks (Part 213 Open)
- Leaking Underground Storage Tanks (Part 213 Closed)
- PFAS Surface Water
- PFAS Sites
- Project Location

NORTH

0 2,500 5,000 FEET

ENVIRONMENTAL CONTAMINATION

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City of Owosso
Shiawassee County, Michigan
Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
11

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 4/1/2022 8:47 AM User: prbaskins

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 4/1/2022 8:47 AM User: prbaskins

LEGEND

- Future Project Areas
- Project Location

SELECTED ALTERNATIVE PROJECT AREAS

NORTH

0 100 200 FEET

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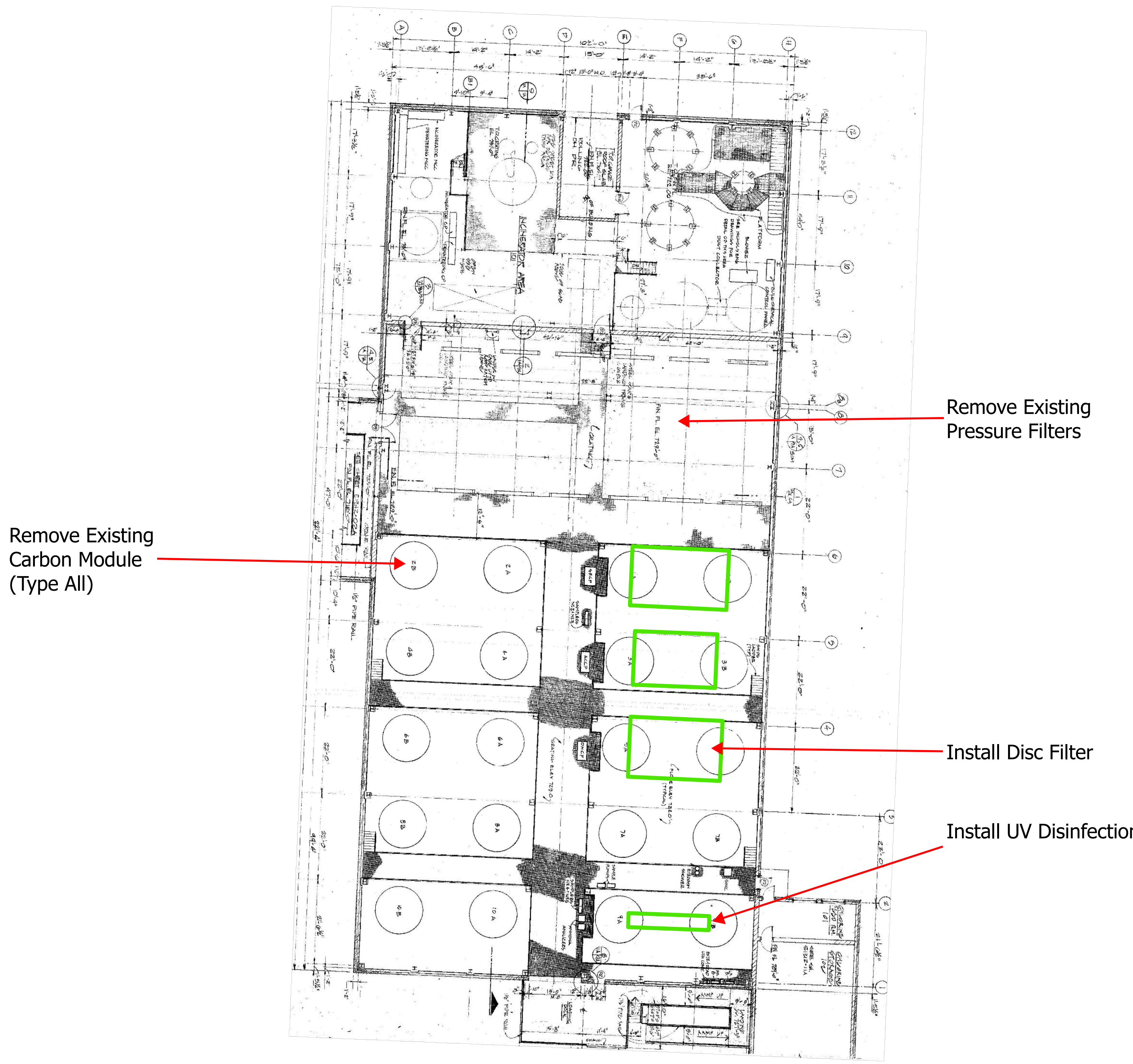
City of Owosso
Shiawassee County, Michigan

Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
12.1



LEGEND

Future Project Areas - Main Building

NORTH

0 25 50 FEET

SELECTED ALTERNATIVE PROJECT AREA MAIN BUILDING

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City of Owosso
Shiawassee County, Michigan

Clean Water State Revolving Fund (CWSRF) Project Plan

PROJECT NO.
220102

FIGURE NO.
12.2

DATA SOURCES: STATE OF MICHIGAN OPEN DATA PORTAL.

PLOT INFO: Z:\2022\220102\CAD\GIS\ProProj\Owosso_SRF_Report_Figures.aprx Date: 4/1/2022 8:47 AM User: prbaskins

Appendix 1

Table of Contents

Report of Discharge (CSO\SSO\RTB)

version 1.14

(Submission #: HP9-SHJ0-2HJ8D, version 1)

Details

Submission ID	HP9-SHJ0-2HJ8D
Status	Submitted

Form Input

Report Details

Is this the inital or final discharge report?
Initial

Site/Facility Name:
Owosso/Mid Shiawassee Co WWTP

Permit Number (if applicable):
MI0023752

Sewer System or Treatment Facility Owner

Organization Name
Owosso/Mid Shiawassee Co WWTP

Phone Type	Number	Extension
Business	9897250562	

Email
timothy.guysky@ci.owosso.mi.us

Fax
NONE PROVIDED

Address

301 W. Main St.

Owosso, MI 48867

United States

Facility Address

1410 Chippewa Trail

Owosso, MI 48867

Sewer System or Treatment Facility Owner Location
43.0164,-84.1797

1410 Chippewa Trail, Owosso, MI

Discharge Details (1 of 1)

SSO Discharge from Manhole A

Discharge Type:
SSO Discharge

SSO Discharge
The reported discharge is from a private or municipal separate sewer collection system (not a wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system.

Is the outfall or discharge area located at a private residential address?
NO

Outfall or Discharge Area Name
Manhole A

Outfall or Discharge Area Description
Manhole on north Shiawassee River bank, just west of M-52 street bridge

Outfall or Discharge Area Location
43.00031602279883,-84.1775109479206

Has the discharge ended?
YES

Volume Discharged	Unit	Was the volume estimated?
16000	Gallons	Yes

Quality of Discharge
Diluted Raw Sewage

Please describe the discharge, including the reason for Discharge
Manhole reached surcharge condition due to inflow/infiltration of the collection system significantly impacted by rain event totaling 0.80" rain on saturated ground which followed 3.20" rain over the previous 2 days.

Was the land or surface water impacted by the discharge?
Surface water impacted only

Name of Surface Water(s) Impacted:
Shiawassee River

Discharge Event Start

Date	Time
6/26/2021	06:40 pm

Discharge Event End

Date	Time
6/26/2021	11:00 pm

Initial Notification

Organization	Date	Time
Local Health Department	6/27/2021	12:59 pm
Daily Local Newspaper	NONE PROVIDED	NONE PROVIDED

Was EGLE notified prior to this report being received?
EGLE was notified prior to this report being submitted

Prior EGLE notification that discharge has started

EGLE Notification Method	Person(s) notified	EGLE Notification Date	EGLE Notification Time	Comments
Phone	Brent Bodnar	6/27/2021	12:58 pm	Voicemail

Notification that discharge has concluded.

Organization	Date	Time
Local Health Department	6/26/2021	12:59 pm
Daily Local Newspaper	NONE PROVIDED	NONE PROVIDED

Precipitation Type(s) (Select none if there was no precipitation)
Rain

Has the precipitation ended?
YES

Precipitation

Start Date	Start Time
6/26/2021	06:00 pm

Precipitation Amount (Inches)	Precipitation End Date	Precipitation End Time
0.80	6/26/2021	07:15 pm

Precipitation comments
NONE PROVIDED

Was this discharge disinfected to meet fecal coliform limitations?
NO

Additional Details

Report Submitter

Prefix
NONE PROVIDED

First Name	Last Name
Tim	*Guysky*

Title
WWTP Superintendent

Organization Name
City of Owosso WWTP

Phone Type	Number	Extension
Business	9897250562	

Email
timothy.guysky@ci.owosso.mi.us

Fax
NONE PROVIDED

Address

301 W. Main

Owosso, Michigan 48867

[NO COUNTRY SPECIFIED]

Do you have any additional comments or uploads you would like to provide?
YES

Additional Information
Local Health Department to notify daily newspaper. Final report will be submitted when that detail is available.

Upload addition information, as needed.
NONE PROVIDED
Comment
NONE PROVIDED

Status History

	User	Processing Status
6/27/2021 12:56:28 PM	Timothy Guysky	Draft
6/27/2021 1:27:24 PM	Timothy Guysky	Submitting
6/27/2021 1:27:31 PM	Timothy Guysky	Submitted

Table of Contents

Report of Discharge (CSO\SSO\RTB)

version 1.14

(Submission #: HP9-RSZX-A6YVS, version 1)

Details

Submission ID	HP9-RSZX-A6YVS
Status	Submitted

Form Input

Report Details

Is this the inital or final discharge report?
Initial

Site/Facility Name:
Owosso/Mid Shiawassee Co WWTP

Permit Number (if applicable):
MI0023752

Sewer System or Treatment Facility Owner

Organization Name
City of Owosso

Phone Type	Number	Extension
Business	9897250562	

Email
timothy.guysky@ci.owosso.mi.us

Fax
NONE PROVIDED

Address

301 W. Main
Owosso, Michigan 48867
United States

Facility Address

1410 Chippewa Trail
Owosso, MI 48867

Sewer System or Treatment Facility Owner Location
43.0164,-84.1797

1410 Chippewa Trail, Owosso, MI

Discharge Details (1 of 1)

SSO Discharge from Manhole A

Discharge Type:
SSO Discharge

SSO Discharge
The reported discharge is from a private or municipal separate sewer collection system (not a wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system.

Is the outfall or discharge area located at a private residential address?
NO

Outfall or Discharge Area Name
Manhole A

Outfall or Discharge Area Description
Manhole on north Shiawassee River bank, just west of M-52 street bridge

Outfall or Discharge Area Location
43.00030812821357,-84.17754904802057

Has the discharge ended?
YES

Volume Discharged	Unit	Was the volume estimated?
4000	Gallons	Yes

Quality of Discharge
Diluted Raw Sewage

Please describe the discharge, including the reason for Discharge
Manhole reached surcharge condition due to inflow/infiltration of collection system significantly impacted by rain event (approx. 1.85" rain in a 14 hour period following 0.73" the prior day).

Was the land or surface water impacted by the discharge?
Surface water impacted only

Name of Surface Water(s) Impacted:
Shiawassee River

Discharge Event Start

Date	Time
6/25/2021	06:30 pm

Discharge Event End

Date	Time
6/25/2021	08:30 pm

Initial Notification

Organization	Date	Time
Local Health Department	6/26/2021	07:40 am
Daily Local Newspaper	NONE PROVIDED	NONE PROVIDED

Was EGLE notified prior to this report being received?
EGLE was notified prior to this report being submitted

Prior EGLE notification that discharge has started

EGLE Notification Method	Person(s) notified	EGLE Notification Date	EGLE Notification Time	Comments
Phone	Brent Bodnar	6/26/2021	02:41 pm	NONE PROVIDED

Notification that discharge has concluded.

Organization	Date	Time
Local Health Department	6/26/2021	02:42 am
Daily Local Newspaper	NONE PROVIDED	NONE PROVIDED

Precipitation Type(s) (Select none if there was no precipitation)
Rain

Has the precipitation ended?
YES

Precipitation

Start Date	Start Time
6/25/2021	08:00 am

Precipitation Amount (Inches)	Precipitation End Date	Precipitation End Time
1.85	6/25/2021	10:00 pm

Precipitation comments
Rain on and off for the time period noted, with severe rain from 6:00 pm to 7:00 pm.

Was this discharge disinfected to meet fecal coliform limitations?
NO

Additional Details

Report Submitter

Prefix
NONE PROVIDED

First Name Tim
Last Name *Guysky*

Title
NONE PROVIDED

Organization Name
City of Owosso WWTP

Phone Type	Number	Extension
Business	9897250562	

Email
timothy.guysky@ci.owosso.mi.us

Fax
NONE PROVIDED

Address

301 W. Main

Owosso, Michigan 48867

[NO COUNTRY SPECIFIED]

Do you have any additional comments or uploads you would like to provide?
YES

Additional Information
Local Health Department to notify daily newspaper. Final report will be submitted when that detail is available.

Upload addition information, as needed.
NONE PROVIDED
Comment
NONE PROVIDED

Status History

	User	Processing Status
6/26/2021 2:27:01 PM	Timothy Guysky	Draft
6/26/2021 2:52:27 PM	Timothy Guysky	Submitting
6/26/2021 2:52:32 PM	Timothy Guysky	Submitted

Table of Contents

Report of Discharge (CSO\SSO\RTB)

version 1.11

(Submission #: HP2-BFFD-2BRE4, version 1)

Details

Submission ID	HP2-BFFD-2BRE4
Status	Submitted

Form Input

Report Details

Is this the inital or final discharge report?
Final

Site/Facility Name:
Owosso/Mid Shiawassee Co WWTP

Permit Number (if applicable):
MI0023752

Sewer System or Treatment Facility Owner

Organization Name
Owosso/Mid Shiawassee Co WWTP

Phone Type	Number	Extension
Business	9897250562	

Email
timothy.guysky@ci.owosso.mi.us

Fax
NONE PROVIDED

1410 Chippewa Trail
Owosso, MI 48867
US

Facility Address

1410 Chippewa Trail
Owosso, MI 48867

Sewer System or Treatment Facility Owner Location
43.0164,-84.1797

1410 Chippewa Trail, Owosso, MI

Discharge Details (1 of 1)

SSO Discharge from Manhole A

Discharge Type:
SSO Discharge

SSO Discharge

The reported discharge is from a private or municipal separate sewer collection system (not a wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system.

Is the outfall or discharge area located at a private residential address?
NO

Outfall or Discharge Area Name
Manhole A

Outfall or Discharge Area Description
Manhole on north Shiawassee River bank, just west of M-52 street bridge

Outfall or Discharge Area Location
43.00036657129758,-84.17696366634463

Has the discharge ended?
YES

Volume Discharged	Unit	Was the volume estimated?
2200	Gallons	Yes

Quality of Discharge
Diluted Raw Sewage

Please describe the discharge, including the reason for Discharge
Manhole reached surcharge condition due to inflow/infiltration of collection system significantly impacted by extreme localized rain event (4.17" rain in 2.5 hour period)

Was the land or surface water impacted by the discharge?
Surface water impacted only

Name of Surface Water(s) Impacted:
Shiawassee River

Discharge Event Start

Date	Time
8/28/2020	04:00 am

Discharge Event End

Date	Time
8/28/2020	06:00 am

Name of the wastewater treatment facility that normally receives sewage.
Owosso Mid-Shiawassee County WWTP

Was the reported discharge caused by a party other than the sewer system owner and out of the control or knowledge of the actions which resulted in the discharge?
NO

Is the sewer system owner in compliance with applicable discharge permits, laws, rules, and orders?
YES

Initial Notification

Organization	Date	Time
Local Health Department	8/28/2020	09:28 am
Daily Local Newspaper	8/28/2020	03:03 pm

Notification that discharge has concluded.

Organization	Date	Time
Local Health Department	8/28/2020	09:28 am

Organization	Date	Time
Daily Local Newspaper	8/28/2020	03:03 pm

Precipitation Type(s) (Select none if there was no precipitation)
Rain

Has the precipitation ended?
YES

Precipitation

Start Date	Start Time
8/28/2020	02:00 am

Precipitation Amount (Inches)	Precipitation End Date	Precipitation End Time
4.17	8/28/2020	04:30 am

Precipitation comments
NONE PROVIDED

Actions taken to minimize the impact from the discharge(s):
Utilization of diesel pump at WWTP, pumping directly to grit chamber to ensure maximum influent capacity at the plant.

Actions taken, or that will be taken, to prevent this discharge event from reoccurring:
Ongoing sanitary sewer overflow control program under a consent order. Defective pipe has been identified through cleaning/camera efforts, with some repairs completed and a large number scheduled. SFR funding is in place to fund further collection system improvements, potentially including retention basins within the collection system and at the WWTP. Plant influent pumping capacity increase via screwpump replacement scheduled to begin Sep 2020.

Was this discharge disinfected to meet fecal coliform limitations?
NO

Results of E. coli testing
Testing Waived by Local Health Department

Additional Details

Report Submitter

Prefix
NONE PROVIDED

First Name	Last Name
Timothy	*Guysky*

Title
WWTP Superintendent

Organization Name
City of Owosso WWTP

Phone Type	Number	Extension
Business	9897250562	

Email
timothy.guysky@ci.owosso.mi.us

Fax
NONE PROVIDED

301 W. Main St.

Owosso, MI 48867

US

Do you have any additional comments or uploads you would like to provide?
NO

Status History

	User	Processing Status
8/28/2020 1:57:50 PM	Timothy Guysky	Draft
8/28/2020 3:08:24 PM	Timothy Guysky	Submitted

Table of Contents

Report of Discharge (CSO\SSO\RTB)
version 1.11

(Submission #: HNZ-VQX1-8699Q, version 1)

Details

Form Alias	Report of Discharge (CSO\SSO\RTB)
Submission #	HNZ-VQX1-8699Q
Status	Submitted

Form Input

Report Details

Is this the inital or final discharge report?
Final

Site/Facility Name:
Owosso/Mid Shiawassee Co WWTP

Permit Number (if applicable):
MI0023752

Sewer System or Treatment Facility Owner

> **Organization Name**
> *Owosso/Mid Shiawassee Co WWTP*
>
> | Phone Type | Number | Extension |
> |---|---|---|
> | Business | 9897250562 | |
>
> **Email**
> timothy.guysky@ci.owosso.mi.us
>
> **Fax**
> NONE PROVIDED
>
> 1410 Chippewa Trail
> Owosso, MI 48867
> US

Facility Address

> 1410 Chippewa Trail
> Owosso, MI 48867

Sewer System or Treatment Facility Owner Location
43.0164,-84.18

1410 Chippewa Trail, Owosso, MI

Discharge Details (1 of 5)

SSO Discharge from Manhole A

Discharge Type:
SSO Discharge

SSO Discharge
The reported discharge is from a private or municipal separate sewer collection system (not a wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system.

Is the outfall or discharge area located at a private residential address?
NO

Outfall or Discharge Area Name
Manhole A

Outfall or Discharge Area Description
Manhole on north Shiawassee River bank, just west of M-52 street bridge

Outfall or Discharge Area Location
43.00034961994192,-84.17724247670745

Has the discharge ended?
YES

Volume Discharged	Unit	Was the volume estimated?
390000	Gallons	Yes

Quality of Discharge
Diluted Raw Sewage

Please describe the discharge, including the reason for Discharge
Manhole reached surcharge condition due to inflow/infiltration of collection system significantly impacted by extreme wet weather (3.27" rain in 48 hour period following 1.41" rain two days prior).

Was the land or surface water impacted by the discharge?
Surface water impacted only

Name of Surface Water(s) Impacted:
Shiawassee River

Discharge Event Start

Date	Time
5/18/2020	02:30 pm

Discharge Event End

Date	Time
5/20/2020	03:00 pm

Name of the wastewater treatment facility that normally receives sewage.
Owosso Mid-Shiawassee County WWTP

Was the reported discharge caused by a party other than the sewer system owner and out of the control or knowledge of the actions which resulted in the discharge?
NO

Is the sewer system owner in compliance with applicable discharge permits, laws, rules, and orders?
YES

Initial Notification

Organization	Date	Time
Local Health Department	5/18/2020	08:02 pm
Daily Local Newspaper	5/20/2020	10:09 am

Notification that discharge has concluded.

Organization	Date	Time
Local Health Department	5/20/2020	03:10 pm
Daily Local Newspaper	5/20/2020	03:10 pm

Precipitation Type(s) (Select none if there was no precipitation)
Rain

Has the precipitation ended?
YES

Precipitation

Start Date	Start Time
5/17/2020	12:00 pm

Precipitation Amount (Inches)	Precipitation End Date	Precipitation End Time
3.27	5/19/2020	03:00 am

Precipitation comments
NONE PROVIDED

Actions taken to minimize the impact from the discharge(s):
Bypass pumping to the river at the WWTP (Manhole C) once the collection system was overwhelmed in order to minimize basement floodings. WWTP service unit City of Corunna pumped maximum amount to their retention basin once surcharging event was imminent.

Actions taken, or that will be taken, to prevent this discharge event from reoccurring:
Ongoing sanitary sewer overflow control program under a consent order. Defective pipe has been identified through cleaning/camera efforts, with some repairs completed and a large number scheduled. SRF funding is in place to fund further collection system improvements, potentially including retention basins within the collection system and at the WWTP. Plant influent pumping capacity increase via screwpump replacement scheduled for winter 2020.

Was this discharge disinfected to meet fecal coliform limitations?
NO

Results of E. coli testing
Testing Waived by Local Health Department

Discharge Details (2 of 5)

SSO Discharge from Manhole B

Discharge Type:
SSO Discharge

SSO Discharge
The reported discharge is from a private or municipal separate sewer collection system (not a wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system.

Is the outfall or discharge area located at a private residential address?
NO

Outfall or Discharge Area Name
Manhole B

Outfall or Discharge Area Description
Manhole on south Shiawassee River bank about 100 ft east of Union St.

Outfall or Discharge Area Location
43.0010558035222,-84.18171640134429

Has the discharge ended?
YES

Volume Discharged	Unit	Was the volume estimated?
330000	Gallons	Yes

Quality of Discharge
Diluted Raw Sewage

Please describe the discharge, including the reason for Discharge
Manhole reached surcharge condition due to inflow/infiltration of collection system significantly impacted by extreme wet weather (3.27" rain in 48 hour period following 1.41" rain two days prior).

Was the land or surface water impacted by the discharge?
Surface water impacted only

Name of Surface Water(s) Impacted:
Shiawassee River

Discharge Event Start

Date	Time
5/18/2020	02:30 pm

Discharge Event End

Date	Time
5/19/2020	10:00 pm

Name of the wastewater treatment facility that normally receives sewage.
Owosso Mid-Shiawassee County WWTP

Was the reported discharge caused by a party other than the sewer system owner and out of the control or knowledge of the actions which resulted in the discharge?
NO

Is the sewer system owner in compliance with applicable discharge permits, laws, rules, and orders?
YES

Initial Notification

Organization	Date	Time
Local Health Department	5/18/2020	08:02 pm
Daily Local Newspaper	5/20/2020	10:09 am

Notification that discharge has concluded.

Organization	Date	Time
Local Health Department	5/20/2020	08:04 am
Daily Local Newspaper	NONE PROVIDED	NONE PROVIDED

Precipitation Type(s) (Select none if there was no precipitation)
Rain

Has the precipitation ended?
YES

Precipitation

Start Date	Start Time
5/17/2020	12:00 pm

Precipitation Amount (Inches)	Precipitation End Date	Precipitation End Time
3.27	5/19/2020	03:00 am

Precipitation comments
NONE PROVIDED

Actions taken to minimize the impact from the discharge(s):
Bypass pumping to the river at the WWTP (Manhole C) once the collection system was overwhelmed in order to minimize basement floodings. WWTP service unit City of Corunna pumped maximum amount to their retention basin once surcharging event was imminent.

Actions taken, or that will be taken, to prevent this discharge event from reoccurring:
Ongoing sanitary sewer overflow control program under a consent order. Defective pipe has been identified through cleaning/camera efforts, with some repairs completed and a large number scheduled. SRF funding is in place to fund further collection system improvements, potentially including retention basins within the collection system and at the WWTP. Plant influent pumping capacity increase via screwpump replacement scheduled for winter 2020.

Was this discharge disinfected to meet fecal coliform limitations?
NO

Results of E. coli testing
Testing Waived by Local Health Department

Discharge Details (3 of 5)

SSO Discharge from Manhole C

Discharge Type:
SSO Discharge

SSO Discharge
The reported discharge is from a private or municipal separate sewer collection system (not a wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system.

Is the outfall or discharge area located at a private residential address?
NO

Outfall or Discharge Area Name
Manhole C

Outfall or Discharge Area Description
Manhole (combined service unit flow) upstream of WWTP headworks

Outfall or Discharge Area Location
43.01662901099968,-84.18046112752532

Has the discharge ended?
YES

Volume Discharged	Unit	Was the volume estimated?
2050000	Gallons	Yes

Quality of Discharge
Diluted Raw Sewage

Please describe the discharge, including the reason for Discharge
WWTP reached surcharge condition due to inflow/infiltration of collection system (including all service units) significantly impacted by extreme wet weather (3.27" rain in 48 hour period following 1.41" rain two days prior). Pumping directly to Shiawassee River occurred from this manhole.

Was the land or surface water impacted by the discharge?
Surface water impacted only

Name of Surface Water(s) Impacted:
Shiawassee River

Discharge Event Start

Date	Time
5/18/2020	04:15 pm

Discharge Event End

Date	Time
5/19/2020	11:40 am

Name of the wastewater treatment facility that normally receives sewage.
Owosso Mid-Shiawassee County WWTP

Was the reported discharge caused by a party other than the sewer system owner and out of the control or knowledge of the actions which resulted in the discharge?
NO

Is the sewer system owner in compliance with applicable discharge permits, laws, rules, and orders?
YES

Initial Notification

Organization	Date	Time
Local Health Department	5/18/2020	08:02 pm
Daily Local Newspaper	5/20/2020	10:09 am

Notification that discharge has concluded.

Organization	Date	Time
Local Health Department	5/20/2020	08:04 am
Daily Local Newspaper	NONE PROVIDED	NONE PROVIDED

Precipitation Type(s) (Select none if there was no precipitation)
Rain

Has the precipitation ended?
YES

Precipitation

Start Date	Start Time
5/17/2020	12:00 pm

Precipitation Amount (Inches)	Precipitation End Date	Precipitation End Time
3.27	5/19/2020	03:00 am

Precipitation comments
NONE PROVIDED

Actions taken to minimize the impact from the discharge(s):
Bypass pumping to the river at the WWTP (Manhole C) once the collection system was overwhelmed in order to minimize basement floodings. WWTP service unit City of Corunna pumped maximum amount to their retention basin once surcharging event was imminent.

Actions taken, or that will be taken, to prevent this discharge event from reoccurring:
Ongoing sanitary sewer overflow control program. Defective pipe identified, with some repairs completed and a large number scheduled. SRF funding secured to fund further collection system improvements, potentially including retention basins within the collection system and at the WWTP. Plant influent pumping capacity increase via screwpump replacement scheduled for winter 2020. Other service units which contributed to the SSO have been encouraged to pursue system improvements.

Was this discharge disinfected to meet fecal coliform limitations?
NO

Results of E. coli testing
Testing Waived by Local Health Department

Discharge Details (4 of 5)

SSO Discharge from Manhole D

Discharge Type:
SSO Discharge

SSO Discharge
The reported discharge is from a private or municipal separate sewer collection system (not a wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system.

Is the outfall or discharge area located at a private residential address?
NO

Outfall or Discharge Area Name
Manhole D

Outfall or Discharge Area Description
Manhole on south Shiawassee River bank, just west of M-52 street bridge

Outfall or Discharge Area Location
43.00000437168225,-84.17710300183867

Has the discharge ended?
YES

Volume Discharged	Unit	Was the volume estimated?
270000	Gallons	Yes

Quality of Discharge
Diluted Raw Sewage

Please describe the discharge, including the reason for Discharge
Manhole reached surcharge condition due to inflow/infiltration of collection system significantly impacted by extreme wet weather (3.27" rain in 48 hour period following 1.41" rain two days prior).

Was the land or surface water impacted by the discharge?
Surface water impacted only

Name of Surface Water(s) Impacted:
Shiawassee River

Discharge Event Start

Date	Time
5/18/2020	02:30 pm

Discharge Event End

Date	Time
5/20/2020	01:30 am

Name of the wastewater treatment facility that normally receives sewage.
Owosso Mid-Shiawassee County WWTP

Was the reported discharge caused by a party other than the sewer system owner and out of the control or knowledge of the actions which resulted in the discharge?
NO

Is the sewer system owner in compliance with applicable discharge permits, laws, rules, and orders?
YES

Initial Notification

Organization	Date	Time
Local Health Department	5/18/2020	08:02 pm
Daily Local Newspaper	5/20/2020	10:09 am

Notification that discharge has concluded.

Organization	Date	Time
Local Health Department	5/20/2020	08:04 am
Daily Local Newspaper	NONE PROVIDED	NONE PROVIDED

Precipitation Type(s) (Select none if there was no precipitation)
Rain

Has the precipitation ended?
YES

Precipitation

Start Date	Start Time
5/17/2020	12:00 pm

Precipitation Amount (Inches)	Precipitation End Date	Precipitation End Time
3.27	5/19/2020	03:00 am

Precipitation comments
NONE PROVIDED

Actions taken to minimize the impact from the discharge(s):
Bypass pumping to the river at the WWTP (Manhole C) once the collection system was overwhelmed in order to minimize basement floodings. WWTP service unit City of Corunna pumped maximum amount to their retention basin once surcharging event was imminent.

Actions taken, or that will be taken, to prevent this discharge event from reoccurring:
Ongoing sanitary sewer overflow control program under a consent order. Defective pipe has been identified through cleaning/camera efforts, with some repairs completed and a large number scheduled. SRF funding is in place to fund further collection system improvements, potentially including retention basins within the collection system and at the WWTP. Plant influent pumping capacity increase via screwpump replacement scheduled for winter 2020.

Was this discharge disinfected to meet fecal coliform limitations?
NO

Results of E. coli testing
Testing Waived by Local Health Department

Discharge Details (5 of 5)

SSO Discharge from Manhole E

Discharge Type:
SSO Discharge

SSO Discharge

The reported discharge is from a private or municipal separate sewer collection system (not a wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system.

Is the outfall or discharge area located at a private residential address?
NO

Outfall or Discharge Area Name
Manhole E

Outfall or Discharge Area Description
Manhole on West South St, just west of Carr St.

Outfall or Discharge Area Location
42.98317901522661,-84.19242377973174

Has the discharge ended?
YES

Volume Discharged	Unit	Was the volume estimated?
60000	Gallons	Yes

Quality of Discharge
Diluted Raw Sewage

Please describe the discharge, including the reason for Discharge
Manhole reached surcharge condition due to inflow/infiltration of collection system significantly impacted by extreme wet weather (3.27" rain in 48 hour period following 1.41" rain two days prior).

Was the land or surface water impacted by the discharge?
Surface water impacted only

Name of Surface Water(s) Impacted:
Shiawassee River

Discharge Event Start

Date	Time
5/18/2020	02:30 pm

Discharge Event End

Date	Time
5/18/2020	08:00 pm

Name of the wastewater treatment facility that normally receives sewage.
Owosso Mid-Shiawassee County WWTP

Was the reported discharge caused by a party other than the sewer system owner and out of the control or knowledge of the actions which resulted in the discharge?
NO

Is the sewer system owner in compliance with applicable discharge permits, laws, rules, and orders?
YES

Initial Notification

Organization	Date	Time
Local Health Department	5/18/2020	08:02 pm
Daily Local Newspaper	5/20/2020	10:09 am

Notification that discharge has concluded.

Organization	Date	Time
Local Health Department	5/20/2020	08:04 am

Organization	Date	Time
Daily Local Newspaper	NONE PROVIDED	NONE PROVIDED

Precipitation Type(s) (Select none if there was no precipitation)
Rain

Has the precipitation ended?
YES

Precipitation

Start Date	Start Time
5/17/2020	12:00 pm

Precipitation Amount (Inches)	Precipitation End Date	Precipitation End Time
3.27	5/19/2020	03:00 am

Precipitation comments
NONE PROVIDED

Actions taken to minimize the impact from the discharge(s):
Bypass pumping to the river at the WWTP (Manhole C) once the collection system was overwhelmed in order to minimize basement floodings. WWTP service unit City of Corunna pumped maximum amount to their retention basin once surcharging event was imminent.

Actions taken, or that will be taken, to prevent this discharge event from reoccurring:
Ongoing sanitary sewer overflow control program under a consent order. Defective pipe has been identified through cleaning/camera efforts, with some repairs completed and a large number scheduled. SRF funding is in place to fund further collection system improvements, potentially including retention basins within the collection system and at the WWTP. Plant influent pumping capacity increase via screwpump replacement scheduled for winter 2020.

Was this discharge disinfected to meet fecal coliform limitations?
NO

Results of E. coli testing
Testing Waived by Local Health Department

Additional Details

Report Submitter

Prefix
NONE PROVIDED

First Name	Last Name
Tim	*Guysky*

Title
WWTP Superintendent

Organization Name
Owosso/Mid Shiawassee Co WWTP

Phone Type	Number	Extension
Business	9897250562	

Email
timothy.guysky@ci.owosso.mi.us

Fax
NONE PROVIDED

1410 Chippewa Trail
Owosso, MI 48867
US

Do you have any additional comments or uploads you would like to provide?
NO

Status History

	User	Processing Status
5/19/2020 2:38:38 AM	Timothy Guysky	Draft
5/20/2020 3:26:30 PM	Timothy Guysky	Submitted

Table of Contents

Report of Discharge (CSO\SSO\RTB)
version 1.10

(Submission #: HNW-RAJ8-2J40R, version 1)

Details

Form Alias	Report of Discharge (CSO\SSO\RTB)
Submission #	HNW-RAJ8-2J40R
Status	Submitted

Form Input

Report Details

Is this the inital or final discharge report?
Final

Site/Facility Name:
Owosso/Mid Shiawassee Co WWTP

Permit Number (if applicable):
MI00023752

Sewer System Owner

> **Organization Name**
> *City of Owosso*
>
> | Phone Type | Number | Extension |
> |---|---|---|
> | Business | 9897250562 | |
>
> **Email**
> Glenn.Chinavare@ci.owosso.mi.us
>
> **Fax**
> NONE PROVIDED
>
> 301 W MAIN ST
> OWOSSO, MI 48867
> US

Facility Address

> 1410 Chippewa Trail
> Owosso, MI 48867

Sewer System Owner Location
43.0164,-84.18

1410 Chippewa Trail, Owosso, MI

Discharge Details (1 of 3)

SSO Discharge from Manhole A

Discharge Type:
SSO Discharge

SSO Discharge
The reported discharge is from a private or municipal separate sewer collection system (not a wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system.

Is the outfall or discharge area located at a private residential address?
NO

Outfall Name
Manhole A

Outfall Description
Manhole on north Shiawassee River bank, just west of M-52 street bridge

Outfall Location
43.00030391518176,-84.17727953016357

Has the discharge ended?
YES

Volume Discharged	Unit	Was the volume estimated?
110400	Gallons	Yes

Quality of Discharge
Diluted Raw Sewage

Please describe the discharge, including the reason for Discharge
Manhole reached surcharge condition due to inflow/infiltration of collection system significantly impacted by extreme wet weather (approx. 2" rain in 10 hours on saturated ground, followed by intermittent rain/freezing rain/sleet - total precipitation for the event = 2.71").

Was the land or surface water impacted by the discharge?
Surface water impacted only

Name of Surface Water(s) Impacted:
Shiawassee River

Discharge Event Start

Date	Time
1/11/2020	06:20 am

Discharge Event End

Date	Time
1/11/2020	11:00 pm

Name of the wastewater treatment facility that normally receives sewage.
Owosso Mid-Shiawassee County WWTP

Was the reported discharge caused by a party other than the sewer system owner and out of the control or knowledge of the actions which resulted in the discharge?
NO

Is the sewer system owner in compliance with applicable discharge permits, laws, rules, and orders?
YES

Initial Notification

Organization	Date	Time
Local Health Department	1/11/2020	12:08 pm
Daily Local Newspaper	1/13/2020	10:26 am

Notification that discharge has concluded.

Organization	Date	Time
Local Health Department	1/12/2020	09:49 am
Daily Local Newspaper	1/13/2020	10:26 am

Precipitation Type(s) (Select none if there was no precipitation)
Rain

Has the precipitation ended?
YES

Precipitation

Start Date	Start Time
1/10/2020	10:00 pm

Precipitation Amount (Inches)	Precipitation End Date	Precipitation End Time
2.71	1/11/2020	11:00 pm

Precipitation comments
Approximately 2.0" rain the first 10 hours of the event, followed by intermittent rain/freezing rain/sleet/snow for the remainder

Actions taken to minimize the impact from the discharge(s):
Bypass pumping to the river once the treatment plant headworks were overloaded and collection system surcharged to minimize potential basement floodings. Corunna pumped maximum amount to their retention basin once surcharging event was imminent.

Actions taken, or that will be taken, to prevent this discharge event from reoccurring:
Ongoing sanitary sewer overflow control program under a consent order. Defective pipe has been identified through cleaning/camera efforts, with some repairs completed and a large number scheduled. A submitted SRF application is in process with EGLE which would fund further collection system improvements. The WWTP influent screwpumps are scheduled for replacement the summer of 2020, which will return the influent pumping to it's original design capacity, lessening future backup amounts.

Was this discharge disinfected to meet fecal coliform limitations?
NO

Results of E. coli testing
Testing Waived by Local Health Department

Discharge Details (2 of 3)

SSO Discharge from Manhole B

Discharge Type:
SSO Discharge

SSO Discharge
The reported discharge is from a private or municipal separate sewer collection system (not a wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system.

Is the outfall or discharge area located at a private residential address?
NO

Outfall Name
Manhole B

Outfall Description
Manhole on south Shiawassee River bank about 100 ft east of Union St.

Outfall Location
43.001104256554754,-84.18189292966919

Has the discharge ended?
YES

Volume Discharged	Unit	Was the volume estimated?
5750	Gallons	Yes

Quality of Discharge
Diluted Raw Sewage

Please describe the discharge, including the reason for Discharge
Manhole reached surcharge condition due to inflow/infiltration of collection system significantly impacted by extreme wet weather (approx. 2" rain in 10 hours on saturated ground, followed by intermittent rain/freezing rain/sleet - total precipitation for the event = 2.71").

Was the land or surface water impacted by the discharge?
Surface water impacted only

Name of Surface Water(s) Impacted:
Shiawassee River

Discharge Event Start

Date	Time
1/11/2020	07:00 am

Discharge Event End

Date	Time
1/11/2020	10:00 am

Name of the wastewater treatment facility that normally receives sewage.
Owosso Mid-Shiawassee County WWTP

Was the reported discharge caused by a party other than the sewer system owner and out of the control or knowledge of the actions which resulted in the discharge?
NO

Is the sewer system owner in compliance with applicable discharge permits, laws, rules, and orders?
YES

Initial Notification

Organization	Date	Time
Local Health Department	1/11/2020	12:08 pm
Daily Local Newspaper	1/13/2020	10:26 am

Notification that discharge has concluded.

Organization	Date	Time
Local Health Department	1/12/2020	09:49 am
Daily Local Newspaper	1/13/2020	10:26 am

Precipitation Type(s) (Select none if there was no precipitation)
Rain

Has the precipitation ended?
YES

Precipitation

Start Date	Start Time
1/10/2020	10:00 pm

Precipitation Amount (Inches)	Precipitation End Date	Precipitation End Time
2.71	1/11/2020	11:00 pm

Precipitation comments
Approximately 2.0" rain the first 10 hours of the event, followed by intermittent rain/freezing rain/sleet/snow for the remainder

Actions taken to minimize the impact from the discharge(s):
Bypass pumping to the river once the treatment plant headworks were overloaded and collection system surcharged to minimize potential basement floodings. Corunna pumped maximum amount to their retention basin once surcharging event was imminent.

Actions taken, or that will be taken, to prevent this discharge event from reoccurring:
Ongoing sanitary sewer overflow control program under a consent order. Defective pipe has been identified through cleaning/camera efforts, with some repairs completed and a large number scheduled. A submitted SRF application is in process with EGLE which would fund further collection system improvements. The WWTP influent screwpumps are scheduled for replacement the summer of 2020, which will return the influent pumping to it's original design capacity, lessening future backup amounts.

Was this discharge disinfected to meet fecal coliform limitations?
NO

Results of E. coli testing
Testing Waived by Local Health Department

Discharge Details (3 of 3)

SSO Discharge from Manhole C

Discharge Type:
SSO Discharge

SSO Discharge
The reported discharge is from a private or municipal separate sewer collection system (not a wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system.

Is the outfall or discharge area located at a private residential address?
NO

Outfall Name
Manhole C

Outfall Description
Manhole (combined service unit flow) upstream of WWTP headworks

Outfall Location
43.01662837834702,-84.18062514237367

Has the discharge ended?
YES

Volume Discharged	Unit	Was the volume estimated?
138000	Gallons	Yes

Quality of Discharge
Diluted Raw Sewage

Please describe the discharge, including the reason for Discharge
WWTP reached surcharge condition due to inflow/infiltration of collection system significantly impacted by extreme wet weather (approx. 2" rain in 10 hours on saturated ground, followed by intermittent rain/freezing rain/sleet - total precipitation for the event = 2.71"). Pumping directly to Shiawassee River occurred at this manhole.

Was the land or surface water impacted by the discharge?
Surface water impacted only

Name of Surface Water(s) Impacted:
Shiawassee River

Discharge Event Start

Date	Time
1/11/2020	09:00 am

Discharge Event End

Date	Time
1/11/2020	11:00 am

Name of the wastewater treatment facility that normally receives sewage.
Owosso Mid-Shiawassee County WWTP

Was the reported discharge caused by a party other than the sewer system owner and out of the control or knowledge of the actions which resulted in the discharge?
NO

Is the sewer system owner in compliance with applicable discharge permits, laws, rules, and orders?
YES

Initial Notification

Organization	Date	Time
Local Health Department	1/11/2020	12:08 pm
Daily Local Newspaper	1/13/2020	10:26 am

Notification that discharge has concluded.

Organization	Date	Time
Local Health Department	1/12/2020	09:49 am
Daily Local Newspaper	1/13/2020	10:26 am

Precipitation Type(s) (Select none if there was no precipitation)
Rain

Has the precipitation ended?
YES

Precipitation

Start Date	Start Time
1/10/2020	10:00 pm

Precipitation Amount (Inches)	Precipitation End Date	Precipitation End Time
2.71	1/11/2020	11:00 pm

Precipitation comments
Approximately 2.0" rain the first 10 hours of the event, followed by intermittent rain/freezing rain/sleet/snow for the remainder

Actions taken to minimize the impact from the discharge(s):
Bypass pumping to the river once the treatment plant headworks were overloaded and collection system surcharged to minimize potential basement floodings. Corunna pumped maximum amount to their retention basin once surcharging event was imminent.

Actions taken, or that will be taken, to prevent this discharge event from reoccurring:
Ongoing sanitary sewer overflow control program under a consent order. Defective pipe has been identified through cleaning/camera efforts, with some repairs completed and a large number scheduled. A submitted SRF application is in process with EGLE which would fund further collection system improvements. The WWTP influent screwpumps are scheduled for replacement the summer of 2020, which will return the influent pumping to it's original design capacity, lessening future backup amounts.

Was this discharge disinfected to meet fecal coliform limitations?
NO

Results of E. coli testing
Testing Waived by Local Health Department

Additional Details

Report Submitter

Prefix
NONE PROVIDED

First Name Timothy
Last Name *Guysky*

Title
WWTP Superintendent

Organization Name
City of Owosso WWTP

Phone Type	Number	Extension
Business	9897250562	

Email
timothy.guysky@ci.owosso.mi.us

Fax
NONE PROVIDED

301 W. Main St.
Owosso, MI 48867
United States

Do you have any additional comments or uploads you would like to provide?
NO

Status History

	User	Processing Status
1/13/2020 1:15:28 PM	Timothy Guysky	Draft
1/13/2020 2:04:31 PM	Timothy Guysky	Submitted

Table of Contents

Report of Discharge (CSO\SSO\RTB)

version 1.9

(Submission #: HNQ-EFK3-8SQYE, version 1)

Details

Submission ID HNQ-EFK3-8SQYE

Status Complete

Form Input

Report Details

Is this the inital or final discharge report?
Final

Site/Facility Name:
Owosso/Mid Shiawassee Co WWTP

Permit Number (if applicable):
MI00023752

Sewer System Owner

Prefix
NONE PROVIDED

First Name	**Last Name**
Glenn	*Chinavare*

Title
Utilities Director

Organization Name
City of Owosso

Phone Type	**Number**	**Extension**
Business	9897250555	

Email
glenn.chinavare@ci.owosso.mi.us

Fax
NONE PROVIDED

Address

301 W. Main St

Owosso, MI 48867

US

Facility Address

1410 Chippewa Trail

Owosso, MI 48867

Sewer System Owner Location
43.0163,-84.1803

Discharge Details (1 of 3)

SSO Discharge from Manhole A`OUTFL_ID_TXT`

Discharge Type:
SSO Discharge

SSO Discharge
The reported discharge is from a private or municipal separate sewer collection system (not a wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system.

Is the outfall or discharge area located at a private residential address?
NO

Outfall Name
Manhole A

Outfall Description
Manhole on north Shiawassee riverbank, just west of M-52 street bridge

Outfall Location
43.000343048433,-84.17742667068222

Has the discharge ended?
YES

Volume Discharged	Unit	Was the volume estimated?
87750	Gallons	Yes

Quality of Discharge
Diluted Raw Sewage

Please describe the discharge, including the reason for Discharge
Manhole reached surcharge condition due to inflow/infiltration of service-wide collection system significantly impacted by extreme wet weather event (3.3" rain in 21 hours, with approximately 2" in a 90 minute span).

Was the land or surface water impacted by the discharge?
Surface water impacted only

Name of Surface Water(s) Impacted:
Shiawassee River

Discharge Event Start

Date	Time
6/10/2019	07:00 am

Discharge Event End

Date	Time
6/10/2019	10:30 pm

Name of the wastewater treatment facility that normally receives sewage.
Owosso Mid-Shiawassee County WWTP

Was the reported discharge caused by a party other than the sewer system owner and out of the control or knowledge of the actions which resulted in the discharge?
NO

Is the sewer system owner in compliance with applicable discharge permits, laws, rules, and orders?
YES

Initial Notification

Organization	Date	Time
Local Health Department	6/10/2019	12:10 pm

Organization	Date	Time
Daily Local Newspaper	6/10/2019	03:10 pm

Notification that discharge has concluded.

Organization	Date	Time
Local Health Department	6/11/2019	10:00 am
Daily Local Newspaper	6/11/2019	03:15 pm

Precipitation Type(s) (Select none if there was no precipitation)
Rain

Has the precipitation ended?
YES

Precipitation

Start Date	Start Time
6/9/2019	01:00 pm

Precipitation Amount (Inches)	Precipitation End Date	Precipitation End Time
3.3	6/10/2019	10:00 am

Precipitation comments
Significant amount (approximately 2") fell during the period of 5:00 am (6-10) to 6:30 am (6-10)

Actions taken to minimize the impact from the discharge(s):
Bypass pumping to the river once the treatment plant headworks were overloaded and collection system surcharged to minimize potential basement floodings. Corunna pumped maximum amount to their retention basin once surcharging was imminent.

Actions taken, or that will be taken, to prevent this discharge event from reoccurring:
Repair of WWTP influent pump whose failure reduced total influent pumping capacity. Ongoing sanitary sewer overflow control program under a consent order. Defective pipe has been identified through cleaning/camera efforts, and a certain amount of repairs have already been scheduled. An SRF application has been submitted for collection system improvements and retention basin construction for the City of Owosso system.

Was this discharge disinfected to meet fecal coliform limitations?
YES

Results of E. coli testing
Testing Waived by Local Health Department

Discharge Details (2 of 3)

SSO Discharge from Manhole B`OUTFL_ID_TXT`

Discharge Type:
SSO Discharge

SSO Discharge
The reported discharge is from a private or municipal separate sewer collection system (not a wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system.

Is the outfall or discharge area located at a private residential address?
NO

Outfall Name
Manhole B

Outfall Description
Manhole on south Shiawassee riverbank about 100 ft east of Union St.

Outfall Location
43.00110900444563,-84.18197811443702

Has the discharge ended?
YES

Volume Discharged	Unit	Was the volume estimated?
53160	Gallons	Yes

Quality of Discharge
Diluted Raw Sewage

Please describe the discharge, including the reason for Discharge
Manhole reached surcharge condition due to inflow/infiltration of service-wide collection system significantly impacted by extreme wet weather event (3.3" rain in 21 hours, with approximately 2" in a 90 minute span).

Was the land or surface water impacted by the discharge?
Surface water impacted only

Name of Surface Water(s) Impacted:
Shiawassee River

Discharge Event Start

Date	Time
6/10/2019	08:00 am

Discharge Event End

Date	Time
6/10/2019	03:30 pm

Name of the wastewater treatment facility that normally receives sewage.
Owosso Mid-Shiawassee County WWTP

Was the reported discharge caused by a party other than the sewer system owner and out of the control or knowledge of the actions which resulted in the discharge?
NO

Is the sewer system owner in compliance with applicable discharge permits, laws, rules, and orders?
YES

Initial Notification

Organization	Date	Time
Local Health Department	6/10/2019	12:10 pm
Daily Local Newspaper	6/10/2019	03:10 pm

Notification that discharge has concluded.

Organization	Date	Time
Local Health Department	6/11/2019	10:00 am
Daily Local Newspaper	6/11/2019	03:15 pm

Precipitation Type(s) (Select none if there was no precipitation)
Rain

Has the precipitation ended?
YES

Precipitation

Start Date	Start Time
6/9/2019	01:00 pm

Precipitation Amount (Inches)	Precipitation End Date	Precipitation End Time
3.3	6/10/2019	10:00 am

Precipitation comments
Significant amount (approximately 2") fell during the period of 5:00 am (6-10) to 6:30 am (6-10)

Actions taken to minimize the impact from the discharge(s):
Bypass pumping to the river once the treatment plant headworks were overloaded and collection system surcharged to minimize potential basement floodings. Corunna pumped maximum amount to their retention basin once surcharging was imminent.

Actions taken, or that will be taken, to prevent this discharge event from reoccurring:
Repair of WWTP influent pump whose failure reduced total influent pumping capacity. Ongoing sanitary sewer overflow control program under a consent order. Defective pipe has been identified through cleaning/camera efforts, and a certain amount of repairs have already been scheduled. An SRF application has been submitted for collection system improvements and retention basin construction for the City of Owosso system.

Was this discharge disinfected to meet fecal coliform limitations?
YES

Results of E. coli testing
Testing Waived by Local Health Department

Discharge Details (3 of 3)

SSO Discharge from Manhole C`OUTFL_ID_TXT`

Discharge Type:
SSO Discharge

SSO Discharge
The reported discharge is from a private or municipal separate sewer collection system (not a wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system.

Is the outfall or discharge area located at a private residential address?
NO

Outfall Name
Manhole C

Outfall Description
Manhole at the Owosso Mid-County WWTP at 1412 Chippewa Trail

Outfall Location
43.01817210000001,-84.1809321

Has the discharge ended?
YES

Volume Discharged	Unit	Was the volume estimated?
870000	Gallons	Yes

Quality of Discharge
Diluted Raw Sewage

Please describe the discharge, including the reason for Discharge
WWTP reached surcharge condition due to inflow/infiltration of service-wide collection system significantly impacted by extreme wet weather event (3.3" rain in 21 hours, with approximately 2" in a 90 minute span). Bypass pumping directly to the Shiawassee River occurred at this manhole.

Was the land or surface water impacted by the discharge?
Surface water impacted only

Name of Surface Water(s) Impacted:
Shiawassee River

Discharge Event Start

Date	Time
6/10/2019	08:00 am

Discharge Event End

Date	Time
6/10/2019	03:30 pm

Name of the wastewater treatment facility that normally receives sewage.
Owosso Mid-Shiawassee County WWTP

Was the reported discharge caused by a party other than the sewer system owner and out of the control or knowledge of the actions which resulted in the discharge?
NO

Is the sewer system owner in compliance with applicable discharge permits, laws, rules, and orders?
YES

Initial Notification

Organization	Date	Time
Local Health Department	6/10/2019	12:10 pm
Daily Local Newspaper	6/10/2019	03:10 pm

Notification that discharge has concluded.

Organization	Date	Time
Local Health Department	6/11/2019	10:00 am
Daily Local Newspaper	6/11/2019	03:15 pm

Precipitation Type(s) (Select none if there was no precipitation)
Rain

Has the precipitation ended?
YES

Precipitation

Start Date	Start Time
6/9/2019	01:00 pm

Precipitation Amount (Inches)	Precipitation End Date	Precipitation End Time
3.3	6/10/2019	10:00 am

Precipitation comments
Significant amount (approximately 2") fell during the period of 5:00 am (6-10) to 6:30 am (6-10)

Actions taken to minimize the impact from the discharge(s):
Bypass pumping to the river once the treatment plant headworks were overloaded and collection system surcharged to minimize potential basement floodings. Corunna pumped maximum amount to their retention basin once surcharging was imminent.

Actions taken, or that will be taken, to prevent this discharge event from reoccurring:
Repair of WWTP influent pump whose failure reduced total influent pumping capacity. Ongoing sanitary sewer overflow control program under a consent order. Defective pipe has been identified through cleaning/camera efforts, and a certain amount of repairs have already been scheduled. An SRF application has been submitted for collection system improvements and retention basin construction for the City of Owosso system.

Was this discharge disinfected to meet fecal coliform limitations?
YES

Results of E. coli testing
Testing Waived by Local Health Department

Additional Details

Report Submitter

Prefix
NONE PROVIDED

First Name	Last Name
Tim	*Guysky*

Title
WWTP Superintendent

Organization Name
Owosso/Mid Shiawassee Co WWTP

Phone Type	Number	Extension
Business	9897250562	

Email
timothy.guysky@ci.owosso.mi.us

Fax
NONE PROVIDED

Address

1410 Chippewa Trail

Owosso, MI 48867

US

Do you have any additional comments or uploads you would like to provide?
YES

Additional Information
One of three influent pumps at the WWTP suffered a catastrophic failure the week prior. Repair of the pump was and is scheduled for June 11 and 12. An 8" diesel pump was utilized to increase the influent capacity in the normal influent pump's absence, but overall influent capacity was approximately 10,500 gpm, rather than the normal 12,500 gpm. This reduced capacity certainly resulted in prolonged surcharge conditions and increased SSO amounts. Also, E. Coli testing has not taken place yet (at the direction of the Shiawassee County Health Dept), but will likely take place within the next few days.

Upload addition information, as needed.
NONE PROVIDED
Comment
NONE PROVIDED

Status History

	User	Processing Status
6/11/2019 10:55:01 AM	Timothy Guysky	Draft
6/11/2019 5:27:23 PM	Timothy Guysky	Submitted
6/12/2019 11:10:00 AM	Brent Bodnar	Complete

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

This information is required to be submitted under Michigan Act 451, Public Acts of 1994, as amended, Part 31, Section 324.3112a. Potential fines and penalties specified in Part 31 apply to this requirement.

Type of Discharge Being Reported

☐ **RTB Discharge**: The reported discharge was from a retention and treatment basin (RTB), or equivalent structure, which serves a municipal combined sewer system. The RTB or equivalent structure is designed in accordance with approved plans, and operated in accordance with criteria in a permit, order, or other enforceable document issued by the Michigan Department of Environmental Quality (MDEQ) or by court action. This type of discharge is commonly referred to as an RTB discharge.

☐ **CSO Discharge**: The reported discharge is from a municipal combined sewer system and is not from a facility which is designed to meet final performance criteria specified in a permit, order, or other enforceable document. The discharge is associated with wet weather events. This type of discharge is commonly referred to as a combined sewer overflow (CSO).

☒ **SSO Discharge**: The reported discharge is from a private or municipal separate sewer collection system (not wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system. This type of discharge is commonly referred to as a sanitary sewer overflow (SSO).

☐ **Other**: The reported discharge was of untreated or partially treated sewage (definition in Section 3112a) which is not characterized by one of the conditions listed above. A detailed description of the discharge is provided below.

Report Submitted By

Name	Glenn Chinavare	
Position	Utilities Director	
Address	301 W. Main St.	
City, State, Zip code	Owosso, MI 48867	
County	Shiawassee	
Telephone No.	989-725-0555	
E-mail address	glenn.chinavare@ci.owosso.mi.us	
Signature	Glenn M Chinavare	Date 2-26-18

Sewer System Owner

Name	City of Owosso
Address	301 W. Main St.
City, State, Zip Code	Owosso, MI 48867
County	Shiawassee

Discharge Information (see instructions for completing this section)

Volume discharged (specify units, either gallons or million gallons)	Estimate 500,000 gallons surcharging out of two manholes, both of which were fully submerged much of the time, making estimation difficult. Estimate an additional 1,200,000 gallons pumped to river prior to WWTP headworks. Total discharge estimate = 1,700,000 gallons.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

Quality of discharge(s) (such as raw sewage, diluted raw sewage, partially treated, RTB, blended, etc.)	Dilute raw sewage			
Reason for the discharge(s)	Inflow/infiltration of service-wide collection system with significant impact from wet weather event (2.76" rain over 2 days with 4" existing snow melted)			
Location of the discharge(s)	(reference map attached) MH A - on north riverbank just west of M-52 bridge MH B - on south riverbank about 100 feet east of Union St. MH C - at the Owosso Mid-Shiawassee County WWTP at 1412 Chippewa Trail			
Surface waters impacted by the discharge(s)	Shiawassee River			
Land impacted by the discharge(s)	NA - overflow from manholes directly to the river above flood stage surrounding the manholes			
Discharge event start date and time	Date: February 20, 2018 Time: 8:30 am			
Discharge event end date and time	Date: February 23, 2018 Time: 12:00 am (approx.)			
Is the sewer system owner in compliance or not in compliance with applicable discharge permits, laws, rules, and orders?	☒ In compliance ☐ Not in compliance	If not in compliance, please explain:		
Initial notification date and time (if no notice or >24 hrs of discharge, please explain at the end of the form)	MDEQ Date: 2/20/18 Time: 3:40 pm	Local Health Department Date: 2/20/18 Time: 3:55 pm	Daily Local Newspaper Date: 2/20/18 Time: 5:00 pm (by county)	
Notification that the discharge has concluded (if the discharge was still occurring at the initial notification)	MDEQ Date: 2/23/18 Time: 8:55 pm ☐ Not applicable	Local Health Department Date: 2/23/18 Time: 6:00 pm ☐ Not applicable	Daily Local Newspaper Date: Time: ☐ Not applicable	
Precipitation type and measurements, if applicable	Type: Rain	Amount: 2.76"	Start Date/Time: 2/19/18/2:00pm	End Date/Time: 2/21/18/9:00am
Name of wastewater treatment facility normally receiving sewage	Owosso Mid-Shiawassee County WWTP			
Was this discharge disinfected to meet fecal coliform limitations?	☐ Yes ☒ No ☐ Not applicable			
Actions taken to minimize the impact from the discharge(s), if any	Bypass pumping to the river once the treatment plant headworks were overloaded and collection system surcharged to minimize potential basement floodings. Corunna pumped maximum amounts to their retention basin.			

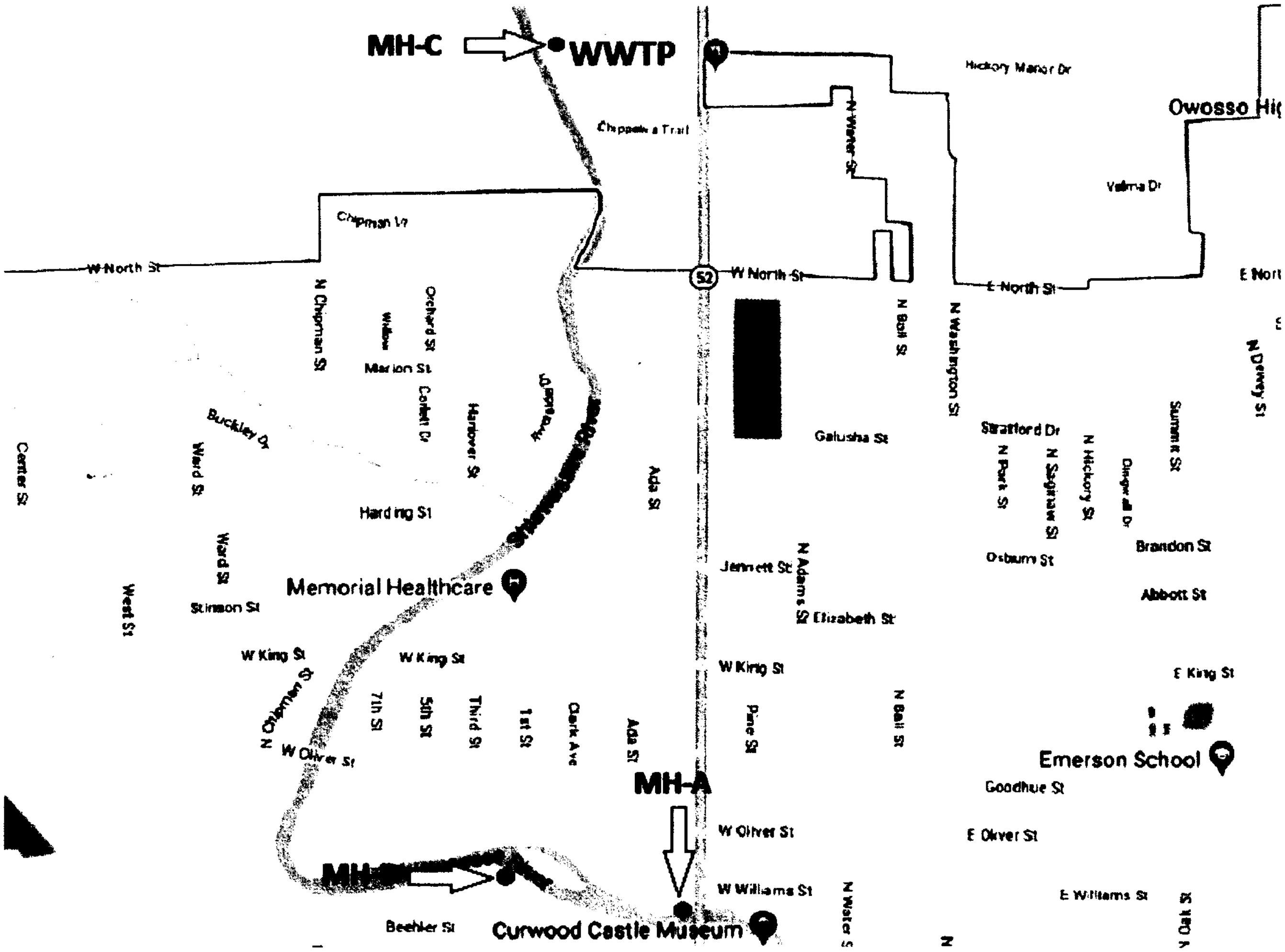
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

Actions taken or that will be taken to prevent reoccurrence of the discharge(s), if any	Ongoing sanitary sewer overflow control program under a consent order. Currently evaluating supplemental storage options and have proceeded with a system-wide flow monitoring/modeling project to gather data related to limiting peak flows from all service units which contribute to WWTP influent overload. Sanitary sewer video inspection project has been completed and defective pipe has been identified and scheduling has begun for maintenance/replacement.
Results of *E. coli* testing (select one)	☐ Results pending (provide expected date of submittal) ☐ Results attached ☒ Testing waived by local health department ☐ Not applicable no discharge to surface waters

Additional Information (Check any box that is appropriate)	☐ (1) The reported discharge was caused by a party other than this sewer system owner and over which this owner had no control or knowledge of the actions which resulted in the discharge. Reporting and corrective actions by this sewer system owner were conducted in a timely manner upon becoming aware of the condition. ☐ (2) The reported discharge was from an RTB, <u>and</u> the level of treatment provided is in full compliance with <u>final</u> performance criteria in a permit, order, or other enforceable document issued or entered between the MDEQ and the discharger, or by court action. ☐ (3) The reported discharge was of partially treated sewage that bypassed one or more treatment units at the wastewater treatment facility. ☐ All effluent limits were met during the event ☐ All effluent limits were not met during the event (please explain)
Additional information (attach sheets as necessary)	Pumping from the WWTP (MH-C) was intermittent over the reporting period.

OWOSSO SSO MANHOLE LOCATIONS



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

This information is required to be submitted under Michigan Act 451, Public Acts of 1994, as amended, Part 31, Section 324.3112a. Potential fines and penalties specified in Part 31 apply to this requirement.

Type of Discharge Being Reported

☐ **RTB Discharge**: The reported discharge was from a retention and treatment basin (RTB), or equivalent structure, which serves a municipal combined sewer system. The RTB or equivalent structure is designed in accordance with approved plans, and operated in accordance with criteria in a permit, order, or other enforceable document issued by the Michigan Department of Environmental Quality (MDEQ) or by court action. This type of discharge is commonly referred to as an RTB discharge.

☐ **CSO Discharge**: The reported discharge is from a municipal combined sewer system and is not from a facility which is designed to meet final performance criteria specified in a permit, order, or other enforceable document. The discharge is associated with wet weather events. This type of discharge is commonly referred to as a combined sewer overflow (CSO).

☒ **SSO Discharge**: The reported discharge is from a private or municipal separate sewer collection system (not wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system. This type of discharge is commonly referred to as a sanitary sewer overflow (SSO).

☐ **Other**: The reported discharge was of untreated or partially treated sewage (definition in Section 3112a) which is not characterized by one of the conditions listed above. A detailed description of the discharge is provided below.

Report Submitted By

Name	GLENN M. CHINAVARE	
Position	DIRECTOR UTILITIES	
Address	301 W. MAIN STREET	
City, State, Zip code	OWOSSO, MI 48867	
County	SHIAWASSEE	
Telephone No.	989-725-0555	
E-mail address	GLENN.CHINAVARE@CI.OWOSSO.MI.US	
Signature	Glenn M Chinavare	Date 4/7/17

Sewer System Owner

Name	CITY OF OWOSSO
Address	301 W. MAIN STREET
City, State, Zip Code	OWOSSO, MI 48867
County	SHIAWASSEE

Discharge Information (see instructions for completing this section)

Volume discharged (specify units, either gallons or million gallons)	ESTIMATE 69,000 GALLONS SURCHARGING OUT ONE MANHOLE PRIOR TO MANHOLE SUBMERGENCE BY RIVER. ESTIMATE 258,000 GALLONS PUMPED INTO RIVER AT WWTP

EQP 5857 (Rev. 12/2011)

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

Quality of discharge(s) (such as raw sewage, diluted raw sewage, partially treated, RTB, blended, etc.)	DILUTED RAW SEWAGE			
Reason for the discharge(s)	INFLOW/INFILTRATION OF SERVICE-WIDE COLLECTION SYSTEM WITH SIGNIFICANT IMPACT FROM WET WEATHER EVENTS (2.95" PRECIP IN 4 DAYS ON SATURATED GROUND)			
Location of the discharge(s)	MH "A" ON NORTH RIVERBANK JUST WEST OF STATE ROUTE M-52 BRIDGE AND PUMPED DIRECTLY TO RIVER FROM WWTP.			
Surface waters impacted by the discharge(s)	SHIAWASSEE RIVER			
Land impacted by the discharge(s)	NA - OVERFLOW DIRECT FROM MANHOLE AND PUMP TO THE RIVER.			
Discharge event start date and time	Date: 4/06/2016 Time: 6:30 AM			
Discharge event end date and time	Date: 4/06/2016 Time: 11:00 PM			
Is the sewer system owner in compliance or not in compliance with applicable discharge permits, laws, rules, and orders?	☒ In compliance ☐ Not in compliance	If not in compliance, please explain:		
Initial notification date and time (if no notice or >24 hrs of discharge, please explain at the end of the form)	MDEQ Date: 4/6/2017 Time: 3:40 PM	Local Health Department Date: 4/06/2017 Time: 3:40 PM	Daily Local Newspaper Date: 4/06/2017 Time: 4:30 PM	
Notification that the discharge has concluded (if the discharge was still occurring at the initial notification)	MDEQ Date: Time: ☒ Not applicable	Local Health Department Date: 7/07/2017 Time: 3:00 PM ☐ Not applicable	Daily Local Newspaper Date: 7/07/2017 Time: 3:35 PM ☐ Not applicable	
Precipitation type and measurements, if applicable	Type: RAIN	Amount: 2.95"	Start Date/Time: 4/03/2017	End Date/Time: 4/06/2017
Name of wastewater treatment facility normally receiving sewage	OWOSSO MID-SHIAWASSEE COUNTY WWTP			
Was this discharge disinfected to meet fecal coliform limitations?	☐ Yes ☒ No ☐ Not applicable			
Actions taken to minimize the impact from the discharge(s), if any	ONGOING SANITARY SEWER OVERFLOW CONTROL PROGRAM UNDER AN ADMINISTRATIVE CONSENT ORDER THROUGH 2017. CURRENTLY EVALUATING WHETHER OWOSSO'S INITIAL CONTROL STRATEGY WILL BE ADEQUATE AND/OR REQUIRE SUPPLEMENTAL STORAGE.OWOSSO IS ALSO INVESTIGATING STRATEGIES TO LIMIT PEAK FLOW FROM NEIGHBORING TOWNSHIPS INFLUENT TO PREVENT SURCHARGES TO			

Report of Discharge

	THE SHIAWASSEE RIVER. CONSULTANT ORCHARD, HILTZ & McCLEMENT IS ALSO ASSISTING WITH DEVELOPMENT OF A HYDRAULIC MODEL AND FLOW MONITORING ANALYSIS..
Actions taken or that will be taken to prevent reoccurrence of the discharge(s), if any	SANITARY SEWER VIDEO INSPECTION PROJECT IN THE CITY OF OWOSSO WITH MAJORITY COMPLETED IN 2016. MAINTENANCE OR REPAIR OF IDENTIFIED PIPE AND DEFECTS WILL ASSIST IN MINIMIZING THESE OCCURANCES.
Results of *E. coli* testing (select one)	☐ Results pending (provide expected date of submittal) ☐ Results attached ☒ Testing waived by local health department ☐ Not applicable no discharge to surface waters

Additional Information (Check any box that is appropriate)	☐ (1) The reported discharge was caused by a party other than this sewer system owner and over which this owner had no control or knowledge of the actions which resulted in the discharge. Reporting and corrective actions by this sewer system owner were conducted in a timely manner upon becoming aware of the condition. ☐ (2) The reported discharge was from an RTB, and the level of treatment provided is in full compliance with final performance criteria in a permit, order, or other enforceable document issued or entered between the MDEQ and the discharger, or by court action. ☒ (3) The reported discharge was of partially treated sewage that bypassed one or more treatment units at the wastewater treatment facility. ☐ All effluent limits were met during the event ☒ All effluent limits were not met during the event (please explain)
Additional information (attach sheets as necessary)	1. SURCHARGING MANHOLE SUBMERGED AT THE TIME OF REPORT. IT WILL BE MONITORED AS RIVER RECEDES. 2. PUMPING FROM THE WWTP TO RIVER WAS INTERMITTENT OVER THE REPORTING PERIO

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

This information is required to be submitted under Michigan Act 451, Public Acts of 1994, as amended, Part 31, Section 324.3112a. Potential fines and penalties specified in Part 31 apply to this requirement.

Type of Discharge Being Reported

☐ **RTB Discharge**: The reported discharge was from a retention and treatment basin (RTB), or equivalent structure, which serves a municipal combined sewer system. The RTB or equivalent structure is designed in accordance with approved plans, and operated in accordance with criteria in a permit, order, or other enforceable document issued by the Michigan Department of Environmental Quality (MDEQ) or by court action. This type of discharge is commonly referred to as an RTB discharge.

☐ **CSO Discharge**: The reported discharge is from a municipal combined sewer system and is not from a facility which is designed to meet final performance criteria specified in a permit, order, or other enforceable document. The discharge is associated with wet weather events. This type of discharge is commonly referred to as a combined sewer overflow (CSO).

☒ **SSO Discharge**: The reported discharge is from a private or municipal separate sewer collection system (not wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system. This type of discharge is commonly referred to as a sanitary sewer overflow (SSO).

☐ **Other**: The reported discharge was of untreated or partially treated sewage (definition in Section 3112a) which is not characterized by one of the conditions listed above. A detailed description of the discharge is provided below.

Report Submitted By

Name	Timothy J Guysky	
Position	WWTP Superintendent	
Address	301 W. Main St.	
City, State, Zip code	Owosso, MI 48867	
County	Shiawassee	
Telephone No.	989-725-0562	
E-mail address	timothy.guysky@ci.owosso.mi.us	
Signature		Date 4/1/16

Sewer System Owner

Name	City of Owosso
Address	301 W. Main St.
City, State, Zip Code	Owosso, MI 48867
County	Shiawassee

Discharge Information (see instructions for completing this section)

Volume discharged (specify units, either gallons or million gallons)	Estimated at 2500 gallons

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

Quality of discharge(s) (such as raw sewage, diluted raw sewage, partially treated, RTB, blended, etc.)	dilute raw sewage			
Reason for the discharge(s)	Wet weather, 2.03" rain over the past 5 days (saturated ground); We suspect excessive flows from Owosso Township/Caladonia Township collection system were the cause of an exceedence of WWTP pump capacity, resulting in a surcharge condition that reduced the Owosso interceptor capacity.			
Location of the discharge(s)	MH A - on north riverbank just west of the M-52 bridge - SEE ATTACHED MAP			
Surface waters impacted by the discharge(s)	Shiawassee River			
Land impacted by the discharge(s)	NA - overflow direct from manholes to the river above flood stage surrounding the manhole			
Discharge event start date and time	Date: 3/31/16 Time: 8:00 pm			
Discharge event end date and time	Date: 3/31/16 Time: 11:00 pm			
Is the sewer system owner in compliance or not in compliance with applicable discharge permits, laws, rules, and orders?	☒ In compliance ☐ Not in compliance	If not in compliance, please explain:		
Initial notification date and time (if no notice or >24 hrs of discharge, please explain at the end of the form)	MDEQ Date: 4/1/16 Time: 8:35 am	Local Health Department Date: 4/1/16 Time: 10:00 am	Daily Local Newspaper Date: 4/1/16 Time: 1:00 pm	
Notification that the discharge has concluded (if the discharge was still occurring at the initial notification)	MDEQ Date: Time: ☒ Not applicable	Local Health Department Date: Time: ☒ Not applicable	Daily Local Newspaper Date: Time: ☒ Not applicable	
Precipitation type and measurements, if applicable	Type: Rain	Amount: 2.03"	Start Date/Time: 3/27/16	End Date/Time: 3/31/16/7:00pm
Name of wastewater treatment facility normally receiving sewage	Owosso Mid-Shiawassee County WWTP			
Was this discharge disinfected to meet fecal coliform limitations?	☒ Yes ☐ No ☐ Not applicable			
Actions taken to minimize the impact from the discharge(s), if any				

EQP 5857 (Rev. 12/2011)

Report of Discharge

Actions taken or that will be taken to prevent reoccurrence of the discharge(s), if any	Ongiong sanitary sewer overflow control program under a consent order through 2017. We are currently evaluating whether our initial control strategy will be adequate or also require supplementary storage. We are also investigating strategies to limit the peak flow from the Owosso Township/Caledonia Township collection system to prevent WWTP surcharge caused by excessive flow from that side.
Results of *E. coli* testing (select one)	☐ Results pending (provide expected date of submittal) ☐ Results attached ☒ Testing waived by local health department ☐ Not applicable no discharge to surface waters

Additional Information (Check any box that is appropriate)	☐ (1) The reported discharge was caused by a party other than this sewer system owner and over which this owner had no control or knowledge of the actions which resulted in the discharge. Reporting and corrective actions by this sewer system owner were conducted in a timely manner upon becoming aware of the condition. ☐ (2) The reported discharge was from an RTB, and the level of treatment provided is in full compliance with final performance criteria in a permit, order, or other enforceable document issued or entered between the MDEQ and the discharger, or by court action. ☐ (3) The reported discharge was of partially treated sewage that bypassed one or more treatment units at the wastewater treatment facility. ☐ All effluent limits were met during the event ☐ All effluent limits were not met during the event (please explain)
Additional information (attach sheets as necessary)	

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Instructions for Report of Discharge

The sewer system owner, or their designee, responsible for the discharge of sewage shall immediately, but not more than 24 hours after the discharge begins, and again at the conclusion of the discharge (if it was still occurring at the time of the initial notification), notify the MDEQ, local health department(s), and daily newspaper(s), as specified in the law. During normal business hours, notification to the MDEQ shall be made to the phone number shown on the attached table. Notification during non-business hours shall be made to the Pollution Emergency Alerting System at 1-800-292-4706.

The "Report of Discharge" form may be used to provide information required by law at the conclusion of the discharge. Information submitted to the MDEQ shall be directed to the appropriate MDEQ District Office (see attached table). This form may be submitted electronically as long as the form is signed and submitted as a pdf document.

Volume discharged

Provide the volume discharged in gallons or millions of gallons (clearly indicate which units are being used). If volume is estimated, indicate that. If multiple discharge locations are included in the report, provide information for each discharge location and the total volume for all discharges.

Quality of discharge(s)

Provide information on the quality of the discharge by using a narrative description and/or analytical data. Select the type of sewage that characterizes the discharge(s): raw sewage, diluted raw sewage (sewage diluted by rain or snowmelt), partially treated, RTB, or blended sewage (partially treated wastewater that combines with fully treated wastewater prior to discharge). If multiple discharge locations are included in the report, provide this information for each discharge location.

Reason for the discharge(s)

Provide the reason for the discharge(s), such as an overflow from a lift station due to power failure caused by lightning strike, sewer overflow due to heavy rain, bypass at wastewater treatment plant due to pump failure, etc. Be specific.

Location of the discharge(s)

Provide the street address or other descriptive location (provide a map if necessary) for each point of discharge. Provide the latitude and longitude to within ten (10) seconds, if known or obtainable. Indicate the city, township, if applicable, and county where the discharge is located.

Surface waters impacted by the discharge(s)

Provide the name of the surface waters into which the discharge flows. If the discharge did not reach a surface water body, indicate "None." If the discharge goes to an unnamed surface waterbody, indicate that and provide the name of the first downstream waterbody with a name and a description of the path to this waterbody.

Land impacted by the discharge(s)

Provide a description of any land that is impacted by the discharge, or indicate "None."

Discharge start date and time
Discharge end date and time

Provide the date and time the discharge(s) began and ended. If multiple discharge locations are included in the report, provide the discharge dates and times for each discharge location.

Compliance status

Indicate whether the sewer system owner, prior to this discharge event, is in compliance with their wastewater discharge permits (if any) and applicable state and federal statutes, rules, and orders. If "not in compliance" is indicated, please provide an explanation.

Were initial notification procedures followed?

Sewer system owners responsible for a discharge of sewage are required to immediately (but not more than 24 hours after the discharge begins) notify the MDEQ, local health departments, daily newspaper(s), and affected municipalities as described by the law. If the discharge was still occurring at the time of the initial notification, sewer system owners must also notify the MDEQ when the discharge ends. Provide the date and time notifications were made to each entity. If the notification procedures were not followed, please explain and provide the steps taken to correct this situation.

Sewer system owners are also required to annually contact each municipality whose jurisdiction contains waters that may be affected by the discharge. If those contacted municipalities wish to be notified in the same manner as above, the owner of the sewer system shall provide that notification.

Precipitation type and measurements

If the reason for the discharge is related to rainfall and/or snowmelt, provide the precipitation type, the amount of precipitation, time and duration of the precipitation (e.g., 2 inches of rain over a 6-hour period beginning at 3:00 a.m. on 9/14/2006).

Name of wastewater treatment facility normally receiving sewage

Provide the name of the wastewater treatment facility that would have normally provided treatment to the sewage that was discharged.

Disinfected to comply with fecal coliform limitations

This requirement is applicable to sewer systems with authorized points of discharge (by permit or order) that are required to disinfect wastewater prior to discharge to surface waters. If disinfection was required by a permit or order and it was not provided, please provide an explanation.

Actions taken to stop and/or minimize the discharge(s)

Provide a description of the action(s) that the sewer system owner took to stop the discharge(s) or to minimize the amount discharged.

Actions taken to minimize the impact from the discharge(s)

Provide a description of the action(s) that the sewer system owner took to minimize the impact from the discharge(s), such as actions taken to minimize exposure to the public or to contain/capture the discharge(s).

Actions to prevent reoccurrence of the discharge(s)

Provide a description of actions taken or planned (but not yet implemented) to prevent reoccurrence of this discharge(s). This may include plans to replace equipment, to conduct inflow/infiltration studies, to examine maintenance procedures, etc. Please include a schedule for planned actions.

Results of *E. coli* testing

Provide the results of *E. coli* testing of affected waters as specified by the local health department(s). If results are not yet available, provide the date they are expected to be available and then submit them as soon as they become available. If the local health department did not require testing, indicate that the testing is "waived." If the discharge(s) did not reach affected surface waters, circle “not applicable.”

Discharge Report

Report the characterization of the discharge by checking the appropriate box. Please check only one box.

An example of discharge characterization (1) is accidental releases from work done by a phone carrier who unexpectedly damages a sewer pipe.

An example of discharge characterization (2) is an RTB where the level of treatment provided is in full compliance with final performance criteria in a permit, order, or other enforceable document issued or entered between the MDEQ and the discharger, or by court action.

An example of discharge characterization (3) is partially treated sewage that bypasses one or more treatment units at the wastewater treatment facility, such as primary clarification or disinfection.

The discharge will be characterized when posted to the MDEQ web site. *However, be aware that the MDEQ reserves the right to recharacterize the web posting based on facts related to the discharge.*

Additional information

Provide any additional information you deem appropriate.

Return completed and signed form by mail, e-mail, or fax to the District Office indicated on the attached table.

Water Resources Division District Office Addresses and County Jurisdictions

MDEQ DISTRICT OFFICES	TELEPHONE # FAX #	COUNTY JURISDICTIONS		
CADILLAC DISTRICT OFFICE WRD DISTRICT SUPERVISOR 120 WEST CHAPIN ST CADILLAC, MI 49601-2158	231-775-3960 231-775-1511	ALPENA ALCONA ANTRIM BENZIE CHARLEVOIX CHEBOYGAN CRAWFORD EMMET	GRAND TRAVERSE KALKASKA LAKE LEELANAU MANISTEE MASON MISSAUKEE MONTMORENCY	OSCEOLA OSCODA OTSEGO PRESQUE ISLE ROSCOMMON WEXFORD
SOUTHEAST MICHIGAN DISTRICT OFFICE WRD DISTRICT SUPERVISOR 27700 DONALD CT WARREN, MI 48092-2793	586-753-3700 586-753-3751	MACOMB OAKLAND ST. CLAIR WAYNE		
GRAND RAPIDS DISTRICT OFFICE WRD DISTRICT SUPERVISOR 350 OTTAWA AVE NW, UNIT 10 GRAND RAPIDS, MI 49503-2341	616-356-0500 616-356-0202	BARRY IONIA KENT MECOSTA MONTCALM	MUSKEGON NEWAYGO OCEANA OTTAWA	
JACKSON DISTRICT OFFICE WRD DISTRICT SUPERVISOR 301 EAST LOUIS GLICK HIGHWAY JACKSON, MI 49201-1556	517-780-7690 517-780-7855	HILLSDALE JACKSON LENAWEE	MONROE WASHTENAW	
UPPER PENINSULA DISTRICT OFFICE WRD DISTRICT SUPERVISOR 420 FIFTH STREET GWINN, MICHIGAN 49841-3004	906-346-8300 906-346-4480	ALGER BARAGA CHIPPEWA DELTA DICKINSON GOGEBIC	HOUGHTON IRON KEWEENAW LUCE MARQUETTE MACKINAC	MENOMINEE ONTONAGON SCHOOLCRAFT
KALAMAZOO DISTRICT OFFICE WRD DISTRICT SUPERVISOR 7953 ADOBE ROAD KALAMAZOO, MI 49009-5026	269-567-3500 269-567-9440	ALLEGAN BERRIEN BRANCH CALHOUN	CASS KALAMAZOO ST. JOSEPH VAN BUREN	
SAGINAW BAY DISTRICT OFFICE WRD DISTRICT SUPERVISOR 401 KETCHUM STREET, SUITE B BAY CITY, MI 48708	989-894-6200 989-891-9237	ARENAC BAY CLARE GLADWIN HURON IOSCO	ISABELLA MIDLAND OGEMAW SAGINAW SANILAC TUSCOLA	
LANSING DISTRICT OFFICE WRD DISTRICT SUPERVISOR P.O. BOX 30242 LANSING, MI 48909-7742	517-284-6651 517-241-3571	CLINTON EATON GENESEE GRATIOT INGHAM	LAPEER LIVINGSTON SHIAWASSEE	

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

This information is required to be submitted under Michigan Act 451, Public Acts of 1994, as amended, Part 31, Section 324.3112a. Potential fines and penalties specified in Part 31 apply to this requirement.

Type of Discharge Being Reported

☐ **RTB Discharge**: The reported discharge was from a retention and treatment basin (RTB), or equivalent structure, which serves a municipal combined sewer system. The RTB or equivalent structure is designed in accordance with approved plans, and operated in accordance with criteria in a permit, order, or other enforceable document issued by the Michigan Department of Environmental Quality (MDEQ) or by court action. This type of discharge is commonly referred to as an RTB discharge.

☐ **CSO Discharge**: The reported discharge is from a municipal combined sewer system and is not from a facility which is designed to meet final performance criteria specified in a permit, order, or other enforceable document. The discharge is associated with wet weather events. This type of discharge is commonly referred to as a combined sewer overflow (CSO).

☒ **SSO Discharge**: The reported discharge is from a private or municipal separate sewer collection system (not wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system. This type of discharge is commonly referred to as a sanitary sewer overflow (SSO).

☐ **Other**: The reported discharge was of untreated or partially treated sewage (definition in Section 3112a) which is not characterized by one of the conditions listed above. A detailed description of the discharge is provided below.

Report Submitted By

Name	Gary Burk	
Position	Utilities Director	
Address	301 W Main St	
City, State, Zip code	Owosso, MI 48867	
County	Shiawassee	
Telephone No.	989-725-0555	
E-mail address	gary.burk@ci.owosso.mi.us	
Signature	Gary M Burk	Date May 20, 2014

Sewer System Owner

Name	City of Owosso
Address	301 W. Main St
City, State, Zip Code	Owosso, MI 48867
County	Shiawassee

Discharge Information (see instructions for completing this section)

Volume discharged (specify units, either gallons or million gallons)	Very roughly estimated at 500,000 gallons (impossible to reliably estimate due to manhole submergence from river flooding.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

Quality of discharge(s) (such as raw sewage, diluted raw sewage, partially treated, RTB, blended, etc.)	dilute raw sewage			
Reason for the discharge(s)	Wet weather, 3.57" rain over 4 days (saturated ground) and river flooding resulted in flows exceeding the main Owosso interceptor and WWTP influent pump capacity. The surcharge from the WWTP also reduced the Owosso interceptor sewer capacity.			
Location of the discharge(s)	(reference map attached) MH A - on north riverbank just west of the M-52 bridge MH B - on south riverbank about 100 feet east of Union St. MH C - at the Owosso Mid-Shiawassee County WWTP at 1412 Chippewa Trail			
Surface waters impacted by the discharge(s)	Shiawaassee River			
Land impacted by the discharge(s)	NA - overflow direct from manholes to the river above flood stage surrounding the manholes			
Discharge event start date and time	Date: May 15, 2014 Time: 8:00am.			
Discharge event end date and time	Date: May 15, 2014 Time: 4:00pm			
Is the sewer system owner in compliance or not in compliance with applicable discharge permits, laws, rules, and orders?	☒ In compliance ☐ Not in compliance	If not in compliance, please explain:		
Initial notification date and time (if no notice or >24 hrs of discharge, please explain at the end of the form)	MDEQ Date: 5/15/2014 Time: 12:15 pm	Local Health Department Date: 5/15/2014 Time: 10:00 am	Daily Local Newspaper Date: 5/15/2014 Time: 3:00pm (by County)	
Notification that the discharge has concluded (if the discharge was still occurring at the initial notification)	MDEQ Date: 5/15//2014 Time: 5:00pm ☐ Not applicable	Local Health Department Date: 5/15/2014 Time: 5:00pm ☐ Not applicable	Daily Local Newspaper Date: 5/15/2014 Time: 5:00pm ☐ Not applicable	
Precipitation type and measurements, if applicable	Type: Rain	Amount: 3.57"	Start Date/Time: 5/12/2014	End Date/Time: 5/15/2014
Name of wastewater treatment facility normally receiving sewage	Owosso Mid-Shiawassee County WWTP			
Was this discharge disinfected to meet fecal coliform limitations?	☐ Yes ☒ No ☐ Not applicable			
Actions taken to minimize the impact from the discharge(s), if any	Once the interceptor sewer was surcharged to the overflow point at WWTP began bypass pumping to river to reduce potential impact on basement flooding. Had Corunna pump to their retention basin.			

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON
Report of Discharge

Actions taken or that will be taken to prevent reoccurrence of the discharge(s), if any	Ongoing sanitary sewer overflow control program under a consent order through 2017. We are currently evaluating whether our initial control strategy will be adequate or also require supplemental retention storage.
Results of *E. coli* testing (select one)	☒ Results pending (provide expected date of submittal) ☐ Results attached ☐ Testing waived by local health department ☐ Not applicable no discharge to surface waters

Additional Information (Check any box that is appropriate)	☐ (1) The reported discharge was caused by a party other than this sewer system owner and over which this owner had no control or knowledge of the actions which resulted in the discharge. Reporting and corrective actions by this sewer system owner were conducted in a timely manner upon becoming aware of the condition. ☐ (2) The reported discharge was from an RTB, and the level of treatment provided is in full compliance with final performance criteria in a permit, order, or other enforceable document issued or entered between the MDEQ and the discharger, or by court action. ☐ (3) The reported discharge was of partially treated sewage that bypassed one or more treatment units at the wastewater treatment facility. ☐ All effluent limits were met during the event ☐ All effluent limits were not met during the event (please explain)
Additional information (attach sheets as necessary)	River reached 8.5 foot flood elevation (7 foot is flood level) and several interceptor manholes were submerged making it impossible to reliably determine inflow/outflow conditions or volumes. We are evaluating raising these structures, but that also risks resulting in more, and more severe, basement flooding.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

This information is required to be submitted under Michigan Act 451, Public Acts of 1994, as amended, Part 31, Section 324.3112a. Potential fines and penalties specified in Part 31 apply to this requirement.

Type of Discharge Being Reported

☐ **RTB Discharge**: The reported discharge was from a retention and treatment basin (RTB), or equivalent structure, which serves a municipal combined sewer system. The RTB or equivalent structure is designed in accordance with approved plans, and operated in accordance with criteria in a permit, order, or other enforceable document issued by the Michigan Department of Environmental Quality (MDEQ) or by court action. This type of discharge is commonly referred to as an RTB discharge.

☐ **CSO Discharge**: The reported discharge is from a municipal combined sewer system and is not from a facility which is designed to meet final performance criteria specified in a permit, order, or other enforceable document. The discharge is associated with wet weather events. This type of discharge is commonly referred to as a combined sewer overflow (CSO).

☒ **SSO Discharge**: The reported discharge is from a private or municipal separate sewer collection system (not wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system. This type of discharge is commonly referred to as a sanitary sewer overflow (SSO).

☐ **Other**: The reported discharge was of untreated or partially treated sewage (definition in Section 3112a) which is not characterized by one of the conditions listed above. A detailed description of the discharge is provided below.

Report Submitted By

Name	Gary Burk	
Position	Utilitiies Director	
Address	301 W Main St	
City, State, Zip code	Owosso, MI 48867	
County	Shiawassee	
Telephone No.	989-725-0555	
E-mail address	gary.burk@ci.owosso.mi.us	
Signature	Gary M. Burk	Date December 27, 2013

Sewer System Owner

Name	City of Owosso
Address	301 W. Main St
City, State, Zip Code	Owosso, MI 48867
County	Shiawassee

Discharge Information (see instructions for completing this section)

Volume discharged (specify units, either gallons or million gallons)	Estimated at 4,000,000 gallons

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

Quality of discharge(s) (such as raw sewage, diluted raw sewage, partially treated, RTB, blended, etc.)	raw sewage				
Reason for the discharge(s)	Sewer system surcharge and oveflow due to loss of dual electrical feeds to the Wastewater Treatment Plant due to severe ice storm and numerous downed power lines and widespread power outage.				
Location of the discharge(s)	MH on riverbank at the Owosso Mid-Shiawassee County WWTP at 1412 Chippewa Trail, Owosso				
Surface waters impacted by the discharge(s)	Shiawaassee River				
Land impacted by the discharge(s)	Overflow direct to the river (river largely ice covered).				
Discharge event start date and time	Date: December 22, 2013 Time: 5:30pm.				
Discharge event end date and time	Date: December 24, 2013 Time: 8:30am				
Is the sewer system owner in compliance or not in compliance with applicable discharge permits, laws, rules, and orders?	☒ In compliance ☐ Not in compliance		If not in compliance, please explain:		
Initial notification date and time (if no notice or >24 hrs of discharge, please explain at the end of the form)	<u>MDEQ</u> Date: 12/23/2013 Time: 11:30am		<u>Local Health Department</u> Date: 12/23/2013 Time: 11:40 am	<u>Daily Local Newspaper</u> Date: 12/23/2013 Time: 11:45am	
Notification that the discharge has concluded (if the discharge was still occurring at the initial notification)	<u>MDEQ</u> Date: 12/24/2013 Time: 11:30am ☒ Not applicable		<u>Local Health Department</u> Date: 12/24/2013 Time: 9:30am ☒ Not applicable	<u>Daily Local Newspaper</u> Date: 12/24/2013 Time: 9:30am ☒ Not applicable	
Precipitation type and measurements, if applicable	Type: Ice (followed by snow)	Amount: up to 2" ice	Start Date/Time: 12/21/2013	End Date/Time: 12/22/2013	
Name of wastewater treatment facility normally receiving sewage	Owosso Mid-Shiawassee County WWTP				
Was this discharge disinfected to meet fecal coliform limitations?	☐ Yes ☒ No ☐ Not applicable				
Actions taken to minimize the impact from the discharge(s), if any	Once the interceptor sewer was surcharged to the overflow point at WWTP began bypass pumping to river to reduce potential impact on basement flooding. Had Corunna pump to their retention basin. Worked with Consumers Energy and Shiawassee County Emergency Services to priotitze power restoration to the WWTP. Restarted plant operations as soon as power was restored.				

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

Actions taken or that will be taken to prevent reoccurrence of the discharge(s), if any	Since 1980 the WWTP has relied on dual electrical feeds from Consumers Energy for power source reliability. We had already begun planning for purchase of a back-up generator and will increase that priority in our capital improvements budget and asset management program.
Results of *E. coli* testing (select one)	☐ Results pending (provide expected date of submittal) ☐ Results attached ☒ Testing waived by local health department ☐ Not applicable no discharge to surface waters

Additional Information (Check any box that is appropriate)	☐ (1) The reported discharge was caused by a party other than this sewer system owner and over which this owner had no control or knowledge of the actions which resulted in the discharge. Reporting and corrective actions by this sewer system owner were conducted in a timely manner upon becoming aware of the condition. ☐ (2) The reported discharge was from an RTB, and the level of treatment provided is in full compliance with final performance criteria in a permit, order, or other enforceable document issued or entered between the MDEQ and the discharger, or by court action. ☐ (3) The reported discharge was of partially treated sewage that bypassed one or more treatment units at the wastewater treatment facility. ☐ All effluent limits were met during the event ☐ All effluent limits were not met during the event (please explain)
Additional information (attach sheets as necessary)	Owosso in Shiawassee County was hard hit by the ice storm with over half the County out of electrical power. Shiawassee County issued an emergency declaration. River is largely ice covered and very limited opportunity for any public use or contact, E.Coli testing waived by County Health Department due to the winter conditions.

9/6/13 EMAILED TO BRE BODNAR

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

This information is required to be submitted under Michigan Act 451, Public Acts of 1994, as amended, Part 31, Section 324.3112a. Potential fines and penalties specified in Part 31 apply to this requirement.

Type of Discharge Being Reported

☐ **RTB Discharge**: The reported discharge was from a retention and treatment basin (RTB), or equivalent structure, which serves a municipal combined sewer system. The RTB or equivalent structure is designed in accordance with approved plans, and operated in accordance with criteria in a permit, order, or other enforceable document issued by the Michigan Department of Environmental Quality (MDEQ) or by court action. This type of discharge is commonly referred to as an RTB discharge.

☐ **CSO Discharge**: The reported discharge is from a municipal combined sewer system and is not from a facility which is designed to meet final performance criteria specified in a permit, order, or other enforceable document. The discharge is associated with wet weather events. This type of discharge is commonly referred to as a combined sewer overflow (CSO).

☒ **SSO Discharge**: The reported discharge is from a private or municipal separate sewer collection system (not wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system. This type of discharge is commonly referred to as a sanitary sewer overflow (SSO).

☐ **Other**: The reported discharge was of untreated or partially treated sewage (definition in Section 3112a) which is not characterized by one of the conditions listed above. A detailed description of the discharge is provided below.

Report Submitted By

Name	Gary Burk	
Position	Utilitiies Director	
Address	301 W Main St	
City, State, Zip code	Owosso, MI 48867	
County	Shiawassee	
Telephone No.	989-725-0555	
E-mail address	gary.burk@ci.owosso.mi.us	
Signature	Gary M. Burk	Date September 6, 2013

Sewer System Owner

Name	City of Owosso
Address	301 W. Main St
City, State, Zip Code	Owosso, MI 48867
County	Shiawassee

Discharge Information (see instructions for completing this section)

Volume discharged (specify units, either gallons or million gallons)	Estimated at 100,000 gallons total; 5,000 from Manhole "A"; 15,000 from Manhole "B"; 80,000 Manhole "C"

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

Quality of discharge(s) (such as raw sewage, diluted raw sewage, partially treated, RTB, blended, etc.)	dilute raw sewage			
Reason for the discharge(s)	Sewer system surcharge due to high flows from infiltration and inflow from intense rainfall event - 3.65 inches of rain on August 27, with an estimated 3 inches in less than 1 hour.			
Location of the discharge(s)	A) Manhole (MH) just downstream of the M-52 bridge in Owosso on the north bank of the Shiawassee River. B) MH on south bank of the Shiawassee River 100' east of Union Ave, 1400' west of the M-52 bridge. C) MH at the WWTP on Chippewa Trail			
Surface waters impacted by the discharge(s)	Shiawaassee River			
Land impacted by the discharge(s)	Small area around manhole B.			
Discharge event start date and time	Date: August 27, 2013 Time: Estimated at 11:40pm.			
Discharge event end date and time	Date: August 28, 2013 Time: MH "A" & B 3am on the 28th ; MH "C" 03:40am on the 28th			
Is the sewer system owner in compliance or not in compliance with applicable discharge permits, laws, rules, and orders?	☒ In compliance ☐ Not in compliance	If not in compliance, please explain:		
Initial notification date and time (if no notice or >24 hrs of discharge, please explain at the end of the form)	MDEQ Date: August 28, 2013 Time: 11am	Local Health Department Date: August 28, 2013 Time: 11:30 am	Daily Local Newspaper Date: August 28, 2013 Time: 11:45am	
Notification that the discharge has concluded (if the discharge was still occurring at the initial notification)	MDEQ Date: Time: ☒ Not applicable	Local Health Department Date: Time: ☒ Not applicable	Daily Local Newspaper Date: Time: ☒ Not applicable	
Precipitation type and measurements, if applicable	Type: Rain	Amount: 3.65" (plus 0.27" previous day)	Start Date/Time: August 27; 11pm	End Date/Time: August 27; 11:50pm
Name of wastewater treatment facility normally receiving sewage	Owosso Mid-Shiawassee County WWTP			
Was this discharge disinfected to meet fecal coliform limitations?	☐ Yes ☒ No ☐ Not applicable			
Actions taken to minimize the impact from the discharge(s), if any	Fully utilized all available interceptor sewer capacity and pump capacity at the WWTP.			

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

Actions taken or that will be taken to prevent reoccurrence of the discharge(s), if any	Ongoing SSO correction program for the City of Owosso under a consent order with a compliance schedule through 2017. Met with the Township Utility Authority Board on September 4th and got their concurrence to proceed with smoke testing on areas of the Township sewer systems that are suspected of contributing high peak inflows. The City will assist the Township with this smoke testing over the next 2 months.
Results of *E. coli* testing (select one)	☐ Results pending (provide expected date of submittal) ☐ Results attached ☒ Testing waived by local health department ☐ Not applicable no discharge to surface waters

Additional Information (Check any box that is appropriate)	☐ (1) The reported discharge was caused by a party other than this sewer system owner and over which this owner had no control or knowledge of the actions which resulted in the discharge. Reporting and corrective actions by this sewer system owner were conducted in a timely manner upon becoming aware of the condition. ☐ (2) The reported discharge was from an RTB, and the level of treatment provided is in full compliance with final performance criteria in a permit, order, or other enforceable document issued or entered between the MDEQ and the discharger, or by court action. ☐ (3) The reported discharge was of partially treated sewage that bypassed one or more treatment units at the wastewater treatment facility. ☐ All effluent limits were met during the event ☐ All effluent limits were not met during the event (please explain)
Additional information (attach sheets as necessary)	The overflow volume reported was in part due to high peak flows from the Township interceptor in addition to the City of Owosso collection system. These combined flows exceeded the plant influent pump capacity for 3.5 hours resulting in more surcharging and overflow from the Owosso interceptor, which is at a lower overflow elevation than the Township system.

DEQ

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

This information is required to be submitted under Michigan Act 451, Public Acts of 1994, as amended, Part 31, Section 324.3112a. Potential fines and penalties specified in Part 31 apply to this requirement.

Type of Discharge Being Reported

☐ **RTB Discharge**: The reported discharge was from a retention and treatment basin (RTB), or equivalent structure, which serves a municipal combined sewer system. The RTB or equivalent structure is designed in accordance with approved plans, and operated in accordance with criteria in a permit, order, or other enforceable document issued by the Michigan Department of Environmental Quality (MDEQ) or by court action. This type of discharge is commonly referred to as an RTB discharge.

☐ **CSO Discharge**: The reported discharge is from a municipal combined sewer system and is not from a facility which is designed to meet final performance criteria specified in a permit, order, or other enforceable document. The discharge is associated with wet weather events. This type of discharge is commonly referred to as a combined sewer overflow (CSO).

☒ **SSO Discharge**: The reported discharge is from a private or municipal separate sewer collection system (not wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system. This type of discharge is commonly referred to as a sanitary sewer overflow (SSO).

☐ **Other**: The reported discharge was of untreated or partially treated sewage (definition in Section 3112a) which is not characterized by one of the conditions listed above. A detailed description of the discharge is provided below.

Report Submitted By

Name	Gary Burk	
Position	Utilitiies Director	
Address	301 W Main St	
City, State, Zip code	Owosso, MI 48867	
County	Shiawassee	
Telephone No.	989-725-0555	
E-mail address	gary.burk@ci.owosso.mi.us	
Signature	Gary M. Burk	Date April 29, 2013

Sewer System Owner

Name	City of Owosso
Address	301 W. Main St
City, State, Zip Code	Owosso, MI 48867
County	Shiawassee

Discharge Information (see instructions for completing this section)

Volume discharged (specify units, either gallons or million gallons)	Estimated at 770,000 gallons total; 40,000 from Manhole "A"; 400,000 from Manhole "B"; 20,000 Manhole "C"; Net of 300,000 from MH "D"; 5,000 from MH "E"; and 5,000 from MH "F"

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

Quality of discharge(s) (such as raw sewage, diluted raw sewage, partially treated, RTB, blended, etc.)	dilute raw sewage
Reason for the discharge(s)	Sewer system surcharge due to high flows from infiltration and inflow from wet weather conditions - 2.51 inches of rain on April 18 & 19 following 5.29 inches of rain from April 8 - 15 and river rising above flood stage.
Location of the discharge(s)	A) Manhole (MH) just downstream of the M-52 bridge in Owosso on the north bank of the Shiawassee River. B) MH on south bank of the Shiawassee River 100' east of Union Ave, 1400' west of the M-52 bridge. C) MH on Jerome St east of Washington St. D) MH at the WWTP on Chippewa Trail E) MH (2) by river, west bank, at Corlett Creek drain outlet F) Township MH on west side of the river crossing by Riverlane Dr.
Surface waters impacted by the discharge(s)	Shiawaassee River
Land impacted by the discharge(s)	Small area around the manholes.
Discharge event start date and time	Date: April 18, 2013 Time: Estimated at 5am, seen at 7am.
Discharge event end date and time	Date: April 19 & 20, 2013 Time: MH "A" 9pm on the 20th; MH "B" 6pm on the 20th; MH "C" 12:30am on the 20th; MH "D" 3am on the 20th; MH "E" 7am on the 19th; MH "F" 7am on the 19th.

Is the sewer system owner in compliance or not in compliance with applicable discharge permits, laws, rules, and orders?	☒ In compliance ☐ Not in compliance	If not in compliance, please explain:

Initial notification date and time (if no notice or >24 hrs of discharge, please explain at the end of the form)	MDEQ Date: April 18, 2013 Time: 10am	Local Health Department Date: April 18, 2013 Time: 10:05 am	Daily Local Newspaper Date: April 18, 2013 Time: 10:15am
Notification that the discharge has concluded (if the discharge was still occurring at the initial notification)	MDEQ Date: April 22, 2013 Time: 16:40 ☐ Not applicable	Local Health Department Date: April 22, 2013 Time: 13:30 ☐ Not applicable	Daily Local Newspaper Date: April 22, 2013 Time: 13:40 ☐ Not applicable

Precipitation type and measurements, if applicable	Type: Rain	Amount: 2.51" (plus 5.29" previous week)	Start Date/Time: April 17; 7am	End Date/Time: April 19; 7am

Name of wastewater treatment facility normally receiving sewage	Owosso Mid-Shiawassee County WWTP
Was this discharge disinfected to meet fecal coliform limitations?	☐ Yes ☒ No ☐ Not applicable

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

Actions taken to minimize the impact from the discharge(s), if any	Fully utilized all available interceptor sewer capacity and pump capacity at the WWTP.
Actions taken or that will be taken to prevent reoccurrence of the discharge(s), if any	Ongoing SSO correction program under a consent order with a compliance schedule through 2017.
Results of *E. coli* testing (select one)	☐ Results pending (provide expected date of submittal) ☐ Results attached ☒ Testing waived by local health department ☐ Not applicable no discharge to surface waters

Additional Information (Check any box that is appropriate)	☐ (1) The reported discharge was caused by a party other than this sewer system owner and over which this owner had no control or knowledge of the actions which resulted in the discharge. Reporting and corrective actions by this sewer system owner were conducted in a timely manner upon becoming aware of the condition. ☐ (2) The reported discharge was from an RTB, and the level of treatment provided is in full compliance with final performance criteria in a permit, order, or other enforceable document issued or entered between the MDEQ and the discharger, or by court action. ☐ (3) The reported discharge was of partially treated sewage that bypassed one or more treatment units at the wastewater treatment facility. ☐ All effluent limits were met during the event ☐ All effluent limits were not met during the event (please explain)
Additional information (attach sheets as necessary)	The duration and magnitude of the overflow was extended due to three riverside interceptor manholes (two on the City interceptor (MH's "E") and one on the Township interceptor (MH "F"), relatively close to the plant, having covers ajar and being submerged under the river at the flood stage exceeding about 7.5 river level from about 4am April 19 to about 6am April 20th with the river peaking at 8.4 feet (flood stage = 7 feet at the Owosso USGS gaging station. MH "E" were found with covers ajar around 7am on Sunday morning with the river level just over the casting. MH "F" on the Township interceptor was not identified until April 29th. We believe the covers were lifted by sewer surcharging which occurred on April 18th when flow to the plant exceeded the influent pump capacity. In an attempt to reduce the sewer surcharge level and try to reduce back-up to basements along the interceptor we set up bypass pumping from manhole "D" by the plant. We also hoped to better determine the peak I/I flow attemting to enter the sewer system. While this bypass pumping reduced the surcharge level somewhat, it was thwarted by drawing in a significant volume of river water from the submerged manholes (E & F). On the Township manhole ("F") the entire casting was shifted and we believe this was the largest source of river inflow. It is possible the Township manhole casting was damaged by ice flows this past winter. The Township Sewer Authority has been notified and they will reset and anchor the casting and bolt down the lid. The gasket seal lids (not bolt down) were re-seated on the City interceptor and we are considering whether to raise these castings. However, this may result in impacting more basements if it resulted in higher sewer surcharge levels.

DEQ

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

This information is required to be submitted under Michigan Act 451, Public Acts of 1994, as amended, Part 31, Section 324.3112a. Potential fines and penalties specified in Part 31 apply to this requirement.

Type of Discharge Being Reported

☐ **RTB Discharge**: The reported discharge was from a retention and treatment basin (RTB), or equivalent structure, which serves a municipal combined sewer system. The RTB or equivalent structure is designed in accordance with approved plans, and operated in accordance with criteria in a permit, order, or other enforceable document issued by the Michigan Department of Environmental Quality (MDEQ) or by court action. This type of discharge is commonly referred to as an RTB discharge.

☐ **CSO Discharge**: The reported discharge is from a municipal combined sewer system and is not from a facility which is designed to meet final performance criteria specified in a permit, order, or other enforceable document. The discharge is associated with wet weather events. This type of discharge is commonly referred to as a combined sewer overflow (CSO).

☒ **SSO Discharge**: The reported discharge is from a private or municipal separate sewer collection system (not wastewater treatment plant) during wet or dry weather, or a dry weather discharge from a municipal combined sewer collection system. This type of discharge is commonly referred to as a sanitary sewer overflow (SSO).

☐ **Other**: The reported discharge was of untreated or partially treated sewage (definition in Section 3112a) which is not characterized by one of the conditions listed above. A detailed description of the discharge is provided below.

Report Submitted By

Name	Gary Burk	
Position	Utilitiies Director	
Address	301 W Main St	
City, State, Zip code	Owosso, MI 48867	
County	Shiawassee	
Telephone No.	989-725-0555	
E-mail address	gary.burk@ci.owosso.mi.us	
Signature	Gary M. Burk	Date April 17, 2013

Sewer System Owner

Name	City of Owosso
Address	301 W. Main St
City, State, Zip Code	Owosso, MI 48867
County	Shiawassee

Discharge Information (see instructions for completing this section)

Volume discharged (specify units, either gallons or million gallons)	Estimated at 140,000 gallons total; 20,000 from Manhole "A" and 120,000 from Manhole "B"

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

Quality of discharge(s) (such as raw sewage, diluted raw sewage, partially treated, RTB, blended, etc.)	dilute raw sewage			
Reason for the discharge(s)	Sewer system surcharge due to high flows from infiltration and inflow from wet weather conditions - 4.66 inches of rain from April 9 - 12.			
Location of the discharge(s)	A) Manhole (MH) just downstream of the M-52 bridge in Owosso on the north bank of the Shiawassee River. B) MH on south bank of the Shiawassee River 100' east of Union Ave, 1400' west of the M-52 bridge.			
Surface waters impacted by the discharge(s)	Shiawaassee River			
Land impacted by the discharge(s)	Small area around the manholes.			
Discharge event start date and time	Date: April 12, 2013 Time: Estimated at 4am, seen at 7am.			
Discharge event end date and time	Date: April 12, 2013 Time: MH B) 2pm MH A) 5pm			
Is the sewer system owner in compliance or not in compliance with applicable discharge permits, laws, rules, and orders?	☒ In compliance ☐ Not in compliance	If not in compliance, please explain:		
Initial notification date and time (if no notice or >24 hrs of discharge, please explain at the end of the form)	MDEQ Date: April 12, 2013 Time: 10am	Local Health Department Date: April 12, 2013 Time: 9:45 am	Daily Local Newspaper Date: April 12, 2013 Time: 10:15am	
Notification that the discharge has concluded (if the discharge was still occurring at the initial notification)	MDEQ Date: April 15, 2013 Time: 11:40 ☐ Not applicable	Local Health Department Date: April 15, 2013 Time: 10:30 ☐ Not applicable	Daily Local Newspaper Date: April 15, 2013 Time: 10:40 ☐ Not applicable	
Precipitation type and measurements, if applicable	Type: Rain	Amount: 4.66"	Start Date/Time: 7am April 9	End Date/Time: 7am April 12
Name of wastewater treatment facility normally receiving sewage	Owosso Mid-Shiawassee County WWTP			
Was this discharge disinfected to meet fecal coliform limitations?	☐ Yes ☒ No ☐ Not applicable			
Actions taken to minimize the impact from the discharge(s), if any	Fully utilized all available interceptor sewer capacity and pump capacity at the WWTP.			

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISON

Report of Discharge

Actions taken or that will be taken to prevent reoccurrence of the discharge(s), if any	Ongoing SSO correction program under a consent order with a compliance schedule through 2017.
Results of *E. coli* testing (select one)	☐ Results pending (provide expected date of submittal) ☐ Results attached ☒ Testing waived by local health department ☐ Not applicable no discharge to surface waters

Additional Information (Check any box that is appropriate)	☐ (1) The reported discharge was caused by a party other than this sewer system owner and over which this owner had no control or knowledge of the actions which resulted in the discharge. Reporting and corrective actions by this sewer system owner were conducted in a timely manner upon becoming aware of the condition. ☐ (2) The reported discharge was from an RTB, and the level of treatment provided is in full compliance with final performance criteria in a permit, order, or other enforceable document issued or entered between the MDEQ and the discharger, or by court action. ☐ (3) The reported discharge was of partially treated sewage that bypassed one or more treatment units at the wastewater treatment facility. ☐ All effluent limits were met during the event ☐ All effluent limits were not met during the event (please explain)
Additional information (attach sheets as necessary)	

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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU

Report of Discharges of Untreated or Partially Treated Sewage

This information is required to be submitted under Michigan Act 451, Public Acts of 1994, as amended, Part 31. Potential fines and penalties specified in Part 31 apply to this requirement.

Report Submitted by:	
Name	Gary Burk Gary M. Burk 6/28/11
Position	Utilities Director
Municipality	City of Owosso
Address	301 W. Main St.
City, State, Zip	Owosso, MI 48867
County	Shiawassee
Telephone #	989-725-0555
Fax #	989-725-0524
E-mail address	gary.burk@ci.owosso.mi.us

Discharge Information (see instructions for completing this section)	
Description of / reason for the discharge(s)	High flows to wastewater collection system from 2.7 inches of rain mostly within 1 hour on wet ground conditions exceeding system capacity resulting in surcharging of main interceptor and overflow to river from a low-lying manhole.
Name of wastewater treatment facility normally receiving sewage	Owosso Mid-Shiawassee County Wastewater Treatment Plant
Location of the discharge(s)	MH on south bank of river 100' east of Union Ave, 1400 west of M52 Bridge (see attached location map)
Surface waters impacted by the discharge(s)	Shiawassee River
Land impacted by the discharge(s)	NA
Were initial notification procedures followed? (yes/no) If no, explain.	Yes
Event start date and time	Wednesday June 22, 2011 – about 1:00am
Event end date and time	Wednesday June 22, 2011 – about 4:00am
Precipitation type and measurements	Event in response to 2.7 inches of rain recorded between 7am June 21and 7am on June 22, 2011, most of which occurred between 10 to 11pm on June 21. River rose from 2.7 to almost 5 feet (graph attached).
Volume discharged (specify units, either gallons or million gallons)	40,000 gallons (very rough estimate – not directly observed)
Quality of discharge(s)	Dilute untreated municipal wastewater
Actions taken to stop and/or minimize the discharge(s)	Fully utilized all available interceptor sewer capacity and pump capacity at WWTP.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU

Report of Discharges of Untreated or Partially Treated Sewage (continued)

Actions taken to minimize the impact from the discharge(s)	Cleaned up area around the manhole.
Actions to prevent reoccurrence of the discharge(s)	The City is currently working on a multi-year SSO control program under a Consent Order entered with MDEQ in 2005.
Compliance status of the municipality (in compliance/ not in compliance)	The City is currently in compliance with the consent order.
Results of <u>E. coli</u> testing (circle one)	Results of sampling are attached. (See note under additional information section)
Discharge report (Check appropriate box, please check only one box)	☑ (1) The reported discharge was of untreated or partially treated sewage (definition in Section 3112a) which is not characterized by either condition below. ☐ (2) The reported discharge was caused by a party other than this municipality over which this municipality had no control, or knowledge of the actions which resulted in the discharge. Reporting and corrective actions by this municipality were conducted in a timely manner upon becoming aware of the condition. ☐ (3) The reported discharge was of "partially treated sewage", from a CSO treatment facility, <u>and</u> the level of treatment provided is in full compliance with <u>final</u> performance criteria in a permit, order or other enforceable document issued or entered between the Michigan Department of Environmental Quality and the discharger, or by court action.
Additional information (attach sheets as necessary)	A location map is attached pointing out the overflow locations.

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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU

Report of Discharges of Untreated or Partially Treated Sewage

This information is required to be submitted under Michigan Act 451, Public Acts of 1994, as amended, Part 31. Potential fines and penalties specified in Part 31 apply to this requirement.

Report Submitted by:	
Name	Gary Burk Gary M. Burk 5/20/11
Position	Utilities Director
Municipality	City of Owosso
Address	301 W. Main St.
City, State, Zip	Owosso, MI 48867
County	Shiawassee
Telephone #	989-725-0555
Fax #	989-725-0524
E-mail address	gary.burk@ci.owosso.mi.us

Discharge Information (see instructions for completing this section)	
Description of / reason for the discharge(s)	High flows to wastewater collection system from 2.84 inches of rain on saturated ground conditions exceeding system capacity resulting in surcharging of main interceptor and overflow to river from low-lying manholes.
Name of wastewater treatment facility normally receiving sewage	Owosso Mid-Shiawassee County Wastewater Treatment Plant
Location of the discharge(s)	MH on south bank of river 100' east of Union Ave, 1400 west of M52 Bridge MH just downstream of the M-52 Bridge in Owosso (north bank of river) MH on Jerome St 1100' east of M71 bridge (See attached location map)
Surface waters impacted by the discharge(s)	Shiawassee River
Land impacted by the discharge(s)	NA
Were initial notification procedures followed? (yes/no) If no, explain.	Yes
Event start date and time	Sunday May 15, 2011 – about 8:00am
Event end date and time	Sunday May 15, 2011 – about 11:30pm
Precipitation type and measurements	Event in response to 2.84 inches (recorded between 7am May 12 and 7am on May 16) of rain on saturated ground. River rose to 7.5 feet (flood stage = 7.0 feet).
Volume discharged (specify units, either gallons or million gallons)	Estimated at 200,000 gallons
Quality of discharge(s)	Dilute untreated municipal wastewater
Actions taken to stop and/or minimize the discharge(s)	Fully utilized all available interceptor sewer capacity and pump capacity at WWTP.

EQP 5857 (Rev. 5/06)

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU

Report of Discharges of Untreated or Partially Treated Sewage (continued)

Actions taken to minimize the impact from the discharge(s)	Cleaned up area around the manholes after river level receded below high water stage.
Actions to prevent reoccurrence of the discharge(s)	The City is currently working on a multi-year SSO control program under a Consent Order entered with MDEQ in 2005.
Compliance status of the municipality (in compliance/ not in compliance)	The City is currently in compliance with the consent order.
Results of E. coli testing (circle one)	**Results pending** / Testing waived by local health department / Not applicable, no discharge to surface waters (See note under additional information section)
Discharge report (Check appropriate box, please check only one box)	☑ (1) The reported discharge was of untreated or partially treated sewage (definition in Section 3112a) which is not characterized by either condition below. ☐ (2) The reported discharge was caused by a party other than this municipality over which this municipality had no control, or knowledge of the actions which resulted in the discharge. Reporting and corrective actions by this municipality were conducted in a timely manner upon becoming aware of the condition. ☐ (3) The reported discharge was of "partially treated sewage", from a CSO treatment facility, and the level of treatment provided is in full compliance with final performance criteria in a permit, order or other enforceable document issued or entered between the Michigan Department of Environmental Quality and the discharger, or by court action.
Additional information (attach sheets as necessary)	A location map is attached pointing out the overflow locations. E. Coli testing scheduled for May 23rd in conjunction with the Shiawassee County Environmental Health Department.

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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU

Report of Discharges of Untreated or Partially Treated Sewage

This information is required to be submitted under Michigan Act 451, Public Acts of 1994, as amended, Part 31. Potential fines and penalties specified in Part 31 apply to this requirement.

Report Submitted by: Gary M. Burk 5/31/11	
Name	Gary Burk
Position	Utilities Director
Municipality	City of Owosso
Address	301 W. Main St.
City, State, Zip	Owosso, MI 48867
County	Shiawassee
Telephone #	989-725-0555
Fax #	989-725-0524
E-mail address	gary.burk@ci.owosso.mi.us

Discharge Information (see instructions for completing this section)	
Description of / reason for the discharge(s)	High flows to wastewater collection system from 3.2 inches of rain on saturated ground conditions exceeding system capacity resulting in surcharging of main interceptor and overflow to river from low-lying manholes.
Name of wastewater treatment facility normally receiving sewage	Owosso Mid-Shiawassee County Wastewater Treatment Plant
Location of the discharge(s)	A) MH on south bank of river 100' east of Union Ave, 1400 west of M52 Bridge B) MHs just downstream of the M-52 Bridge in Owosso (north bank of river) C) MH on Jerome St 1100' east of M71 bridge (See attached location map)
Surface waters impacted by the discharge(s)	Shiawassee River
Land impacted by the discharge(s)	NA
Were initial notification procedures followed? (yes/no) If no, explain.	Yes
Event start date and time	A) Wednesday May 18, 2011 – about 9:00pm B) Wednesday May 18, 2011 – about 9:00pm C) Wednesday May 18, 2011 – about 9:00pm
Event end date and time	A) Friday May 20, 2011 – about 8:00pm B) Friday May 20, 2011 – about 6:00pm C) Friday May 20, 2011 – about 11:30pm
Precipitation type and measurements	Event in response to 3.2 inches of rain recorded between 7am May 18 and 7am on May 19. River rose to 7.5 feet (flood stage = 7.0 feet).
Volume discharged (specify units, either gallons or million gallons)	Location A) MH 500,000 gallons (very rough estimate) Location B) MH 250,000 gallons (very rough estimate) Location C) MH 250,000 gallons (very rough estimate)
Quality of discharge(s)	Dilute untreated municipal wastewater
Actions taken to stop and/or minimize the discharge(s)	Fully utilized all available interceptor sewer capacity and pump capacity at WWTP.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU

Report of Discharges of Untreated or Partially Treated Sewage (continued)

Actions taken to minimize the impact from the discharge(s)	Cleaned up area around the manholes after river level receded below high water stage.
Actions to prevent reoccurrence of the discharge(s)	The City is currently working on a multi-year SSO control program under a Consent Order entered with MDEQ in 2005.
Compliance status of the municipality (in compliance/ not in compliance)	The City is currently in compliance with the consent order.
Results of E. coli testing (circle one)	Results of sampling by Shiawassee County Health Department are attached. Additional results from City sampling on June 1st to follow separately (See note under additional information section)
Discharge report (Check appropriate box, please check only one box)	☑ (1) The reported discharge was of untreated or partially treated sewage (definition in Section 3112a) which is not characterized by either condition below. ☐ (2) The reported discharge was caused by a party other than this municipality over which this municipality had no control, or knowledge of the actions which resulted in the discharge. Reporting and corrective actions by this municipality were conducted in a timely manner upon becoming aware of the condition. ☐ (3) The reported discharge was of "partially treated sewage", from a CSO treatment facility, and the level of treatment provided is in full compliance with final performance criteria in a permit, order or other enforceable document issued or entered between the Michigan Department of Environmental Quality and the discharger, or by court action.
Additional information (attach sheets as necessary)	A location map is attached pointing out the overflow locations.

DEQ MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU

FILE COPY

Report of Discharges of Untreated or Partially Treated Sewage

This information is required to be submitted under Michigan Act 451, Public Acts of 1994, as amended, Part 31. Potential fines and penalties specified in Part 31 apply to this requirement.

Report Submitted by:	
Name	Gary Burk Gary M. Burk 5/6/11
Position	Utilities Director
Municipality	City of Owosso
Address	301 W. Main St.
City, State, Zip	Owosso, MI 48867
County	Shiawassee
Telephone #	989-725-0555
Fax #	989-725-0524
E-mail address	gary.burk@ci.owosso.mi.us

Discharge Information (see instructions for completing this section)	
Description of / reason for the discharge(s)	High flows to wastewater collection system from 2.4 inches of rain on saturated ground conditions exceeding system capacity resulting in surcharging of main interceptor and overflow to river from low-lying manholes.
Name of wastewater treatment facility normally receiving sewage	Owosso Mid-Shiawassee County Wastewater Treatment Plant
Location of the discharge(s)	MH on south bank of river 100' east of Union Ave, 1400 west of M52 Bridge MH just downstream of the M-52 Bridge in Owosso (north bank of river) MH on Jerome St 1100' east of M71 bridge (See attached location map)
Surface waters impacted by the discharge(s)	Shiawassee River
Land impacted by the discharge(s)	NA
Were initial notification procedures followed? (yes/no) If no, explain.	Yes
Event start date and time	Thursday April 28, 2011 – about 5:30am
Event end date and time	Friday April 29, 2011 – about 1:30am
Precipitation type and measurements	Event in response to 2.4 inches (recorded between 7am April 27and 7am on the 28th) of rain on saturated ground (total of over 6 inches of rain in April with 1.4" on April 19th and 1.1" on April 22nd.
Volume discharged (specify units, either gallons or million gallons)	Estimated at 500,000 gallons
Quality of discharge(s)	Dilute untreated municipal wastewater
Actions taken to stop and/or minimize the discharge(s)	Fully utilized all available interceptor sewer capacity and pump capacity at WWTP.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU

Report of Discharges of Untreated or Partially Treated Sewage (continued)

Actions taken to minimize the impact from the discharge(s)	Cleaned up area around the manholes after river level receded below high water stage.
Actions to prevent reoccurrence of the discharge(s)	The City is currently working on a multi-year SSO control program under a Consent Order entered with MDEQ in 2005.
Compliance status of the municipality (in compliance/ not in compliance)	The City is currently in compliance with the consent order.
Results of E. coli testing (circle one)	**Results attached** or ~~pending~~ ~~Testing waived by local health department~~ ~~Not applicable, no discharge to surface waters~~ (See note under additional information section)
Discharge report (Check appropriate box, please check only one box)	☒ (1) The reported discharge was of untreated or partially treated sewage (definition in Section 3112a) which is not characterized by either condition below. ☐ (2) The reported discharge was caused by a party other than this municipality over which this municipality had no control, or knowledge of the actions which resulted in the discharge. Reporting and corrective actions by this municipality were conducted in a timely manner upon becoming aware of the condition. ☐ (3) The reported discharge was of "partially treated sewage", from a CSO treatment facility, and the level of treatment provided is in full compliance with final performance criteria in a permit, order or other enforceable document issued or entered between the Michigan Department of Environmental Quality and the discharger, or by court action.
Additional information (attach sheets as necessary)	A location map is attached pointing out the overflow locations. We believe the overflow volume and duration was aggravated by unusually high flows to the Mid-County WWTP from the Township Sewer Collection System that resulted in exceeding the plant's influent pump capacity for several hours. This caused backwater surcharging of the lower elevation City of Owosso main interceptor, resulting in lower flow transmission from the Owosso interceptor to the plant and more overflow from the Owosso interceptor than if it had a free discharge to the WWTP. We will work with the Township Sewer Authority to smoke test a section of their main interceptor suspected of a major inflow source (1000 to 2000 gpm) under surface flooding conditions.

DEQ

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU

Report of Discharges of Untreated or Partially Treated Sewage

This information is required to be submitted under Michigan Act 451, Public Acts of 1994, as amended, Part 31. Potential fines and penalties specified in Part 31 apply to this requirement.

Report Submitted by:	
Name	Gary Burk Gary M. Burk 5/1/09
Position	Utilities Director
Municipality	City of Owosso
Address	301 W. Main St.
City, State, Zip	Owosso, MI 48867
County	Shiawassee
Telephone #	989-725-0555
Fax #	989-725-0524
E-mail address	gary.burk@ci.owosso.mi.us

Discharge Information (see instructions for completing this section)	
Description of / reason for the discharge(s)	Sanitary sewer overflow from low lying manholes (3) from excessive inflow/infiltration from 3 day rainfall event exceeding 2.8 inches of rain on saturated ground with river above flood stage.
Name of wastewater treatment facility normally receiving sewage	Owosso Mid-Shiawassee County Wastewater Treatment Plant
Location of the discharge(s)	(1) Just downstream of the M-52 Bridge in Owosso (north bank of river) (2) Just north of the Chipman/Beehler intersection in Owosso on the south bank of the river near the Chipman Drain outlet, (3) 100' east of Union St on south bank of the river behind 401 S. Cedar (In City of Owosso, Shiawassee County)
Surface waters impacted by the discharge(s)	Shiawassee River
Land impacted by the discharge(s)	NA
Were initial notification procedures followed? (yes/no) If no, explain.	Yes
Event start date and time	Monday April 28, 2009 about 3am
Event end date and time	Tuesday, April 29, 2009 about 3am
Precipitation type and measurements	Rain: April 25 – 28 - Total of over 2.8 inches with 1.88 inches of rain on April 27-28 on saturated ground conditions with river rising to about a foot above flood stage.
Volume discharged (specify units, either gallons or million gallons)	Estimated at 500,000 gallons (rough estimate as overflow was from surcharged manholes largely partly in night-time hours); estimated breakdown from MH#1 = 100,000; MH # 2 = 300,000; MH # 3 = 100,000
Quality of discharge(s)	Untreated but dilute municipal wastewater
Actions taken to stop and/or minimize the discharge(s)	Operated system utilizing all available capacity; ongoing program for SSO control under consent order with MDEQ.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU

Report of Discharges of Untreated or Partially Treated Sewage (continued)

Actions taken to minimize the impact from the discharge(s)	Cleaned up area around the manholes after river level receded below flood stage; contacted Local Health Department, who issued advisory relative to avoiding contact with the river.
Actions to prevent reoccurrence of the discharge(s)	The City is currently working on a multi-year SSO control program under a Consent Order entered with MDEQ in 2005.
Compliance status of the municipality (in compliance/ not in compliance)	The City is currently in compliance with the consent order.
Results of E. coli testing (circle one)	**Results ~~attached~~ or pending** ~~Testing waived by local health department~~ ~~Not applicable, no discharge to surface waters~~ (See note under additional information section)
Discharge report (Check appropriate box, please check only one box)	☒ (1) The reported discharge was of untreated or partially treated sewage (definition in Section 3112a) which is not characterized by either condition below. ☐ (2) The reported discharge was caused by a party other than this municipality over which this municipality had no control, or knowledge of the actions which resulted in the discharge. Reporting and corrective actions by this municipality were conducted in a timely manner upon becoming aware of the condition. ☐ (3) The reported discharge was of "partially treated sewage", from a CSO treatment facility, and the level of treatment provided is in full compliance with final performance criteria in a permit, order or other enforceable document issued or entered between the Michigan Department of Environmental Quality and the discharger, or by court action.
Additional information (attach sheets as necessary)	We are coordinating E. Coli testing with the Shiawassee County Environmental Health Office and results will be forwarded once the samples are collected and analyzed. A location map is attached pointing out the overflow locations.

Appendix 2

OWOSSO WASTEWATER TREATMENT PLANT
2021 ASSET MANAGEMENT REPORT

Owosso Mid-Shiawassee County WWTP
NPDES # MI0023752, Part I, Section A.9.b.
Asset Management Plan – Annual Report
July 29, 2021

INTRODUCTION

The City of Owosso Wastewater Treatment Plant, pursuant to NPDES Permit # MI0023752, Part I, Section A.9.b. has gathered data and information regarding the required Annual Asset Management Plan Report. The following submittal addresses the requirements as outlined in the permit, with appendices attached where appropriate.

1) Staffing Levels: Current Owosso WWTP staffing levels are as follows:

Position	Full- or Part-time	# Employees	Description of Responsibilites
Utilities Director	Full-time	1	Ultimate responsibility for all WWTP and collection system activities, including funding and consumer rate recommendations
WWTP Superintendent	Full-time	1	All aspects of day-to-day operations, NPDES permit compliance, Asset Management Program data and coordination of all maintenance and rehab/replacement activities
Plant Operator	Full-time	5	Plant shift operations, some minor maintenance activities (typically PM), and assisting in more involved maintenance activities
Operator/Mechanic	Full-time	2	Minor and major preventive maintenance and rehab/repair activities as well as plant operations in the absence of a Plant Operator
Sewer Maintenance Operator	Full-time	2	Sewer system cleaning and maintenance, as well as lift station maintenance. Also assist in WWTP maintenance activities.
Lab Technician	Part-time	2	Routine and non-routine sampling and analytical activities.

2) Inspections, Maintenance, and Corrective Activities: A total of 1,145 documented maintenance activities were performed in Fiscal Year 2020-21; this includes inspections, preventive maintenance, and corrective action activities. See attachment "A" for detail.

3) Collection System, WWTP Maintenance Activty, Corrective Action, and Capital Improvement Expenditures: Expenditures for Fiscal Year 2020-21 totaled $1,103,456.80 for collection system activities, with $155,276.60 in encumbered funds for projects spanning FY 2020-21 and FY 2021-22. Expenditures for Fiscal Year 2020-21 totaled $2,857,111.25 for wastewater plant activities, with $235,197.51 in encumbered funds for projects spanning FY 2020-21 and FY 2021-22. See attachment "B" for detail.

4) Assets/areas Identified for inspection/action in the upcoming year based on the 5 core elements and Business Risk Factors: Inspection and follow up action is a standard part of the OWWTP maintenance practices for all assets. The following is a description of planned action of assets with a "high priority" Business Risk Exposure (BRE) score (>16):

Asset Description	Asset Number	BRE Score	Planned Action
Sewage Filtration Unit #1	TT-TK-001	18	Normal inspections/PM. Replacement tentatively scheduled for FY 2024-25
Sewage Filtration Unit #2	TT-TK-002	18	Normal inspections/PM. Replacement tentatively scheduled for FY 2024-25
Sewage Filtration Unit #3	TT-TK-003	18	Normal inspections/PM. Replacement tentatively scheduled for FY 2024-25
Roughing Tower	ST-TK-001	20	Normal inspections/PM. Replacement tentatively scheduled for FY 2022-23[1]
North Nitrification Tower	TT-TK-007	20	Normal inspections/PM. Replacement tentatively scheduled for FY 2022-23[1]
South Nitrification Tower	TT-TK-008	20	Normal inspections/PM. Replacement tentatively scheduled for FY 2022-23[1]
Main Building Roof	ST-BD-002	20	Normal inspections/PM. Replacement tentatively scheduled for FY 2021-22[1]
Sludge Dewatering Centrifuge	SH-P-006	20	Normal inspection/PM. Replacement scheduled for FY 2021-22[1]
Intermediate Clarifiers (2)	ST-TK-002	20	Normal inspection/PM. Replacement tentatively scheduled for FY 2024-25[1]

[1]Part of current State Revolving Fund project plan

5) Maintenance and Capital Improvement budget for the upcoming year: Total Wastewater Plant Maintenance/Capital Improvement budget for Fiscal Year 2021-22 is $3,210,900. Total Collection System Maintenance/Capital Improvement budget for the collection system for Fiscal Year 2021-22 is $119,920. See Attachment "C" for detail.

6) Updated Asset Inventory based on original submission: See Attachment "D"

7) Updated OM&R Budget with updated rate schedule: Wastewater Plant OM&R budget for Fiscal Year 2021-22 is $5,040,229. Collection System OM&R budget for Fiscal Year 2021-22 is $251,677. See Attachment E1 and for detail. The FY 2018-19 rate schedule is still current as of this reporting date. See Attachment E2 for detail.

Submitted by:

Timothy J. Guysky
OWWTP Superintendent

Attachment A

City of Owosso – MI0023752

Inspections, Maintenance and Corrective Activities

Fiscal Year 2020-21

OWOSSO WWTP - MI0023752 - Inspections, Maintenance and Corrective Activities

Date Range: 7/1/2020 - 6/30/2021

Completed	Equipment	Task	WO #	Work Type
7/1/2020	#4 Screwpump	PM Preventive Maintenance	20200555	Scheduled
7/1/2020	#2 Screwpump	PM Preventive Maintenance	20200558	Scheduled
7/2/2020	#2 Hypochlorite Meter Pump	Replace Tubing	20200539	Scheduled
7/1/2020	#3 Screwpump	PM Preventive Maintenance	20200561	Scheduled
7/2/2020	Sludge Thickener North O2 Sensor	Troubleshoot and Repair	20200552	Corrective
7/2/2020	Tertiary Well Level Sensor	PM Preventive Maintenance	20200592	Scheduled
7/2/2020	RT Well Level Sensor	PM Preventive Maintenance	20200585	Scheduled
7/1/2020	Polymer Day Tank	Troubleshoot and Repair	20200608	Corrective
7/2/2020	Backwash Tank Hypo Trans Pump	Replace Tubing	20200539	Scheduled
7/2/2020	Ferric Chloride Meter Pump	Replace Tubing	20200539	Scheduled
7/2/2020	#1 Hypochlorite Meter Pump	Replace Tubing	20200539	Scheduled
7/2/2020	Bisulfite Meter Pump #2 East	Replace Tubing	20200539	Scheduled
7/2/2020	Bisulfite Meter Pump #1 West	Replace Tubing	20200539	Scheduled
7/2/2020	#3 Hypochlorite Meter Pump	Replace Tubing	20200539	Scheduled
7/3/2020	Sludge Centrifuge	GR Grease	20200596	Scheduled
7/3/2020	International Dump Truck	Odometer Read	20200601	Scheduled
7/3/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200603	Scheduled
7/3/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200605	Scheduled
7/3/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200604	Scheduled
7/9/2020	#4 Screwpump	PM Preventive Maintenance	20200610	Scheduled
7/9/2020	#2 Screwpump	PM Preventive Maintenance	20200611	Scheduled
7/9/2020	#3 Screwpump	PM Preventive Maintenance	20200612	Scheduled
7/9/2020	Sludge Centrifuge	GR Grease	20200615	Scheduled
7/9/2020	International Dump Truck	Odometer Read	20200618	Scheduled
7/6/2020	#2 Screwpump	INSPBLT Inspect Belt	20200556	Scheduled
7/6/2020	#2 Screwpump	INSP Inspection	20200557	Scheduled
7/6/2020	#4 Screwpump	INSPBLT Inspect Belt	20200553	Scheduled
7/6/2020	#4 Screwpump	INSP Inspection	20200554	Scheduled
7/6/2020	#3 Screwpump	INSPBLT Inspect Belt	20200559	Scheduled
7/6/2020	#3 Screwpump	INSP Inspection	20200560	Scheduled
7/6/2020	North Screening Unit Motor	Inspect	20200563	Scheduled
7/6/2020	North Washer Compactor	PM Preventive Maintenance	20200564	Scheduled
7/6/2020	North Washer Compactor Motor	INSP Inspection	20200563	Scheduled

OWOSSO WWTP - MI0023752 - Inspections, Maintenance and Corrective Activities

Date Range: 7/1/2020 - 6/30/2021

7/6/2020	High Pressure Air System	Drain	20200600	Scheduled
7/6/2020	North Air Compressor	RPL Replace	20200570	Scheduled
7/6/2020	North Air Compressor	INSP Inspection	20200571	Scheduled
7/6/2020	South Air Compressor	INSP Inspection	20200574	Scheduled
7/6/2020	South Air Compressor	RPL Replace	20200573	Scheduled
7/6/2020	South Low Pressure Blower	Meter Read	20200572	Scheduled
7/6/2020	North Low Pressure Blower	Meter Read	20200572	Scheduled
7/6/2020	W. Rough. Tower Pump VFD	CLN Clean	20200594	Scheduled
7/6/2020	W. Rough. Tower Pump Motor	Clean and Inspect	20200593	Scheduled
7/6/2020	E. Rough. Tower Pump VFD	CLN Clean	20200584	Scheduled
7/6/2020	E. Rough. Tower Pump Motor	Clean and Inspect	20200583	Scheduled
7/6/2020	Tertiary Pump T3 Motor	Clean and Inspect	20200590	Scheduled
7/6/2020	Tertiary Pump T3 VFD	CLN Clean	20200591	Scheduled
7/6/2020	Tertiary Pump T2 VFD	CLN Clean	20200589	Scheduled
7/6/2020	Tertiary Pump T2 Motor	Clean and Inspect	20200588	Scheduled
7/6/2020	Tertiary Pump T1 Motor	Clean and Inspect	20200586	Scheduled
7/6/2020	Tertiary Pump T1 VFD	CLN Clean	20200587	Scheduled
7/6/2020	2 Ton Shop Crane	PM Preventive Maintenance	20200595	Scheduled
7/6/2020	15 Ton Bridge Crane	PM Preventive Maintenance	20200582	Scheduled
7/7/2020	Portable Gas Detector (X)	CAL Calibrate	20200520	Scheduled
7/7/2020	Portable Gas Detector (Y)	CAL Calibrate	20200521	Scheduled
7/10/2020	Filter 3	Troubleshoot and Repair	20200630	Corrective
7/9/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200620	Scheduled
7/9/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200621	Scheduled
7/9/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200619	Scheduled
7/14/2020	Oxidation Tower - South	GR Grease	20200599	Scheduled
7/14/2020	Oxidation Tower - Middle	GR Grease	20200597	Scheduled
7/14/2020	Oxidation Tower - Roughing	GR Grease	20200598	Scheduled
7/13/2020	North Air Compressor	OC Oil Change	20200635	Scheduled
7/13/2020	South Air Compressor	RC Replace Components	20200636	Scheduled
7/14/2020	Containment Room North LEL Detector	Verify	20200567	Scheduled
7/14/2020	Containment Room North H2S Detector	Verify	20200566	
7/14/2020	Containment Room South LEL Detector	Verify	20200569	Scheduled

OWOSSO WWTP - MI0023752 - Inspections, Maintenance and Corrective Activities

Date Range: 7/1/2020 - 6/30/2021

7/14/2020	Containment Room South H2S Detector	Verify	20200568	Scheduled
7/14/2020	Sludge Thickener South LEL Sensor	Verify	20200580	Scheduled
7/14/2020	Sludge Thickener North H2S Sensor	Verify	20200575	Scheduled
7/14/2020	Sludge Thickener South O2 Sensor	Verify	20200581	Scheduled
7/14/2020	Sludge Thickener North LEL Sensor	Verify	20200576	Scheduled
7/14/2020	Sludge Thickener South H2S Sensor	Verify	20200579	Scheduled
7/14/2020	Sludge Thickener North O2 Sensor	Verify	20200577	Scheduled
7/16/2020	#4 Screwpump	PM Preventive Maintenance	20200625	Scheduled
7/16/2020	#2 Screwpump	PM Preventive Maintenance	20200626	Scheduled
7/16/2020	#3 Screwpump	PM Preventive Maintenance	20200627	Scheduled
7/19/2020	Sludge Centrifuge	GR Grease	20200628	Scheduled
7/20/2020	Sludge Thickener Drive Motor	GR Grease	20200622	Scheduled
7/21/2020	International Dump Truck	Troubleshoot and Repair	20200631	Emergency
7/17/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200632	Scheduled
7/17/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200633	Scheduled
7/17/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200634	Scheduled
7/20/2020	East Process Water Tank	CLN Clean	20200638	Scheduled
7/21/2020	West Process Water Tank	CLN Clean	20200637	Scheduled
7/6/2020	W Int Clarifier Drive	GR Grease	20200623	Scheduled
7/6/2020	E Int Clarifier Drive	GR Grease	20200623	Scheduled
7/23/2020	#3 Screwpump Motor	PM Preventive Maintenance	20200617	Scheduled
7/23/2020	#2 Screwpump Motor	PM Preventive Maintenance	20200614	Scheduled
7/23/2020	#4 Screwpump Motor	PM Preventive Maintenance	20200613	Scheduled
7/23/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200602	Scheduled
7/23/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200644	Scheduled
7/23/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200646	Scheduled
7/9/2020	Intermediate Sludge Pump	Adjust	20200624	Corrective
7/23/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200645	Scheduled
7/23/2020	International Dump Truck	Odometer Read	20200629	Scheduled
7/23/2020	Sludge Centrifuge	GR Grease	20200642	Scheduled
7/23/2020	#4 Screwpump	PM Preventive Maintenance	20200639	Scheduled

OWOSSO WWTP - MI0023752 - Inspections, Maintenance and Corrective Activities

Date Range: 7/1/2020 - 6/30/2021

7/23/2020	#2 Screwpump	PM Preventive Maintenance	20200640	Scheduled
7/23/2020	#3 Screwpump	PM Preventive Maintenance	20200641	Scheduled
7/31/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200562	Scheduled
7/30/2020	#4 Screwpump	PM Preventive Maintenance	20200647	Scheduled
7/30/2020	#2 Screwpump	PM Preventive Maintenance	20200648	Scheduled
7/30/2020	#3 Screwpump	PM Preventive Maintenance	20200649	Scheduled
7/30/2020	Sludge Centrifuge	GR Grease	20200651	Scheduled
7/30/2020	International Dump Truck	Odometer Read	20200650	Scheduled
7/30/2020	Sludge Centrifuge	CLN Clean	20200657	Corrective
7/31/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200652	Scheduled
7/31/2020	Ad Bldg Lennox Heat Vent Air Cond.	PM Preventive Maintenance	20200528	Scheduled
7/31/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200654	Scheduled
7/31/2020	Sludge Thickener Drive	GR Grease	20200578	Scheduled
7/31/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200653	Scheduled
7/31/2020	North Primary Clarifier Drive Motor	GR Grease	20200710	Scheduled
7/31/2020	Ad Bldg Lennox Heat Vent Air Cond.	CLN Clean	20200711	Corrective
8/6/2020	International Dump Truck	Odometer Read	20200709	Scheduled
8/6/2020	Sludge Centrifuge	GR Grease	20200700	Scheduled
8/4/2020	Sludge Centrifuge	Troubleshoot and Repair	20200643	Corrective
8/6/2020	#2 Screwpump	PM Preventive Maintenance	20200663	Scheduled
8/6/2020	#4 Screwpump	PM Preventive Maintenance	20200660	Scheduled
8/6/2020	#3 Screwpump	PM Preventive Maintenance	20200666	Scheduled
8/6/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200712	Scheduled
8/6/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200713	Scheduled
8/6/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200715	Scheduled
8/10/2020	Axflocker Transfer Pump	Troubleshoot and Repair	20200727	Corrective
8/13/2020	#4 Screwpump	PM Preventive Maintenance	20200719	Scheduled
8/13/2020	#2 Screwpump	PM Preventive Maintenance	20200720	Scheduled
8/13/2020	#3 Screwpump	PM Preventive Maintenance	20200721	Scheduled
8/13/2020	International Dump Truck	Odometer Read	20200726	Scheduled
8/13/2020	Sludge Centrifuge	GR Grease	20200725	Scheduled
8/10/2020	Portable Gas Detector (Y)	CAL Calibrate	20200702	Scheduled
8/10/2020	Portable Gas Detector (X)	CAL Calibrate	20200701	Scheduled

8/6/2020	North Screening Unit Motor	Inspect	20200669	Scheduled
8/6/2020	North Washer Compactor	PM Preventive Maintenance	20200670	Scheduled
8/6/2020	North Washer Compactor Motor	INSP Inspection	20200669	Scheduled
8/5/2020	E. Rough. Tower Pump VFD	CLN Clean	20200689	Scheduled
8/5/2020	Tertiary Pump T1 VFD	CLN Clean	20200691	Scheduled
8/5/2020	Tertiary Pump T2 VFD	CLN Clean	20200693	Scheduled
8/5/2020	Tertiary Pump T3 VFD	CLN Clean	20200695	Scheduled
8/5/2020	W. Rough. Tower Pump VFD	CLN Clean	20200697	Scheduled
8/5/2020	Electrical Backup Generator	PM Preventive Maintenance	20200609	Scheduled
8/4/2020	#4 Screwpump	INSPBLT Inspect Belt	20200658	Scheduled
8/4/2020	#4 Screwpump	INSP Inspection	20200659	Scheduled
8/4/2020	#2 Screwpump	INSPBLT Inspect Belt	20200661	Scheduled
8/4/2020	#2 Screwpump	INSP Inspection	20200662	Scheduled
8/4/2020	#3 Screwpump	INSPBLT Inspect Belt	20200664	Scheduled
8/4/2020	#3 Screwpump	INSP Inspection	20200665	Scheduled
8/3/2020	Bisulfite Meter Pump #1 West	Replace Tubing	20200708	Scheduled
8/3/2020	Bisulfite Meter Pump #2 East	Replace Tubing	20200708	Scheduled
8/3/2020	#1 Hypochlorite Meter Pump	Replace Tubing	20200708	Scheduled
8/3/2020	#2 Hypochlorite Meter Pump	Replace Tubing	20200708	Scheduled
8/3/2020	#3 Hypochlorite Meter Pump	Replace Tubing	20200708	Scheduled
8/3/2020	Backwash Tank Hypo Trans Pump	Replace Tubing	20200708	Scheduled
8/3/2020	Ferric Chloride Meter Pump	Replace Tubing	20200708	Scheduled
8/4/2020	Washer Compactor Motor	INSP Inspection	20200565	Scheduled
8/4/2020	Washer Compactor	PM Preventive Maintenance	20200564	Scheduled
8/4/2020	South Screening Unit Motor	Inspect Motor	20200565	Scheduled
8/3/2020	2 Ton Shop Crane	PM Preventive Maintenance	20200699	Scheduled
8/3/2020	15 Ton Bridge Crane	PM Preventive Maintenance	20200686	Scheduled
8/3/2020	North Low Pressure Blower	Meter Read	20200677	Scheduled
8/3/2020	South Low Pressure Blower	Meter Read	20200677	Scheduled
8/3/2020	High Pressure Air System	Drain	20200706	Scheduled
7/27/2020	Sludge Centrifuge	RC Replace Components	20200655	Corrective
8/5/2020	International Dump Truck	Troubleshoot and Repair	20200733	
8/11/2020	International Dump Truck	INSP Inspection	20200716	Inspect
8/20/2020	International Dump Truck	Odometer Read	20200728	Scheduled

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8/20/2020	#3 Screwpump	PM Preventive Maintenance	20200730	Scheduled
8/20/2020	#2 Screwpump	PM Preventive Maintenance	20200731	Scheduled
8/20/2020	#4 Screwpump	PM Preventive Maintenance	20200732	Scheduled
8/20/2020	Sludge Centrifuge	GR Grease	20200729	Scheduled
8/24/2020	Tertiary Pump T3 Motor	Clean and Inspect	20200694	Scheduled
8/24/2020	Tertiary Pump T2 Motor	Clean and Inspect	20200692	Scheduled
8/24/2020	Tertiary Pump T1 Motor	Clean and Inspect	20200690	Scheduled
8/24/2020	E. Rough. Tower Pump Motor	Clean and Inspect	20200688	Scheduled
8/24/2020	W. Rough. Tower Pump Motor	Clean and Inspect	20200696	Scheduled
8/20/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200724	Scheduled
8/20/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200723	Scheduled
8/20/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200722	Scheduled
8/27/2020	#3 Screwpump	PM Preventive Maintenance	20200736	Scheduled
8/27/2020	#2 Screwpump	PM Preventive Maintenance	20200735	Scheduled
8/27/2020	#4 Screwpump	PM Preventive Maintenance	20200734	Scheduled
8/27/2020	Sludge Centrifuge	GR Grease	20200737	Scheduled
8/28/2020	International Dump Truck	Odometer Read	20200738	Scheduled
8/27/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200743	Scheduled
8/27/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200739	Scheduled
8/27/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200667	Scheduled
8/27/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200740	Scheduled
8/27/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200668	Scheduled
8/27/2020	Sludge Thickener Drive	GR Grease	20200714	Scheduled
8/19/2020	West Main Transformer	SVC Service	20200397	Scheduled
9/4/2020	International Dump Truck	Odometer Read	20200794	Scheduled
9/4/2020	Sludge Centrifuge	GR Grease	20200787	Scheduled
9/3/2020	#4 Screwpump	PM Preventive Maintenance	20200747	Scheduled
9/3/2020	#2 Screwpump	PM Preventive Maintenance	20200750	Scheduled
9/3/2020	#3 Screwpump	PM Preventive Maintenance	20200753	Scheduled
9/1/2020	South Primary Clarifier	PM Preventive Maintenance	20200127	Scheduled
9/2/2020	Tertiary Pump T3 VFD	CLN Clean	20200783	Scheduled
9/2/2020	Tertiary Pump T2 VFD	CLN Clean	20200781	Scheduled
9/2/2020	Tertiary Pump T1 VFD	CLN Clean	20200779	Scheduled
9/2/2020	E. Rough. Tower Pump VFD	CLN Clean	20200777	Scheduled
9/2/2020	W. Rough. Tower Pump VFD	CLN Clean	20200785	Scheduled

9/2/2020	#4 Screwpump	INSPBLT Inspect Belt	20200745	Scheduled
9/2/2020	#4 Screwpump	INSP Inspection	20200746	Scheduled
9/2/2020	#2 Screwpump	INSPBLT Inspect Belt	20200748	Scheduled
9/2/2020	#2 Screwpump	INSP Inspection	20200749	Scheduled
9/2/2020	#3 Screwpump	INSPBLT Inspect Belt	20200751	Scheduled
9/2/2020	#3 Screwpump	INSP Inspection	20200752	Scheduled
9/2/2020	North Low Pressure Blower	Meter Read	20200766	Scheduled
9/2/2020	South Low Pressure Blower	Meter Read	20200766	Scheduled
9/2/2020	High Pressure Air System	Drain	20200792	Scheduled
9/2/2020	South Air Compressor	INSP Inspection	20200679	Scheduled
9/2/2020	South Air Compressor	RPL Replace	20200678	Scheduled
9/2/2020	15 Ton Bridge Crane	PM Preventive Maintenance	20200775	Scheduled
9/2/2020	2 Ton Shop Crane	PM Preventive Maintenance	20200786	Scheduled
9/2/2020	Ferric Chloride Meter Pump	Replace Tubing	20200795	Scheduled
9/2/2020	Backwash Tank Hypo Trans Pump	Replace Tubing	20200795	Scheduled
9/2/2020	#2 Hypochlorite Meter Pump	Replace Tubing	20200795	Scheduled
9/2/2020	#1 Hypochlorite Meter Pump	Replace Tubing	20200795	Scheduled
9/2/2020	Bisulfite Meter Pump #1 West	Replace Tubing	20200795	Scheduled
9/2/2020	Bisulfite Meter Pump #2 East	Replace Tubing	20200795	Scheduled
9/2/2020	#3 Hypochlorite Meter Pump	Replace Tubing	20200795	Scheduled
9/2/2020	E Int Clarifier Drive	GR Grease	20200793	Scheduled
9/2/2020	W Int Clarifier Drive	GR Grease	20200793	Scheduled
8/21/2020	South Screening Unit	SVC Service	20200761	Scheduled
9/2/2020	Washer Compactor	PM Preventive Maintenance	20200760	Scheduled
9/2/2020	Tertiary Pump T2 Motor	Clean and Inspect	20200780	Scheduled
9/2/2020	Tertiary Pump T1 Motor	Clean and Inspect	20200778	Scheduled
9/2/2020	Tertiary Pump T3 Motor	Clean and Inspect	20200782	Scheduled
9/2/2020	W. Rough. Tower Pump Motor	Clean and Inspect	20200784	Scheduled
9/2/2020	E. Rough. Tower Pump Motor	Clean and Inspect	20200776	Scheduled
8/25/2020	Main Plant Building	INSP Inspection	20200522	Scheduled
8/25/2020	Administration Building	INSP Inspection	20200522	Scheduled
9/3/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200771	Scheduled
9/10/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200755	Scheduled
9/3/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200756	Scheduled

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9/11/2020	Sludge Centrifuge	GR Grease	20200804	Scheduled
9/9/2020	South Scum Well	CLN Clean	20200445	Scheduled
9/10/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200808	Scheduled
9/10/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200809	Scheduled
9/9/2020	Sludge Centrifuge	CLN Clean	20200812	Corrective
9/10/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200811	Scheduled
9/10/2020	#3 Screwpump	PM Preventive Maintenance	20200798	Scheduled
9/10/2020	#2 Screwpump	PM Preventive Maintenance	20200797	Scheduled
9/10/2020	#4 Screwpump	PM Preventive Maintenance	20200796	Scheduled
9/10/2020	International Dump Truck	Odometer Read	20200806	Scheduled
9/10/2020	North Screening Unit Motor	Inspect	20200759	Scheduled
9/10/2020	North Washer Compactor	WSH Thoroughly wash	20200742	Scheduled
9/10/2020	North Washer Compactor Motor	INSP Inspection	20200759	Scheduled
9/10/2020	North Washer Compactor	PM Preventive Maintenance	20200760	Scheduled
9/17/2020	Sludge Centrifuge	GR Grease	20200821	Scheduled
9/17/2020	International Dump Truck	Odometer Read	20200822	Scheduled
9/17/2020	#3 Screwpump	PM Preventive Maintenance	20200815	Scheduled
9/17/2020	#4 Screwpump	PM Preventive Maintenance	20200813	Scheduled
9/17/2020	#2 Screwpump	PM Preventive Maintenance	20200814	Scheduled
9/21/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200810	Scheduled
9/22/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200799	Scheduled
9/22/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200825	Scheduled
9/18/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200820	Scheduled
9/18/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200817	Scheduled
9/18/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200818	Scheduled
9/24/2020	International Dump Truck	Odometer Read	20200824	Scheduled
9/25/2020	Sludge Centrifuge	GR Grease	20200823	Scheduled
9/24/2020	Oxidation Tower - Roughing	GR Grease	20200704	Scheduled
9/24/2020	Oxidation Tower - South	GR Grease	20200705	Scheduled
9/25/2020	Oxidation Tower - Middle	GR Grease	20200703	Scheduled
10/2/2020	International Dump Truck	Odometer Read	20200831	Scheduled
10/1/2020	Sludge Centrifuge	GR Grease	20200830	Scheduled
9/18/2020	Electrical Backup Generator	PM Preventive Maintenance	20200791	Scheduled
9/22/2020	Portable Gas Detector (Y)	CAL Calibrate	20200789	Scheduled
9/22/2020	Portable Gas Detector (X)	CAL Calibrate	20200788	Scheduled

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9/22/2020	Sludge Thickener South O2 Sensor	CAL Calibrate	20200685	Scheduled
9/22/2020	Sludge Thickener South LEL Sensor	CAL Calibrate	20200684	Scheduled
9/22/2020	Sludge Thickener South H2S Sensor	CAL Calibrate	20200683	Scheduled
9/22/2020	Sludge Thickener North O2 Sensor	CAL Calibrate	20200682	Scheduled
9/22/2020	Sludge Thickener North LEL Sensor	CAL Calibrate	20200681	Scheduled
9/22/2020	Sludge Thickener North H2S Sensor	CAL Calibrate	20200680	Scheduled
9/22/2020	Containment Room North H2S Detector	CAL Calibrate	20200671	Scheduled
9/22/2020	Containment Room North LEL Detector	CAL Calibrate	20200672	Scheduled
9/22/2020	Containment Room South H2S Detector	CAL Calibrate	20200673	Scheduled
9/22/2020	Containment Room South LEL Detector	CAL Calibrate	20200674	Scheduled
9/22/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200757	Scheduled
9/25/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200827	Scheduled
9/22/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200816	Scheduled
9/25/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200828	Scheduled
9/25/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200829	Scheduled
9/22/2020	Sludge Thickener Drive	GR Grease	20200819	Scheduled
10/2/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200886	Scheduled
10/2/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200888	Scheduled
10/2/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200887	Scheduled
10/8/2020	Ad Bldg Lennox Heat Vent Air Cond.	PM Preventive Maintenance	20200790	Scheduled
10/6/2020	Administration Building	INSP Inspection	20200879	Scheduled
10/7/2020	2 Ton Shop Crane	PM Preventive Maintenance	20200867	Scheduled
10/8/2020	North Low Pressure Blower	Meter Read	20200845	Scheduled
10/8/2020	South Low Pressure Blower	Meter Read	20200845	Scheduled
10/8/2020	High Pressure Air System	Drain	20200875	Scheduled
10/6/2020	15 Ton Bridge Crane	PM Preventive Maintenance	20200854	Scheduled
10/9/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200891	Scheduled
10/9/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200890	Scheduled

10/10/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200889	Scheduled
10/9/2020	#3 Hypochlorite Meter Pump	Replace Tubing	20200878	Scheduled
10/9/2020	Bisulfite Meter Pump #1 West	Replace Tubing	20200878	Scheduled
10/9/2020	Bisulfite Meter Pump #2 East	Replace Tubing	20200878	Scheduled
10/9/2020	#1 Hypochlorite Meter Pump	Replace Tubing	20200878	Scheduled
10/9/2020	#2 Hypochlorite Meter Pump	Replace Tubing	20200878	Scheduled
10/9/2020	Backwash Tank Hypo Trans Pump	Replace Tubing	20200878	Scheduled
10/9/2020	Ferric Chloride Meter Pump	Replace Tubing	20200878	Scheduled
10/8/2020	W. Rough. Tower Pump VFD	CLN Clean	20200866	Scheduled
10/8/2020	E. Rough. Tower Pump VFD	CLN Clean	20200856	Scheduled
10/8/2020	Tertiary Pump T1 VFD	CLN Clean	20200859	Scheduled
10/8/2020	Tertiary Pump T2 VFD	CLN Clean	20200861	Scheduled
10/8/2020	Tertiary Pump T3 VFD	CLN Clean	20200863	Scheduled
10/8/2020	South Air Compressor	RPL Replace	20200846	Scheduled
10/8/2020	South Air Compressor	INSP Inspection	20200847	Scheduled
10/9/2020	International Dump Truck	Odometer Read	20200877	Scheduled
10/9/2020	Sludge Centrifuge	GR Grease	20200868	Scheduled
10/15/2020	Sludge Centrifuge	GR Grease	20200901	Scheduled
10/15/2020	International Dump Truck	Odometer Read	20200902	Scheduled
10/16/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200892	Scheduled
10/16/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200893	Scheduled
10/16/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200895	Scheduled
10/21/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200908	Scheduled
10/21/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200907	Scheduled
10/21/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200906	Scheduled
10/22/2020	International Dump Truck	Odometer Read	20200905	Scheduled
9/22/2020	International Dump Truck	OC Oil Change	20200876	Scheduled
10/22/2020	Sludge Centrifuge	GR Grease	20200904	Scheduled
10/21/2020	Oxidation Tower - South	GR Grease	20200873	Scheduled
10/21/2020	Oxidation Tower - Middle	GR Grease	20200871	Scheduled
10/21/2020	Oxidation Tower - Roughing	GR Grease	20200872	Scheduled
10/6/2020	Filter 1	CLN Clean	20200932	Corrective
10/26/2020	RT Well Level Sensor	PM Preventive Maintenance	20200857	Scheduled
10/26/2020	Tertiary Well Level Sensor	PM Preventive Maintenance	20200864	Scheduled

10/21/2020	E Int Clarifier Drive	RC Replace Components	20200921	Corrective
9/18/2020	West Intermediate Clarifier	Clean and Inspect	20200918	Scheduled
10/16/2020	East Intermediate Clarifier	Clean and Inspect	20200917	Scheduled
10/28/2020	Portable Gas Detector (X)	CAL Calibrate	20200869	Scheduled
10/28/2020	Portable Gas Detector (Y)	CAL Calibrate	20200870	Scheduled
10/26/2020	W. Rough. Tower Pump Motor	GR Grease	20200916	Scheduled
10/26/2020	Tertiary Pump T2 Motor	GR Grease	20200915	Scheduled
10/27/2020	Sludge Thickener South H2S Sensor	Verify	20200929	Scheduled
10/27/2020	Sludge Thickener North H2S Sensor	Verify	20200926	Scheduled
10/27/2020	Sludge Thickener South LEL Sensor	Verify	20200930	Scheduled
10/27/2020	Sludge Thickener South O2 Sensor	Verify	20200931	Scheduled
10/27/2020	Sludge Thickener North O2 Sensor	Verify	20200928	Scheduled
10/27/2020	Sludge Thickener North LEL Sensor	Verify	20200927	Scheduled
10/27/2020	Containment Room North LEL Detector	Verify	20200925	Scheduled
10/27/2020	Containment Room North H2S Detector	Verify	20200924	
10/28/2020	Tertiary Pump T2 Motor	OC Oil Change	20200915	Scheduled
10/28/2020	W. Rough. Tower Pump Motor	OC Oil Change	20200916	Scheduled
10/28/2020	E. Rough. Tower Pump Motor	OC Oil Change	20200914	Scheduled
10/28/2020	E. Rough. Tower Pump Motor	GR Grease	20200914	Scheduled
10/29/2020	International Dump Truck	Odometer Read	20200913	Scheduled
10/29/2020	Sludge Centrifuge	GR Grease	20200912	Scheduled
10/29/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200909	Scheduled
10/29/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200880	Scheduled
10/29/2020	Sludge Thickener Drive	GR Grease	20200884	Scheduled
10/29/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200911	Scheduled
10/29/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200883	Scheduled
10/29/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200910	Scheduled
11/5/2020	Sludge Centrifuge	GR Grease	20200962	Scheduled
11/5/2020	International Dump Truck	Odometer Read	20200971	Scheduled
11/2/2020	North Air Compressor	INSP Inspection	20200676	Scheduled

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11/2/2020	North Air Compressor	RPL Replace	20200675	Scheduled
11/3/2020	Sludge Thickener Drive Motor	GR Grease	20200903	Scheduled
11/3/2020	2 Ton Shop Crane	PM Preventive Maintenance	20200960	Scheduled
11/3/2020	15 Ton Bridge Crane	PM Preventive Maintenance	20200954	Scheduled
11/3/2020	Tertiary Pump T3 VFD	CLN Clean	20200958	Scheduled
11/3/2020	Tertiary Pump T3 Motor	Clean and Inspect	20200862	Scheduled
11/3/2020	Tertiary Pump T1 VFD	CLN Clean	20200956	Scheduled
11/3/2020	E. Rough. Tower Pump VFD	CLN Clean	20200955	Scheduled
11/3/2020	W. Rough. Tower Pump VFD	CLN Clean	20200959	Scheduled
11/3/2020	South Low Pressure Blower	Meter Read	20200943	Scheduled
11/3/2020	North Low Pressure Blower	Meter Read	20200943	Scheduled
11/3/2020	South Air Compressor	RPL Replace	20200944	Scheduled
11/3/2020	South Air Compressor	INSP Inspection	20200945	Scheduled
11/3/2020	High Pressure Air System	Drain	20200969	Scheduled
11/3/2020	W Int Clarifier Drive	GR Grease	20200970	Scheduled
11/3/2020	E Int Clarifier Drive	GR Grease	20200970	Scheduled
11/3/2020	Ad Bldg Lennox Heat Vent Air Cond.	PM Preventive Maintenance	20200965	Scheduled
11/5/2020	Ferric Chloride Meter Pump	Replace Tubing	20200972	Scheduled
11/5/2020	Bisulfite Meter Pump #2 East	Replace Tubing	20200972	Scheduled
11/5/2020	Bisulfite Meter Pump #1 West	Replace Tubing	20200972	Scheduled
11/5/2020	Backwash Tank Hypo Trans Pump	Replace Tubing	20200972	Scheduled
11/5/2020	#3 Hypochlorite Meter Pump	Replace Tubing	20200972	Scheduled
11/5/2020	#2 Hypochlorite Meter Pump	Replace Tubing	20200972	Scheduled
11/5/2020	#1 Hypochlorite Meter Pump	Replace Tubing	20200972	Scheduled
11/6/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200935	Scheduled
11/2/2020	North Primary Clarifier Drive Motor	GR Grease	20200936	Scheduled
11/6/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200937	Scheduled
11/6/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200950	Scheduled
10/26/2020	E. Rough. Tower Pump Motor	Clean and Inspect	20200855	Scheduled
10/26/2020	W. Rough. Tower Pump Motor	Clean and Inspect	20200865	Scheduled
10/26/2020	Tertiary Pump T1 Motor	Clean and Inspect	20200858	Scheduled
10/26/2020	Tertiary Pump T2 Motor	Clean and Inspect	20200860	Scheduled
11/13/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200974	Scheduled

11/13/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200977	Scheduled
11/13/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200973	Scheduled
11/12/2020	Sludge Centrifuge	GR Grease	20200980	Scheduled
11/12/2020	International Dump Truck	Odometer Read	20200983	Scheduled
11/3/2020	E. Rough. Tower Pump Motor	Clean and Inspect	20200984	Scheduled
11/3/2020	W. Rough. Tower Pump Motor	Clean and Inspect	20200987	Scheduled
11/3/2020	Tertiary Pump T1 Motor	Clean and Inspect	20200985	Scheduled
11/3/2020	Tertiary Pump T2 Motor	Clean and Inspect	20200986	Scheduled
11/10/2020	Electrical Backup Generator	PM Preventive Maintenance	20200874	Scheduled
11/11/2020	BioTriad Odor Control Unit	PM Preventive Maintenance	20200979	Scheduled
10/30/2020	Roughing Tower Blower	remove blower motor and put away for the winter	20200981	Scheduled
11/11/2020	Ariens Snow Blower	PM Preventive Maintenance	20200805	Scheduled
11/6/2020	Godwin 8" Pump	PM Preventive Maintenance	20200961	Scheduled
10/29/2020	Effluent Sampler Controller	Troubleshoot and Repair	20200989	Corrective
11/19/2020	Sludge Centrifuge	GR Grease	20200998	Scheduled
11/19/2020	International Dump Truck	Odometer Read	20201000	Scheduled
11/17/2020	Process Water System	RC Replace Components	20200988	Corrective
11/19/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200994	Scheduled
11/19/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200995	Scheduled
11/19/2020	Sludge Thickener Drive	PM Preventive Maintenance	20200997	Scheduled
11/20/2020	North Washer Compactor	GR Grease	20200996	Scheduled
11/5/2020	North Scum Pump	Troubleshoot and Repair	20200991	Corrective
11/17/2020	Sludge Thickener South H2S Sensor	Verify	20200951	Scheduled
11/17/2020	Sludge Thickener South O2 Sensor	Verify	20200953	Scheduled
11/17/2020	Sludge Thickener South LEL Sensor	Verify	20200952	Scheduled
11/17/2020	Containment Room North LEL Detector	Verify	20200940	Scheduled
11/17/2020	Containment Room North H2S Detector	Verify	20200939	
11/17/2020	Sludge Thickener North LEL Sensor	Verify	20200947	Scheduled
11/17/2020	Sludge Thickener North H2S Sensor	Verify	20200946	Scheduled
11/17/2020	Sludge Thickener North O2 Sensor	Verify	20200948	Scheduled

11/3/2020	South Low Pressure Blower	PM Preventive Maintenance	20200894	Scheduled
11/3/2020	North Low Pressure Blower	PM Preventive Maintenance	20200894	Scheduled
11/24/2020	Sodium Hypochlorite Feed System	CLN Clean	20200826	Scheduled
11/25/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20200934	Scheduled
11/25/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20201001	Scheduled
11/25/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20200938	Scheduled
11/25/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20201002	Scheduled
11/25/2020	Sludge Thickener Drive	GR Grease	20200949	Scheduled
11/25/2020	Sludge Thickener Drive	PM Preventive Maintenance	20201003	Scheduled
11/25/2020	Dewatering Pump 4"	INSP Inspection	20200111	Inspect
11/25/2020	International Dump Truck	Odometer Read	20201005	Scheduled
11/12/2020	Intermediate Sludge Pump	RC Replace Components	20200992	Corrective
11/26/2020	Sludge Centrifuge	GR Grease	20201004	Scheduled
12/3/2020	International Dump Truck	Odometer Read	20201009	Scheduled
12/3/2020	Sludge Centrifuge	GR Grease	20201008	Scheduled
12/1/2020	Tertiary Pump T1 VFD	CLN Clean	20201033	Scheduled
12/1/2020	Tertiary Pump T2 VFD	CLN Clean	20200957	Scheduled
12/1/2020	Tertiary Pump T3 VFD	CLN Clean	20201036	Scheduled
12/1/2020	W. Rough. Tower Pump VFD	CLN Clean	20201038	Scheduled
12/1/2020	E. Rough. Tower Pump VFD	CLN Clean	20201031	Scheduled
12/1/2020	High Pressure Air System	Drain	20201041	Scheduled
12/1/2020	2 Ton Shop Crane	PM Preventive Maintenance	20201039	Scheduled
12/1/2020	Ferric Chloride Meter Pump	Replace Tubing	20201042	Scheduled
12/1/2020	Bisulfite Meter Pump #2 East	Replace Tubing	20201042	Scheduled
12/1/2020	Bisulfite Meter Pump #1 West	Replace Tubing	20201042	Scheduled
12/1/2020	#3 Hypochlorite Meter Pump	Replace Tubing	20201042	Scheduled
12/1/2020	#2 Hypochlorite Meter Pump	Replace Tubing	20201042	Scheduled
12/1/2020	#1 Hypochlorite Meter Pump	Replace Tubing	20201042	Scheduled
12/1/2020	Backwash Tank Hypo Trans Pump	Replace Tubing	20201042	Scheduled
12/1/2020	North Air Compressor	RPL Replace	20201017	Scheduled
12/1/2020	South Air Compressor	RPL Replace	20201020	Scheduled
12/1/2020	South Air Compressor	INSP Inspection	20201021	Scheduled
12/1/2020	North Air Compressor	INSP Inspection	20201018	Scheduled
12/1/2020	North Low Pressure Blower	Meter Read	20201019	Scheduled

12/1/2020	South Low Pressure Blower	Meter Read	20201019	Scheduled
12/1/2020	15 Ton Bridge Crane	PM Preventive Maintenance	20201029	Scheduled
12/1/2020	Ad Bldg Lennox Heat Vent Air Cond.	PM Preventive Maintenance	20201040	Scheduled
12/3/2020	E. Rough. Tower Pump Motor	Clean and Inspect	20201030	Scheduled
12/3/2020	W. Rough. Tower Pump Motor	Clean and Inspect	20201037	Scheduled
12/3/2020	Tertiary Pump T1 Motor	Clean and Inspect	20201032	Scheduled
12/3/2020	Tertiary Pump T2 Motor	Clean and Inspect	20201034	Scheduled
12/3/2020	Tertiary Pump T3 Motor	Clean and Inspect	20201035	Scheduled
12/2/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20201007	Scheduled
12/3/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20201006	Scheduled
12/2/2020	Sludge Thickener Drive	PM Preventive Maintenance	20201010	Scheduled
12/10/2020	Sludge Centrifuge	GR Grease	20201045	Scheduled
12/10/2020	International Dump Truck	Odometer Read	20201046	Scheduled
12/10/2020	Sludge Thickener Drive	PM Preventive Maintenance	20201049	Scheduled
12/10/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20201048	Scheduled
12/10/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20201047	Scheduled
12/14/2020	Sludge Thickener South O2 Sensor	CAL Calibrate	20201028	Scheduled
12/14/2020	Sludge Thickener South LEL Sensor	CAL Calibrate	20201027	Scheduled
12/14/2020	Sludge Thickener South H2S Sensor	CAL Calibrate	20201026	Scheduled
12/14/2020	Sludge Thickener North O2 Sensor	CAL Calibrate	20201024	Scheduled
12/14/2020	Sludge Thickener North LEL Sensor	CAL Calibrate	20201023	Scheduled
12/14/2020	Sludge Thickener North H2S Sensor	CAL Calibrate	20201022	Scheduled
12/14/2020	Containment Room North LEL Detector	CAL Calibrate	20201014	Scheduled
12/14/2020	Containment Room North H2S Detector	CAL Calibrate	20201013	Scheduled
12/17/2020	International Dump Truck	Odometer Read	20201051	Scheduled
12/23/2020	International Dump Truck	Odometer Read	20201055	Scheduled
12/17/2020	Sludge Centrifuge	GR Grease	20201050	Scheduled
12/23/2020	Sludge Centrifuge	GR Grease	20201056	Scheduled
12/18/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20201052	Scheduled
12/18/2020	Sludge Thickener Drive	PM Preventive Maintenance	20201054	Scheduled

12/18/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20201053	Scheduled
12/16/2020	North Screening Unit	Insulate	20200838	Scheduled
11/26/2020	Oxidation Tower - Middle	GR Grease	20200966	Scheduled
11/26/2020	Oxidation Tower - Roughing	GR Grease	20200967	Scheduled
11/26/2020	Oxidation Tower - South	GR Grease	20200968	Scheduled
12/18/2020	Oxidation Tower - South	GR Grease	20201059	Scheduled
12/18/2020	Oxidation Tower - Middle	GR Grease	20201057	Scheduled
12/18/2020	Oxidation Tower - Roughing	GR Grease	20201058	Scheduled
12/22/2020	Electrical Backup Generator	PM Preventive Maintenance	20201060	Scheduled
12/30/2020	Sludge Centrifuge	GR Grease	20201064	Scheduled
12/30/2020	International Dump Truck	Odometer Read	20201065	Scheduled
12/23/2020	Sludge Thickener Drive	GR Grease	20201025	Scheduled
12/23/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20201012	Scheduled
12/23/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20201011	Scheduled
12/23/2020	Sludge Thickener Drive	PM Preventive Maintenance	20201063	Scheduled
12/23/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20201061	Scheduled
12/23/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20201062	Scheduled
12/30/2020	Sludge Thickener Drive	PM Preventive Maintenance	20201070	Scheduled
12/30/2020	North Primary Clarifier Drive	PM Preventive Maintenance	20201068	Scheduled
12/30/2020	South Primary Clarifier Drive	PM Preventive Maintenance	20201069	Scheduled
1/7/2021	Sludge Centrifuge	GR Grease	20201067	Scheduled
1/7/2021	International Dump Truck	Odometer Read	20201066	Scheduled
1/8/2021	South Primary Clarifier Drive	PM Preventive Maintenance	20201073	Scheduled
1/8/2021	North Primary Clarifier Drive	PM Preventive Maintenance	20201072	Scheduled
1/8/2021	Sludge Thickener Drive	PM Preventive Maintenance	20201074	Scheduled
1/14/2021	Sludge Thickener Drive	GR Grease	20201089	Scheduled
1/14/2021	South Primary Clarifier Drive	PM Preventive Maintenance	20201076	Scheduled
1/14/2021	North Primary Clarifier Drive	PM Preventive Maintenance	20201075	Scheduled
1/4/2021	Sludge Thickener North O2 Sensor	RC Replace Components	20201071	Corrective
1/11/2021	Ad Bldg Lennox Heat Vent Air Cond.	PM Preventive Maintenance	20201106	Scheduled
1/11/2021	W. Rough. Tower Pump VFD	CLN Clean	20201103	Scheduled
1/11/2021	W. Rough. Tower Pump Motor	Clean and Inspect	20201102	Scheduled
1/11/2021	Tertiary Pump T3 VFD	CLN Clean	20201101	Scheduled
1/11/2021	Tertiary Pump T3 Motor	Clean and Inspect	20201100	Scheduled

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1/11/2021	Tertiary Pump T2 VFD	CLN Clean	20201099	Scheduled
1/11/2021	Tertiary Pump T2 Motor	Clean and Inspect	20201098	Scheduled
1/11/2021	Tertiary Pump T1 VFD	CLN Clean	20201097	Scheduled
1/11/2021	Tertiary Pump T1 Motor	Clean and Inspect	20201096	Scheduled
1/11/2021	E. Rough. Tower Pump VFD	CLN Clean	20201095	Scheduled
1/11/2021	E. Rough. Tower Pump Motor	Clean and Inspect	20201094	Scheduled
1/8/2021	Tertiary Pump T-2	RC Replace Components	20210001	Corrective
1/7/2021	South Air Compressor	INSP Inspection	20201084	Scheduled
1/7/2021	South Air Compressor	RPL Replace	20201083	Scheduled
1/8/2021	South Air Compressor	RC Replace Components	20210002	Corrective
1/7/2021	High Pressure Air System	Drain	20201111	Scheduled
1/7/2021	North Air Compressor	INSP Inspection	20201081	Scheduled
1/7/2021	North Air Compressor	RPL Replace	20201080	Scheduled
1/7/2021	2 Ton Shop Crane	PM Preventive Maintenance	20201104	Scheduled
1/7/2021	15 Ton Bridge Crane	PM Preventive Maintenance	20201093	Scheduled
1/7/2021	North Low Pressure Blower	Meter Read	20201082	Scheduled
1/7/2021	South Low Pressure Blower	PM Preventive Maintenance	20201043	Scheduled
1/6/2021	Ferric Chloride Meter Pump	Replace Tubing	20201113	Scheduled
1/6/2021	Bisulfite Meter Pump #2 East	Replace Tubing	20201113	Scheduled
1/6/2021	Bisulfite Meter Pump #1 West	Replace Tubing	20201113	Scheduled
1/6/2021	Backwash Tank Hypo Trans Pump	Replace Tubing	20201113	Scheduled
1/6/2021	#3 Hypochlorite Meter Pump	Replace Tubing	20201113	Scheduled
1/6/2021	#2 Hypochlorite Meter Pump	Replace Tubing	20201113	Scheduled
1/6/2021	#1 Hypochlorite Meter Pump	Replace Tubing	20201113	Scheduled
11/23/2020	Main Plant Building	INSP Inspection	20200879	Scheduled
11/30/2020	Main Plant Building	INSP Inspection	20200982	Scheduled
11/23/2020	Main Plant Building	GRPR General Repair	20201200	Corrective
11/1/2020	Sludge Centrifuge	Troubleshoot and Repair	20200933	
12/16/2020	South Scum Pump	CLN Clean	20201203	Corrective
12/16/2020	North Scum Pump	CLN Clean	20201201	Corrective
1/15/2021	International Dump Truck	Odometer Read	20210007	Scheduled
1/15/2021	Sludge Centrifuge	GR Grease	20210006	Scheduled
1/14/2021	North Primary Clarifier Drive	PM Preventive Maintenance	20210003	Scheduled
1/14/2021	South Primary Clarifier Drive	PM Preventive Maintenance	20210004	Scheduled

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1/14/2021	Sludge Thickener Drive	PM Preventive Maintenance	20210005	Scheduled
1/22/2021	Electrical Backup Generator	PM Preventive Maintenance	20201110	Scheduled
1/22/2021	International Dump Truck	Odometer Read	20210009	Scheduled
1/22/2021	Sludge Centrifuge	GR Grease	20210008	Scheduled
1/19/2021	Oxidation Tower - South	GR Grease	20201109	Scheduled
1/19/2021	Oxidation Tower - Roughing	GR Grease	20201108	Scheduled
1/19/2021	Oxidation Tower - Middle	GR Grease	20201107	Scheduled
1/19/2021	Containment Room North H2S Detector	Verify	20201078	
1/19/2021	Containment Room North LEL Detector	Verify	20201079	Scheduled
1/19/2021	Sludge Thickener South O2 Sensor	Verify	20201092	Scheduled
1/19/2021	Sludge Thickener North O2 Sensor	Verify	20201087	Scheduled
1/19/2021	Sludge Thickener North LEL Sensor	Verify	20201086	Scheduled
1/19/2021	Sludge Thickener South LEL Sensor	Verify	20201091	Scheduled
1/19/2021	Sludge Thickener North H2S Sensor	Verify	20201085	Scheduled
1/19/2021	Sludge Thickener South H2S Sensor	Verify	20201090	Scheduled
12/4/2020	Portable Gas Detector (Y)	CAL Calibrate	20210020	Scheduled
12/4/2020	Portable Gas Detector (X)	CAL Calibrate	20210019	Scheduled
1/25/2021	Portable Gas Detector (Y)	CAL Calibrate	20210022	Scheduled
1/21/2021	Portable Gas Detector (X)	CAL Calibrate	20210021	Scheduled
1/26/2021	Sludge Thickener South H2S Sensor	Troubleshoot and Repair	20210023	Corrective
1/22/2021	Sludge Thickener Drive	PM Preventive Maintenance	20210012	Scheduled
1/22/2021	North Primary Clarifier Drive	PM Preventive Maintenance	20210010	Scheduled
1/22/2021	South Primary Clarifier Drive	PM Preventive Maintenance	20210011	Scheduled
1/29/2021	RT Well Level Sensor	PM Preventive Maintenance	20210015	Scheduled
1/29/2021	Tertiary Well Level Sensor	PM Preventive Maintenance	20210016	Scheduled
1/29/2021	Sludge Centrifuge	GR Grease	20210017	Scheduled
1/29/2021	International Dump Truck	Odometer Read	20210018	Scheduled
1/28/2021	South Primary Clarifier Drive	PM Preventive Maintenance	20210025	Scheduled
1/28/2021	North Primary Clarifier Drive	PM Preventive Maintenance	20210024	Scheduled
1/28/2021	Sludge Thickener Drive	PM Preventive Maintenance	20210026	Scheduled

1/28/2021	Sludge Thickener Drive Motor	Meter Read	20210068	Scheduled
2/1/2021	W Int Clarifier Drive	GR Grease	20201112	Scheduled
2/1/2021	E Int Clarifier Drive	GR Grease	20201112	Scheduled
2/4/2021	International Dump Truck	Odometer Read	20210073	Scheduled
2/4/2021	Sludge Centrifuge	GR Grease	20210072	Scheduled
2/9/2021	Sludge Thickener South O2 Sensor	Verify	20210046	Scheduled
2/9/2021	Sludge Thickener South LEL Sensor	Verify	20210045	Scheduled
2/9/2021	Sludge Thickener South H2S Sensor	Verify	20210044	Scheduled
2/9/2021	Sludge Thickener North O2 Sensor	Verify	20210042	Scheduled
2/9/2021	Sludge Thickener North LEL Sensor	Verify	20210041	Scheduled
2/9/2021	Sludge Thickener North H2S Sensor	Verify	20210040	Scheduled
2/9/2021	Containment Room North H2S Detector	Verify	20210029	
2/11/2021	International Dump Truck	Odometer Read	20210076	Scheduled
2/11/2021	Sludge Centrifuge	GR Grease	20210074	Scheduled
2/12/2021	South Primary Clarifier Drive	PM Preventive Maintenance	20210028	Scheduled
2/5/2021	Sludge Thickener Drive	PM Preventive Maintenance	20210071	Scheduled
2/5/2021	South Primary Clarifier Drive	PM Preventive Maintenance	20210070	Scheduled
2/5/2021	North Primary Clarifier Drive	PM Preventive Maintenance	20210069	Scheduled
2/11/2021	Sludge Thickener North LEL Sensor	Troubleshoot and Repair	20210084	Corrective
2/11/2021	Sludge Thickener South LEL Sensor	Troubleshoot and Repair	20210085	Corrective
2/12/2021	North Primary Clarifier Drive Motor	GR Grease	20210079	Scheduled
2/12/2021	North Primary Clarifier Drive	PM Preventive Maintenance	20210078	Scheduled
2/12/2021	North Primary Clarifier Drive	PM Preventive Maintenance	20210027	Scheduled
2/12/2021	South Primary Clarifier Drive	PM Preventive Maintenance	20210080	Scheduled
2/12/2021	Sludge Thickener Drive Motor	GR Grease	20210014	Scheduled
2/12/2021	Sludge Thickener Drive	GR Grease	20210043	Scheduled
2/12/2021	Sludge Thickener Drive	PM Preventive Maintenance	20210081	Scheduled
2/12/2021	E. Rough. Tower Pump Motor	Clean and Inspect	20210048	Scheduled
2/12/2021	E. Rough. Tower Pump VFD	CLN Clean	20210049	Scheduled

2/12/2021	W. Rough. Tower Pump VFD	CLN Clean	20210057	Scheduled
2/12/2021	W. Rough. Tower Pump Motor	Clean and Inspect	20210056	Scheduled
2/12/2021	Tertiary Pump T3 Motor	Clean and Inspect	20210054	Scheduled
2/12/2021	Tertiary Pump T2 Motor	Clean and Inspect	20210052	Scheduled
2/12/2021	Tertiary Pump T1 Motor	Clean and Inspect	20210050	Scheduled
2/12/2021	Tertiary Pump T1 VFD	CLN Clean	20210051	Scheduled
2/12/2021	Tertiary Pump T2 VFD	CLN Clean	20210053	Scheduled
2/12/2021	Tertiary Pump T3 VFD	CLN Clean	20210055	Scheduled
2/12/2021	15 Ton Bridge Crane	PM Preventive Maintenance	20210047	Scheduled
2/12/2021	2 Ton Shop Crane	PM Preventive Maintenance	20210058	Scheduled
12/9/2020	International Dump Truck	Odometer Read	20210083	Scheduled
2/17/2021	South Primary Clarifier Drive	PM Preventive Maintenance	20210087	Scheduled
2/17/2021	North Primary Clarifier Drive	PM Preventive Maintenance	20210086	Scheduled
2/17/2021	Sludge Thickener Drive	PM Preventive Maintenance	20210088	Scheduled
2/18/2021	Sludge Centrifuge	GR Grease	20210082	Scheduled
2/18/2021	International Dump Truck	Troubleshoot and Repair	20210089	Corrective
2/23/2021	Electrical Backup Generator	PM Preventive Maintenance (44)	20210065	Scheduled
2/24/2021	Portable Gas Detector (X)	CAL Calibrate	20210059	Scheduled
2/24/2021	Portable Gas Detector (Y)	CAL Calibrate (01)	20210060	Scheduled
2/19/2021	#3 Hypochlorite Meter Pump	Replace Tubing (06)	20210067	Scheduled
2/19/2021	#1 Hypochlorite Meter Pump	Replace Tubing (03)	20210067	Scheduled
2/19/2021	#2 Hypochlorite Meter Pump	Replace Tubing (02)	20210067	Scheduled
2/19/2021	Bisulfite Meter Pump #1 West	Replace Tubing (05)	20210067	Scheduled
2/19/2021	Bisulfite Meter Pump #2 East	Replace Tubing (04)	20210067	Scheduled
2/19/2021	Backwash Tank Hypo Trans Pump	Replace Tubing (01)	20210067	Scheduled
2/19/2021	Ferric Chloride Meter Pump	Replace Tubing	20210067	Scheduled
2/22/2021	Sludge Centrifuge	GRPR General Repair	20200993	Corrective
12/23/2020	Main Plant Building	GRPR General Repair	20210239	
2/25/2021	South Air Compressor	INSP Inspection (04)	20210039	Scheduled
2/25/2021	North Air Compressor	RPL Replace	20210035	Scheduled
2/25/2021	South Air Compressor	RPL Replace (02)	20210038	Scheduled
2/25/2021	North Low Pressure Blower	Meter Read	20210037	Scheduled
2/25/2021	South Low Pressure Blower	Meter Read (01)	20210103	Scheduled
2/25/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210094	Scheduled

2/25/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210090	Scheduled
2/25/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210091	Scheduled
1/19/2021	Tertiary Pump T1 Motor	Troubleshoot and Repair	20210013	Corrective
2/26/2021	High Pressure Air System	Drain	20210066	Scheduled
2/26/2021	Oxidation Tower - Roughing	GR Grease (01)	20210063	Scheduled
2/26/2021	Oxidation Tower - South	GR Grease (04)	20210064	Scheduled
2/26/2021	Oxidation Tower - Middle	GR Grease	20210062	Scheduled
2/26/2021	Sludge Centrifuge	GR Grease (08)	20210092	Scheduled
3/4/2021	Emergency Light-Bk Rm Jtr Bay	GRPR General Repair	20210248	Unscheduled
3/4/2021	Administration Building	GRPR General Repair	20210249	Unscheduled
3/3/2021	Sludge Grinder	INSP Inspection (11)	20201105	Scheduled
2/26/2021	International Dump Truck	Odometer Read	20210093	Scheduled
2/26/2021	Ad. Bldg. Air Compressor	PM Preventive Maintenance (07)	20210075	Scheduled
3/5/2021	International Dump Truck	Odometer Read	20210162	Scheduled
3/4/2021	Sludge Centrifuge	GR Grease (08)	20210150	Scheduled
2/26/2021	Ad Bldg Lennox Heat Vent Air Cond.	PM Preventive Maintenance (25)	20210061	Scheduled
10/9/2020	North Air Compressor	RC Replace Components	20200922	Corrective
11/2/2020	South Screening Unit	Insulate (01)	20200897	Scheduled
3/4/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210095	Scheduled
3/4/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210226	Scheduled
3/4/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210228	Scheduled
2/9/2021	Sludge Thickener	Clean and Inspect (06)	20201088	Scheduled
2/17/2021	Axflocker Transfer Pump	Troubleshoot and Repair	20210077	Corrective
3/11/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210096	Scheduled
3/11/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210227	Scheduled
3/11/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210229	Scheduled
3/11/2021	South Primary Clarifier Drive	PM Preventive Maintenance (14)	20210225	Scheduled
3/11/2021	Sludge Thickener Drive	GR Grease (11)	20210230	Scheduled
3/11/2021	North Primary Clarifier Drive	PM Preventive Maintenance (28)	20210097	Scheduled
3/12/2021	Sludge Centrifuge	GR Grease (08)	20210151	Scheduled
3/12/2021	International Dump Truck	Odometer Read	20210163	Scheduled
3/12/2021	Ferric Chloride Meter Pump	Replace Tubing	20210166	Scheduled
3/12/2021	Backwash Tank Hypo Trans Pump	Replace Tubing (01)	20210170	Scheduled
3/12/2021	#3 Hypochlorite Meter Pump	Replace Tubing (06)	20210149	Scheduled

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3/12/2021	#2 Hypochlorite Meter Pump	GRPR General Repair	20210257	Corrective
3/12/2021	#2 Hypochlorite Meter Pump	Replace Tubing (02)	20210148	Scheduled
3/12/2021	#1 Hypochlorite Meter Pump	Replace Tubing (03)	20210147	Scheduled
3/12/2021	Bisulfite Meter Pump #2 East	Replace Tubing (04)	20210224	Scheduled
3/12/2021	Bisulfite Meter Pump #1 West	Replace Tubing (05)	20210223	Scheduled
3/12/2021	15 Ton Bridge Crane	PM Preventive Maintenance (08)	20210167	Scheduled
3/12/2021	2 Ton Shop Crane	PM Preventive Maintenance (09)	20210168	Scheduled
3/12/2021	Ad Bldg Lennox Heat Vent Air Cond.	PM Preventive Maintenance (25)	20210156	Scheduled
3/16/2021	W. Rough. Tower Pump Motor	Clean and Inspect (03)	20210145	Scheduled
3/16/2021	Tertiary Pump T3 Motor	Clean and Inspect (01)	20210144	Scheduled
3/16/2021	Tertiary Pump T2 Motor	Clean and Inspect (05)	20210142	Scheduled
3/16/2021	Tertiary Pump T1 Motor	Clean and Inspect (02)	20210141	Scheduled
3/16/2021	E. Rough. Tower Pump Motor	Clean and Inspect (04)	20210139	Scheduled
3/16/2021	W. Rough. Tower Pump VFD	CLN Clean (04)	20210146	Scheduled
3/16/2021	E. Rough. Tower Pump VFD	CLN Clean (05)	20210140	Scheduled
3/16/2021	Tertiary Pump T1 VFD	CLN Clean (01)	20210169	Scheduled
3/16/2021	Tertiary Pump T2 VFD	CLN Clean (03)	20210196	Scheduled
3/16/2021	Tertiary Pump T3 VFD	CLN Clean (02)	20210143	Scheduled
3/18/2021	Sludge Centrifuge	GR Grease (08)	20210242	Scheduled
3/18/2021	International Dump Truck	Odometer Read	20210241	Scheduled
3/18/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210245	Scheduled
3/18/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210240	Scheduled
3/18/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210244	Scheduled
3/22/2021	E Int Clarifier Drive	GR Grease (18)	20210152	Scheduled
3/22/2021	W Int Clarifier Drive	GR Grease (19)	20210153	Scheduled
3/25/2021	Sludge Centrifuge	GR Grease (08)	20210265	Scheduled
3/25/2021	International Dump Truck	Odometer Read	20210264	Scheduled
3/25/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210267	Scheduled
3/25/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210263	Scheduled
3/25/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210266	Scheduled
3/19/2021	Portable Gas Detector (X)	CAL Calibrate	20210164	Scheduled
3/19/2021	Portable Gas Detector (Y)	CAL Calibrate (01)	20210165	Scheduled
3/23/2021	Sludge Thickener North H2S Sensor	Verify	20210231	Scheduled

3/23/2021	Sludge Thickener North LEL Sensor	Verify (01)	20210235	Scheduled
3/23/2021	Sludge Thickener South H2S Sensor	Verify (02)	20210232	Scheduled
3/23/2021	Sludge Thickener South LEL Sensor	Verify (03)	20210236	Scheduled
3/23/2021	Sludge Thickener North O2 Sensor	Verify (07)	20210233	Scheduled
3/23/2021	Containment Room North LEL Detector	Verify (08)	20210207	Scheduled
3/30/2021	Oxidation Tower - South	GR Grease (04)	20210159	Scheduled
3/30/2021	Oxidation Tower - Roughing	GR Grease (01)	20210158	Scheduled
3/30/2021	High Pressure Air System	Drain	20210176	Scheduled
4/1/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210324	Scheduled
4/1/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210320	Scheduled
4/1/2021	Sludge Centrifuge	GR Grease (08)	20210321	Scheduled
4/1/2021	International Dump Truck	Odometer Read	20210322	Scheduled
4/9/2021	International Dump Truck	Odometer Read	20210327	Scheduled
4/9/2021	Sludge Centrifuge	GR Grease (08)	20210328	Scheduled
4/9/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210330	Scheduled
4/9/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210325	Scheduled
4/9/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210331	Scheduled
3/1/2021	North Washer Compactor Motor	INSP Inspection (09)	20210192	Scheduled
3/1/2021	North Washer Compactor	PM Preventive Maintenance (29)	20210187	Scheduled
3/31/2021	North Air Compressor	INSP Inspection (03)	20210098	Scheduled
3/31/2021	North Air Compressor	RPL Replace	20210099	Scheduled
3/31/2021	South Low Pressure Blower	Meter Read (01)	20210104	Scheduled
4/13/2021	North Air Compressor	RPL Replace	20210271	Scheduled
4/13/2021	South Air Compressor	RPL Replace (02)	20210273	Scheduled
4/13/2021	South Air Compressor	INSP Inspection (04)	20210274	Scheduled
4/13/2021	North Air Compressor	INSP Inspection (03)	20210270	Scheduled
4/13/2021	15 Ton Bridge Crane	PM Preventive Maintenance (08)	20210295	Scheduled
4/13/2021	Washer Compactor	PM Preventive Maintenance (30)	20210300	Scheduled
3/1/2021	Washer Compactor	PM Preventive Maintenance (30)	20210175	Scheduled
4/13/2021	Washer Compactor Motor	INSP Inspection (10)	20210346	Scheduled
4/13/2021	2 Ton Shop Crane	PM Preventive Maintenance (09)	20210296	Scheduled
4/13/2021	E. Rough. Tower Pump VFD	CLN Clean (05)	20210277	Scheduled

4/13/2021	W. Rough. Tower Pump VFD	CLN Clean (04)	20210283	Scheduled
4/13/2021	Tertiary Pump T1 VFD	CLN Clean (01)	20210297	Scheduled
4/13/2021	Tertiary Pump T2 VFD	CLN Clean (03)	20210305	Scheduled
4/13/2021	Tertiary Pump T3 VFD	CLN Clean (02)	20210280	Scheduled
4/13/2021	E. Rough. Tower Pump Motor	Clean and Inspect (04)	20210276	Scheduled
4/13/2021	W. Rough. Tower Pump Motor	Clean and Inspect (03)	20210282	Scheduled
4/13/2021	Tertiary Pump T1 Motor	Clean and Inspect (02)	20210278	Scheduled
4/13/2021	Tertiary Pump T2 Motor	Clean and Inspect (05)	20210279	Scheduled
4/13/2021	Tertiary Pump T3 Motor	Clean and Inspect (01)	20210281	Scheduled
4/13/2021	Toro Push Mower	PM Preventive Maintenance (21)	20210238	Scheduled
4/1/2021	South Air Compressor	RPL Replace (02)	20210101	Scheduled
4/1/2021	South Air Compressor	INSP Inspection (04)	20210102	Scheduled
4/1/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210323	Scheduled
4/9/2021	#1 Screwpump Gear Reducer	OC Oil Change (04)	20210334	
4/7/2021	#3 Screwpump Gear Reducer	OC Oil Change (04)	20210332	
4/9/2021	#2 Screwpump Gear Reducer	OC Oil Change (04)	20210333	
4/15/2021	Sludge Centrifuge	GR Grease (08)	20210336	Scheduled
4/15/2021	International Dump Truck	Odometer Read	20210337	Scheduled
4/13/2021	John Deere Lawn Tractor	OC Oil Change	20210329	Scheduled
4/15/2021	#1 Screwpump	PM Preventive Maintenance - Screwpump	20210359	Scheduled
4/15/2021	#2 Screwpump	PM Preventive Maintenance - Screwpump	20210350	Scheduled
4/15/2021	#3 Screwpump	PM Preventive Maintenance - Screwpump	20210349	Scheduled
4/16/2021	South Primary Clarifier Drive	PM Preventive Maintenance (14)	20210311	Scheduled
4/16/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210338	Scheduled
4/16/2021	North Primary Clarifier Drive	PM Preventive Maintenance (28)	20210269	Scheduled
4/16/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210335	Scheduled
4/16/2021	Sludge Thickener Drive	GR Grease (11)	20210312	Scheduled
4/16/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210339	Scheduled
4/20/2021	#1 Hypochlorite Meter Pump	Replace Tubing (03)	20210284	Scheduled
4/20/2021	#2 Hypochlorite Meter Pump	Replace Tubing (02)	20210285	Scheduled
4/20/2021	Backwash Tank Hypo Trans Pump	Replace Tubing (01)	20210299	Scheduled
4/20/2021	Bisulfite Meter Pump #1 West	Replace Tubing (05)	20210309	Scheduled

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4/20/2021	Bisulfite Meter Pump #2 East	Replace Tubing (04)	20210310	Scheduled
4/20/2021	Ferric Chloride Meter Pump	Replace Tubing	20210294	Scheduled
4/20/2021	#3 Hypochlorite Meter Pump	Replace Tubing (06)	20210286	Scheduled
4/19/2021	Sludge Thickener North H2S Sensor	CAL Calibrate (13)	20210313	Scheduled
4/19/2021	Sludge Thickener South H2S Sensor	CAL Calibrate (12)	20210314	Scheduled
4/19/2021	Sludge Thickener North O2 Sensor	CAL Calibrate (11)	20210315	Scheduled
4/19/2021	Sludge Thickener South O2 Sensor	CAL Calibrate (10)	20210316	Scheduled
4/19/2021	Sludge Thickener North LEL Sensor	CAL Calibrate (15)	20210317	Scheduled
4/19/2021	Sludge Thickener South LEL Sensor	CAL Calibrate (14)	20210318	Scheduled
4/22/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210351	Scheduled
4/22/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210356	Scheduled
4/22/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210357	Scheduled
4/22/2021	International Dump Truck	Odometer Read	20210353	Scheduled
4/22/2021	#2 Screwpump	PM Preventive Maintenance - Screwpump	20210361	Scheduled
4/22/2021	#1 Screwpump	PM Preventive Maintenance - Screwpump	20210360	Scheduled
4/22/2021	#3 Screwpump	PM Preventive Maintenance - Screwpump	20210362	Scheduled
4/22/2021	#4 Screwpump	PM - Preventive Maintenance #4 Screwpump	20210352	Scheduled
4/19/2021	Ad Bldg Lennox Heat Vent Air Cond.	PM Preventive Maintenance (25)	20210287	Scheduled
4/21/2021	High Pressure Air System	Drain	20210301	Scheduled
4/21/2021	Oxidation Tower - Middle	GR Grease	20210288	Scheduled
4/21/2021	Oxidation Tower - South	GR Grease (04)	20210290	Scheduled
4/21/2021	Oxidation Tower - Roughing	GR Grease (01)	20210289	Scheduled
4/21/2021	North Screening Unit Motor	Inspect	20210302	Scheduled
4/19/2021	Tertiary Pump T1 Motor	GR Grease (12)	20210347	Scheduled
3/3/2021	Intermediate Sludge Pump	Troubleshoot and Repair	20210256	Corrective
4/7/2021	Portable Gas Detector (Y)	Troubleshoot and Repair	20210268	
4/23/2021	Sludge Centrifuge	GR Grease (08)	20210354	Scheduled
4/27/2021	Main Plant Building	INSP Inspection (13)	20210298	Scheduled

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4/27/2021	Administration Building	INSP Inspection (14)	20210293	Scheduled
4/29/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210392	Scheduled
4/29/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210395	Scheduled
4/29/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210396	Scheduled
4/28/2021	Electrical Backup Generator	PM Preventive Maintenance (44)	20210319	Scheduled
3/23/2021	Electrical Backup Generator	PM Preventive Maintenance (44)	20210237	Scheduled
4/27/2021	#1 Screwpump	PM Preventive Maintenance - Screwpump	20210397	Scheduled
4/27/2021	#2 Screwpump	PM Preventive Maintenance - Screwpump	20210389	Scheduled
4/27/2021	#3 Screwpump	PM Preventive Maintenance - Screwpump	20210391	Scheduled
4/27/2021	#4 Screwpump	PM - Preventive Maintenance #4 Screwpump	20210390	Scheduled
4/28/2021	Sludge Centrifuge	GR Grease (08)	20210393	Scheduled
4/28/2021	International Dump Truck	Odometer Read	20210394	Scheduled
5/3/2021	Sludge Thickener North O2 Sensor	Troubleshoot and Repair	20210477	
5/3/2021	North Air Compressor	INSP Inspection (03)	20210402	Scheduled
5/3/2021	South Air Compressor	RPL Replace (02)	20210404	Scheduled
5/3/2021	South Air Compressor	INSP Inspection (04)	20210405	Scheduled
5/3/2021	North Air Compressor	RPL Replace	20210403	Scheduled
4/22/2021	#3 Screwpump	PM - Preventive Maintenance Screwpump Upper Bearings	20210369	Scheduled
4/22/2021	#2 Screwpump	PM - Preventive Maintenance Screwpump Upper Bearings	20210368	Scheduled
4/22/2021	#1 Screwpump	PM - Preventive Maintenance Screwpump Upper Bearings	20210367	Scheduled
5/3/2021	15 Ton Bridge Crane	PM Preventive Maintenance (08)	20210434	Scheduled
5/3/2021	2 Ton Shop Crane	PM Preventive Maintenance (09)	20210431	Scheduled
5/3/2021	W. Rough. Tower Pump Motor	Clean and Inspect (03)	20210411	Scheduled
5/3/2021	E. Rough. Tower Pump Motor	Clean and Inspect (04)	20210409	Scheduled
5/3/2021	Tertiary Pump T3 Motor	Clean and Inspect (01)	20210410	Scheduled
5/3/2021	Tertiary Pump T2 Motor	Clean and Inspect (05)	20210408	Scheduled
5/3/2021	Tertiary Pump T1 Motor	Clean and Inspect (02)	20210407	Scheduled
5/3/2021	W. Rough. Tower Pump VFD	CLN Clean (04)	20210412	Scheduled
5/3/2021	E. Rough. Tower Pump VFD	CLN Clean (05)	20210417	Scheduled
5/3/2021	Tertiary Pump T3 VFD	CLN Clean (02)	20210416	Scheduled

5/3/2021	Tertiary Pump T2 VFD	CLN Clean (03)	20210439	Scheduled
5/3/2021	Tertiary Pump T1 VFD	CLN Clean (01)	20210432	Scheduled
5/4/2021	E Int Clarifier Drive	GR Grease (02)	20210475	Scheduled
5/4/2021	W Int Clarifier Drive	GR Grease (03)	20210476	Scheduled
5/4/2021	W Int Clarifier Drive	GR Grease (19)	20210420	Scheduled
5/4/2021	E Int Clarifier Drive	GR Grease (18)	20210418	Scheduled
5/5/2021	#3 Hypochlorite Meter Pump	Replace Tubing (06)	20210415	Scheduled
5/5/2021	#1 Screwpump	INSPBLT Inspect Belt	20210457	Scheduled
5/5/2021	#2 Screwpump	INSPBLT Inspect Belt (01)	20210400	Scheduled
5/5/2021	#1 Hypochlorite Meter Pump	Replace Tubing (03)	20210413	Scheduled
5/5/2021	#2 Hypochlorite Meter Pump	Replace Tubing (02)	20210414	Scheduled
5/5/2021	Backwash Tank Hypo Trans Pump	Replace Tubing (01)	20210433	Scheduled
5/5/2021	Bisulfite Meter Pump #1 West	Replace Tubing (05)	20210443	Scheduled
5/5/2021	Bisulfite Meter Pump #2 East	Replace Tubing (04)	20210444	Scheduled
5/5/2021	Ferric Chloride Meter Pump	Replace Tubing	20210427	Scheduled
5/6/2021	South Primary Clarifier Drive	PM Preventive Maintenance (14)	20210445	Scheduled
5/6/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210469	Scheduled
5/6/2021	Sludge Thickener Drive	GR Grease (11)	20210446	Scheduled
5/6/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210470	Scheduled
5/6/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210466	Scheduled
5/6/2021	North Primary Clarifier Drive	PM Preventive Maintenance (28)	20210406	Scheduled
5/6/2021	#3 Screwpump	INSPBLT Inspect Belt (02)	20210399	Scheduled
5/6/2021	Sludge Centrifuge	GR Grease (08)	20210467	Scheduled
5/6/2021	#1 Screwpump	PM Preventive Maintenance - Screwpump	20210471	Scheduled
5/6/2021	#2 Screwpump	PM Preventive Maintenance - Screwpump	20210463	Scheduled
5/6/2021	#3 Screwpump	PM Preventive Maintenance - Screwpump	20210464	Scheduled
5/6/2021	#4 Screwpump	PM - Preventive Maintenance #4 Screwpump	20210465	Scheduled
5/6/2021	International Dump Truck	Odometer Read	20210468	Scheduled
5/11/2021	Washer Compactor Motor	INSP Inspection (10)	20210447	Scheduled
5/11/2021	North Screening Unit Motor	Inspect	20210438	Scheduled
5/11/2021	South Screening Unit Motor	Inspect Motor	20210437	Scheduled
5/11/2021	Godwin 8" Pump	PM Preventive Maintenance (22)	20210440	Scheduled

5/11/2021	Tertiary Pump T3 Motor	GR Grease (14)	20210246	Scheduled
5/11/2021	Sludge Thickener Drive Motor	GR Grease (17)	20210478	Scheduled
5/12/2021	#2 Screwpump	PM - Preventive Maintenance Screwpump Upper Bearings	20210398	Scheduled
5/12/2021	#1 Screwpump	PM - Preventive Maintenance Screwpump Upper Bearings	20210456	Scheduled
5/12/2021	West Low Pressure Blower	PM - Low Pressure Blowers Monthly	20210474	
5/13/2021	BioTriad Odor Control Unit	PM Preventive Maintenance (39)	20210426	Scheduled
5/13/2021	Ad Bldg Lennox Heat Vent Air Cond.	PM Preventive Maintenance (25)	20210419	Scheduled
5/13/2021	Ad Bldg Lennox Heat Vent Air Cond.	CLN Clean (11)	20210422	Scheduled
5/13/2021	High Pressure Air System	Drain	20210436	Scheduled
5/13/2021	#1 Screwpump	PM Preventive Maintenance - Screwpump	20210487	Scheduled
5/13/2021	#2 Screwpump	PM Preventive Maintenance - Screwpump	20210479	Scheduled
5/13/2021	#3 Screwpump	PM Preventive Maintenance - Screwpump	20210480	Scheduled
5/13/2021	#4 Screwpump	PM - Preventive Maintenance #4 Screwpump	20210481	Scheduled
5/13/2021	Sludge Centrifuge	GR Grease (08)	20210483	Scheduled
5/13/2021	#3 Screwpump	PM - Preventive Maintenance Screwpump Upper Bearings	20210401	Scheduled
5/13/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210482	Scheduled
5/13/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210485	Scheduled
5/13/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210486	Scheduled
5/13/2021	Roughing Tower Blower	INSTL Install	20210421	Scheduled
5/13/2021	International Dump Truck	Odometer Read	20210484	Scheduled
5/14/2021	Electrical Backup Generator	PM Preventive Maintenance (44)	20210453	Scheduled
5/14/2021	Dewatering Pump 4"	INSP Inspection (12)	20210441	Inspect
5/14/2021	Pressure Washer	SVC Service (11)	20210195	Scheduled
5/14/2021	Billy Goat Brush Hog	PM Preventive Maintenance (45)	20210160	Scheduled
4/29/2021	West Low Pressure Blower	Grease (LP Blowers)	20210498	Scheduled
5/12/2021	East Low Pressure Blower	Grease (LP Blowers)	20210499	Scheduled
5/17/2021	Tertiary Pump T3 Motor	OC Oil Change (12)	20210247	Scheduled
5/17/2021	South Primary Clarifier Drive Motor	GR Grease (09)	20210497	Scheduled
5/18/2021	Washer Compactor	WSH Thoroughly wash (01)	20210365	Scheduled

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5/18/2021	Washer Compactor	PM Preventive Maintenance (30)	20210435	Scheduled
5/18/2021	North Screening Unit	SVC Service (09)	20210254	Scheduled
5/18/2021	South Screening Unit	Clean and Inspect and Grease	20210364	Scheduled
5/18/2021	North Screening Unit	Clean and Inspect	20210253	Scheduled
5/18/2021	Oxidation Tower - Roughing	GR Grease (01)	20210430	Scheduled
5/18/2021	Oxidation Tower - South	GR Grease (04)	20210428	Scheduled
5/18/2021	Oxidation Tower - Middle	GR Grease	20210429	Scheduled
5/20/2021	International Dump Truck	Odometer Read	20210493	Scheduled
5/20/2021	Sludge Centrifuge	GR Grease (08)	20210492	Scheduled
5/20/2021	#2 Screwpump	PM Preventive Maintenance - Screwpump	20210488	Scheduled
5/20/2021	#1 Screwpump	PM Preventive Maintenance - Screwpump	20210496	Scheduled
5/20/2021	#3 Screwpump	PM Preventive Maintenance - Screwpump	20210490	Scheduled
5/20/2021	#4 Screwpump	PM - Preventive Maintenance #4 Screwpump	20210489	Scheduled
5/20/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210491	Scheduled
5/20/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210494	Scheduled
5/20/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210495	Scheduled
5/22/2021	West Low Pressure Blower	Grease (LP Blowers)	20210500	Scheduled
5/27/2021	International Dump Truck	Odometer Read	20210507	Scheduled
5/27/2021	Sludge Centrifuge	GR Grease (08)	20210506	Scheduled
6/4/2021	East Low Pressure Blower	Grease (LP Blowers)	20210575	Scheduled
6/3/2021	Sludge Centrifuge	GR Grease (08)	20210568	Scheduled
6/3/2021	#1 Screwpump	PM Preventive Maintenance - Screwpump	20210572	Scheduled
6/3/2021	#2 Screwpump	PM Preventive Maintenance - Screwpump	20210564	Scheduled
6/3/2021	#3 Screwpump	PM Preventive Maintenance - Screwpump	20210565	Scheduled
6/3/2021	#4 Screwpump	PM - Preventive Maintenance #4 Screwpump	20210566	Scheduled
6/3/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210567	Scheduled
6/3/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210570	Scheduled
6/3/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210571	Scheduled
6/3/2021	International Dump Truck	Odometer Read	20210569	Scheduled
5/27/2021	#3 Screwpump	PM Preventive Maintenance - Screwpump	20210503	Scheduled

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5/27/2021	#2 Screwpump	PM Preventive Maintenance - Screwpump	20210502	Scheduled
5/27/2021	#1 Screwpump	PM Preventive Maintenance - Screwpump	20210510	Scheduled
5/27/2021	#4 Screwpump	PM - Preventive Maintenance #4 Screwpump	20210504	Scheduled
5/26/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210508	Scheduled
5/26/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210509	Scheduled
5/26/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210505	Scheduled
5/27/2021	North Primary Clarifier	PM Preventive Maintenance (15)	20210460	Scheduled
6/8/2021	Filter 1 R.O.F. Valve Control	GRPR General Repair	20210586	
6/8/2021	Ad Bldg Lennox Heat Vent Air Cond.	PM Preventive Maintenance (25)	20210531	Scheduled
6/8/2021	Ferric Chloride Meter Pump	Replace Tubing	20210534	Scheduled
6/8/2021	Bisulfite Meter Pump #2 East	Replace Tubing (04)	20210549	Scheduled
6/8/2021	Bisulfite Meter Pump #1 West	Replace Tubing (05)	20210548	Scheduled
6/8/2021	Backwash Tank Hypo Trans Pump	Replace Tubing (01)	20210541	Scheduled
6/8/2021	#2 Hypochlorite Meter Pump	Replace Tubing (02)	20210527	Scheduled
6/8/2021	#1 Hypochlorite Meter Pump	Replace Tubing (03)	20210526	Scheduled
6/8/2021	#3 Hypochlorite Meter Pump	Replace Tubing (06)	20210528	Scheduled
5/17/2021	East Low Pressure Blower	OC Oil Change for LP Blowers	20210587	Scheduled
6/10/2021	Sludge Thickener Drive	GR Grease (11)	20210551	Scheduled
6/10/2021	North Primary Clarifier Drive	PM Preventive Maintenance (28)	20210519	Scheduled
6/10/2021	South Primary Clarifier Drive	PM Preventive Maintenance (14)	20210550	Scheduled
6/7/2021	North Screening Unit Motor	Inspect	20210544	Scheduled
6/7/2021	Washer Compactor	PM Preventive Maintenance (30)	20210547	Scheduled
6/7/2021	Washer Compactor Motor	INSP Inspection (10)	20210561	Scheduled
6/7/2021	South Screening Unit Motor	Inspect Motor	20210543	Scheduled
6/7/2021	15 Ton Bridge Crane	PM Preventive Maintenance (08)	20210539	Scheduled
6/7/2021	2 Ton Shop Crane	PM Preventive Maintenance (09)	20210538	Scheduled
6/7/2021	W. Rough. Tower Pump Motor	Clean and Inspect (03)	20210524	Scheduled
6/7/2021	W. Rough. Tower Pump VFD	CLN Clean (04)	20210525	Scheduled
6/7/2021	E. Rough. Tower Pump Motor	Clean and Inspect (04)	20210520	Scheduled
6/7/2021	E. Rough. Tower Pump VFD	CLN Clean (05)	20210530	Scheduled
6/7/2021	Tertiary Pump T1 Motor	Clean and Inspect (02)	20210521	Scheduled
6/7/2021	Tertiary Pump T1 VFD	CLN Clean (01)	20210540	Scheduled

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6/7/2021	Tertiary Pump T2 Motor	Clean and Inspect (05)	20210522	Scheduled
6/7/2021	Tertiary Pump T2 VFD	CLN Clean (03)	20210545	Scheduled
6/7/2021	Tertiary Pump T3 Motor	Clean and Inspect (01)	20210523	Scheduled
6/7/2021	Tertiary Pump T3 VFD	CLN Clean (02)	20210529	Scheduled
6/10/2021	#1 Screwpump	PM Preventive Maintenance - Screwpump	20210584	Scheduled
6/10/2021	#2 Screwpump	PM Preventive Maintenance - Screwpump	20210576	Scheduled
6/10/2021	#3 Screwpump	PM Preventive Maintenance - Screwpump	20210577	Scheduled
6/10/2021	#4 Screwpump	PM - Preventive Maintenance #4 Screwpump	20210578	Scheduled
6/10/2021	Sludge Centrifuge	GR Grease (08)	20210580	Scheduled
6/10/2021	International Dump Truck	Odometer Read	20210581	Scheduled
4/15/2021	North Unit Heater	PM Preventive Maintenance (36)	20210199	Scheduled
4/27/2021	West Unit Heater	PM Preventive Maintenance (35)	20210198	Scheduled
4/27/2021	East Unit Heater	PM Preventive Maintenance (37)	20210197	Scheduled
4/15/2021	Unit Heater	PM Preventive Maintenance (38)	20210194	Scheduled
4/15/2021	Ad Bldg Lennox Heat Vent Air Cond.	SVC Service (08)	20210155	Scheduled
4/15/2021	Ad Building upstairs furnace	PM Preventive Maintenance (43)	20210154	Scheduled
5/21/2021	15 Ton Bridge Crane	SVC Service (04)	20210358	Scheduled
5/21/2021	2 Ton Shop Crane	SVC Service (05)	20210355	Scheduled
6/10/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210583	Scheduled
6/10/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210579	Scheduled
6/10/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210582	Scheduled
5/28/2021	BioTriad Odor Control Unit	Schedule	20210425	Scheduled
4/16/2021	Sludge Thickener	Clean and Inspect (06)	20210255	Scheduled
6/7/2021	Sludge Thickener South O2 Sensor	Troubleshoot and Repair	20210363	
6/14/2021	RT Well Level Sensor	PM Preventive Maintenance (18)	20210462	Scheduled
6/14/2021	Tertiary Well Level Sensor	PM Preventive Maintenance (19)	20210461	Scheduled
5/3/2021	Containment Room North LEL Detector	CAL Calibrate (09)	20210307	Scheduled
5/3/2021	Containment Room North H2S Detector	CAL Calibrate (06)	20210308	Scheduled
5/26/2021	Roughing Tower Blower	INSTL Install	20210388	Scheduled
6/15/2021	Oxidation Tower - South	GR Grease (04)	20210535	Scheduled

6/15/2021	Oxidation Tower - Middle	GR Grease	20210536	Scheduled
6/15/2021	Oxidation Tower - Roughing	GR Grease (01)	20210537	Scheduled
6/15/2021	Containment Room North H2S Detector	Verify (05)	20210552	
6/15/2021	Containment Room North LEL Detector	Verify (08)	20210546	Scheduled
6/15/2021	Sludge Thickener South H2S Sensor	Verify (02)	20210562	Scheduled
6/15/2021	Sludge Thickener South LEL Sensor	Verify (03)	20210556	Scheduled
6/15/2021	Sludge Thickener South O2 Sensor	Verify (04)	20210554	Scheduled
6/15/2021	Sludge Thickener North LEL Sensor	Verify (01)	20210555	Scheduled
6/15/2021	Sludge Thickener North O2 Sensor	Verify (07)	20210553	Scheduled
6/15/2021	Sludge Thickener North H2S Sensor	Verify	20210563	Scheduled
6/16/2021	High Pressure Air System	Drain	20210542	Scheduled
6/16/2021	North Air Compressor	INSP Inspection (03)	20210515	Scheduled
6/16/2021	North Air Compressor	RPL Replace	20210516	Scheduled
6/16/2021	#3 Screwpump	PM - Preventive Maintenance Screwpump Upper Bearings	20210513	Scheduled
6/16/2021	#1 Screwpump	PM - Preventive Maintenance Screwpump Upper Bearings	20210558	Scheduled
6/16/2021	#2 Screwpump	PM - Preventive Maintenance Screwpump Upper Bearings	20210511	Scheduled
6/10/2021	South Air Compressor	INSP Inspection (04)	20210518	Scheduled
6/10/2021	South Air Compressor	RPL Replace (02)	20210517	Scheduled
6/17/2021	#3 Screwpump	PM Preventive Maintenance - Screwpump	20210589	Scheduled
6/17/2021	#2 Screwpump	PM Preventive Maintenance - Screwpump	20210588	Scheduled
6/17/2021	#1 Screwpump	PM Preventive Maintenance - Screwpump	20210596	Scheduled
6/17/2021	#4 Screwpump	PM - Preventive Maintenance #4 Screwpump	20210590	Scheduled
6/17/2021	Sludge Centrifuge	GR Grease (08)	20210592	Scheduled
6/17/2021	International Dump Truck	Odometer Read	20210593	Scheduled
6/17/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210591	Scheduled
6/17/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210594	Scheduled

Date Range: 7/1/2020 - 6/30/2021

6/17/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210595	Scheduled
4/21/2021	Portable Gas Detector (X)	CAL Calibrate	20210291	Scheduled
5/11/2021	Portable Gas Detector (X)	CAL Calibrate	20210423	Scheduled
6/18/2021	Portable Gas Detector (X)	CAL Calibrate	20210532	Scheduled
4/21/2021	Portable Gas Detector (Y)	CAL Calibrate (01)	20210292	Scheduled
5/11/2021	Portable Gas Detector (Y)	CAL Calibrate (01)	20210424	Scheduled
6/18/2021	Portable Gas Detector (Y)	CAL Calibrate (01)	20210533	Scheduled
6/18/2021	Process Water System	GRPR General Repair	20210598	
4/30/2021	Oxidation Tower - Middle	GRPR General Repair	20210366	
6/23/2021	West Low Pressure Blower	PM - Low Pressure Blowers Monthly	20210560	
6/23/2021	East Low Pressure Blower	PM - Low Pressure Blowers Monthly	20210585	Scheduled
6/23/2021	Electrical Backup Generator	PM Preventive Maintenance (44)	20210557	Scheduled
6/23/2021	#4 Screwpump	PM - Preventive Maintenance #4 Screwpump	20210601	Scheduled
6/23/2021	#3 Screwpump	PM Preventive Maintenance - Screwpump	20210600	Scheduled
6/23/2021	#2 Screwpump	PM Preventive Maintenance - Screwpump	20210599	Scheduled
6/23/2021	#1 Screwpump	PM Preventive Maintenance - Screwpump	20210607	Scheduled
6/24/2021	Sludge Thickener Drive	PM Preventive Maintenance (42)	20210606	Scheduled
6/24/2021	South Primary Clarifier Drive	PM Preventive Maintenance (40)	20210605	Scheduled
6/24/2021	North Primary Clarifier Drive	PM Preventive Maintenance (27)	20210602	Scheduled
6/25/2021	Sludge Centrifuge	GR Grease (08)	20210603	Scheduled
6/25/2021	International Dump Truck	Odometer Read	20210604	Scheduled
6/29/2021	West Low Pressure Blower	Grease (LP Blowers)	20210679	Scheduled

Appendix 3

Owosso WWTP CIP
Equalization Basin
Project No. 220102

Cost Item	Units	Qty	Cost	Initial Estimated Capital Cost
Concrete	LS	3600	$906	$3,261,600
Mixing	LS	1	$226,500	$226,500
Piping	LS	1	$377,500	$377,500
Electrical	LS	1	$33,975	$33,975
Total Estimated Cost				**$3,900,000**

	Estimated Capital Cost	Design Life (yrs)	Replace. Cost	Salvage Value
Concrete	$3,261,600	50	$0	$1,956,960
Mixing	$226,500	20	$0	$0
Piping	$377,500	50	$0	$226,500
Electrical	$33,975	15	$0	$0
Total Estimated Cost	**$3,900,000**			$2,183,460

Electrical

20 Year Present Worth	Owosso WWTP CIP Actual Cost	20 yr Present Worth
Initial Capital Cost	$ 3,900,000	$ 3,900,000
Annual O & M Cost	$10,000	$189,900
Salvage Value	$ 2,183,460	($1,977,000)
Total Estimate of Present Worth		**$ 2,112,900**

Notes:
Present Worth estimated using discount rate of 0.5% *from EGLE*

Owosso WWTP CIP
Tower Rehabilitation
Project No. 220102

Cost Item	Units	Qty	Cost	Initial Estimated Capital Cost
Concrete	LS	3	$134,390	$403,170
Media	LS	3	$906,000	$2,718,000
Mechanism	LS	3	$286,900	$860,700
Installation	LS	3	$357,870	$1,073,610
Liner	LS	3	$619,100	$1,857,300
Demolition	LS	3	$113,250	$339,750
Total Estimated Cost				**$7,250,000**

	Estimated Capital Cost	Design Life (yrs)	Replace. Cost	Salvage Value
Concrete	$403,170	50	$0	$241,902
Media	$2,718,000	30	$0	$906,000
Mechanism	$860,700	15	$860,700	$0
Liner	$1,857,300	30	$0	$619,100
Installation	$1,073,610	-	N/A	N/A
Electrical	$339,750	-	N/A	N/A
Total Estimated Cost	**$7,250,000**			$1,767,002

	Owosso WWTP CIP	
20 Year Present Worth	Actual Cost	20 yr Present Worth
Initial Capital Cost	$7,250,000	$7,250,000
Annual O & M Cost	$83,000	$1,576,000
Salvage Value	$1,767,002	($1,600,000)
Total Estimate of Present Worth		$ 7,226,000

Notes:
Present Worth estimated using discount rate of 0.5% *from EGLE*

Owosso WWTP CIP
Tertiary Filters
Project No. 220102

Cost Item	Units	Qty	Cost	Initial Estimated Capital Cost
Filter	LS	1	$1,493,390	$1,493,390
Filter Tanks	LS	1	$631,935	$631,935
Installation	LS	1	$743,864	$743,864
Demolition	LS	1	$377,500	$377,500
Process Piping	LS	1	$377,500	$377,500
Ventilation	LS	1	$151,000	$151,000
Electrical	LS	1	$149,339	$149,339
Total Estimated Cost				**$3,925,000**

	Estimated Capital Cost	Design Life (yrs)	Replace. Cost	Salvage Value
Filter	$1,493,390	20	$0	$0
Filter Tanks	$631,935	25	$0	$126,387
Process Piping	$377,500	50	$0	$226,500
Ventilation	$151,000	25	$0	$30,200
Electrical	$743,864	-	N/A	N/A
Demolition	$377,500	-	N/A	N/A
Electrical	$149,339	-	N/A	N/A
Total Estimated Cost	**$3,925,000**			$383,087

20 Year Present Worth	Owosso WWTP CIP Actual Cost	20 yr Present Worth
Initial Capital Cost	$3,925,000	$3,925,000
Annual O & M Cost	$36,000	$683,500
Salvage Value	$383,087.00	($347,000)
Total Estimate of Present Worth		**$ 4,261,500**

Notes:
Present Worth estimated using discount rate of 0.5% *from EGLE*

Owosso WWTP CIP
Intermediate Clarifiers
Project No. 220102

Cost Item	Units	Qty	Cost	Initial Estimated Capital Cost
Concrete	LS	1	$687,050	$687,050
Mechanism	LS	1	$1,510,000	$1,510,000
Installation	LS	1	$377,500	$377,500
Electrical	LS	1	$113,250	$113,250
Sludge Pump	LS	1	$75,500	$75,500
Piping	LS	1	$37,750	$37,750
Total Estimated Cost				**$2,800,000**

	Estimated Capital Cost	Design Life (yrs)	Replace. Cost	Salvage Value
Mechanism	$1,510,000	25	$0	$302,000
Concrete	$687,050	50	$0	$412,230
Electrical	$113,250	25	$0	$22,650
Sludge Pump	$75,500	20	$0	$0
Piping	$37,750	25	$0	$7,550
Installation	$377,500	-	N/A	N/A
Total Estimated Cost	**$2,800,000**			$767,080

20 Year Present Worth	Owosso WWTP CIP Actual Cost	 20 yr Present Worth
Initial Capital Cost	$2,800,000	$2,800,000
Annual O & M Cost	$9,200	$174,700
Salvage Value	$767,080	($695,000)
Total Estimate of Present Worth		**$ 2,279,700**

Notes:
Present Worth estimated using discount rate of 0.5% *from EGLE*

Owosso WWTP CIP
Disinfection
Project No. 220102

Cost Item	Units	Qty	Cost	Initial Estimated Capital Cost
Piping	LS	1	$113,250	$113,250
UV	LS	1	$542,090	$542,090
Installation	LS	1	$100,267	$100,267
Electrical	LS	1	$41,470	$41,470
Mag Meter	LS	1	$90,600	$90,600
Total Estimated Cost				**$900,000**

	Estimated Capital Cost	Design Life (yrs)	Replace. Cost	Salvage Value
Concrete	$113,250	50	$0	$67,950
UV	$542,090	25	$0	$108,418
Electrical	$41,000	25	$0	$8,200
Mag Meter	$90,600	25	$0	$18,120
Installation	$100,267	-	N/A	N/A
Total Estimated Cost	**$900,000**			$202,688

20 Year Present Worth	Owosso WWTP CIP Actual Cost	20 yr Present Worth
Initial Capital Cost	$900,000	$900,000
Annual O & M Cost	$20,000	$379,700
Salvage Value	$202,688	($184,000)
TOTAL ESTIMATE OF PRESENT WORTH		$ 1,095,700

Notes:
Present Worth estimated using discount rate of 0.5% *from EGLE*

Owosso WWTP CIP
Electrical and SCADA Improvements
Project No. 220102

Cost Item	Units	Qty	Cost	Initial Estimated Capital Cost
Electrical/SCADA	LS	1	$1,351,450	$1,351,450
Total Estimated Cost				**$1,350,000**

	Estimated Capital Cost	Design Life (yrs)	Replace. Cost	Salvage Value
Electrical	$1,351,450	20	$0	$0
Total Estimated Cost	**$1,350,000**			$0

	Owosso WWTP CIP	
20 Year Present Worth	Actual	20 yr Present
Electrical	Cost	Worth
Initial Capital Cost	$ 1,350,000	$ 1,350,000
Annual O & M Cost	$2,000	$38,000
Salvage Value	$ -	$0
Total Estimate of Present Worth		$ 1,388,000

Notes:
Present Worth estimated using discount rate of 0.5% *from EGLE*

Owosso WWTP CIP
Biosolids Dryer
Project No. 220102

Cost Item	Units	Qty	Cost	Initial Estimated Capital Cost
Dryer	LS	1	$3,971,300	$3,971,300
Conveyor	LS	1	$75,500	$75,500
Installation	LS	1	$1,214,040	$1,214,040
Electrical	LS	1	$202,340	$202,340
Total Estimated Cost				**$5,500,000**

	Estimated Capital Cost	Design Life (yrs)	Replace. Cost	Salvage Value
Dryer	$3,971,300	20	$0	$0
Conveyor	$75,500	20	$0	$0
Electrical	$202,340	25		
Installation	$1,214,040		N/A	N/A
Total Estimated Cost	**$5,500,000**			$0

	Owosso WWTP CIP	
20 Year Present Worth	Actual Cost	20 yr Present Worth
Initial Capital Cost	$5,500,000	$ 5,500,000
Annual O & M Cost	$20,000	$379,700
Salvage Value	$0	$0
Total Estimate of Present Worth		$5,879,700

Notes:
Present Worth estimated using discount rate of 0.5% *from EGLE*

Appendix 4

OWOSSO MID-SHIAWASSEE COUNTY WWTP - NPDES #MI0023752

Permit Limitation Violations 2015 - 2022

DMR Report	DMR value exceeds Limit value (Permit)	DMR: 05/01/2020-05/31/2020, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2300 lbs/day; Value: 2594, Comment: 'Heavy rains on saturated ground (May 17-19) caused plant flows necessitating complete filtration process bypass May 18-20. This resulted in excessive TSS in plant effluent for those days.'	MI0023752	5/24/2020
DMR Report	DMR value exceeds Limit value (Permit)	DMR: 05/01/2020-05/31/2020, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2300 lbs/day; Value: 2525, Comment: 'Heavy rains on saturated ground (May 17-19) caused plant flows necessitating complete filtration process bypass May 18-20. This resulted in excessive TSS in plant effluent for those days.'	MI0023752	5/23/2020
DMR Report	DMR value exceeds Limit value (Permit)	DMR: 05/01/2020-05/31/2020, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2300 lbs/day; Value: 2525, Comment: 'Heavy rains on saturated ground (May 17-19) caused plant flows necessitating complete filtration process bypass May 18-20. This resulted in excessive TSS in plant effluent for those days.'	MI0023752	5/22/2020
DMR Report	DMR value exceeds Limit value (Permit)	DMR: 05/01/2020-05/31/2020, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2300 lbs/day; Value: 2525, Comment: 'Heavy rains on saturated ground (May 17-19) caused plant flows necessitating complete filtration process bypass May 18-20. This resulted in excessive TSS in plant effluent for those days.'	MI0023752	5/21/2020
DMR Report	DMR value exceeds Limit value (Permit)	DMR: 05/01/2020-05/31/2020, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2300 lbs/day; Value: 2373, Comment: 'Heavy rains on saturated ground (May 17-19) caused plant flows necessitating complete filtration process bypass May 18-20. This resulted in excessive TSS in plant effluent for those days.'	MI0023752	5/20/2020
DMR Report	DMR value exceeds Limit value (Permit)	DMR: 08/01/2018-08/31/2018, 001A, Final Effluent (1), Carbonaceous Biochemical Oxygen Demand (CBOD5), Maximum Daily - Permit Limit: 15 mg/L; Value: 16.5, Comment: 'Letter of explanation submitted 8-23-18 via MiWaters'	MI0023752	8/15/2018
DMR Report	DMR value exceeds Limit value (Permit)	DMR: 08/01/2018-08/31/2018, 001A, Final Effluent (1), Ammonia Nitrogen (as N), Maximum Daily - Permit Limit: 3.0 mg/L; Value: 4.58, Comment: 'Letter of explanation submitted 8-15-18 via MiWaters'	MI0023752	8/15/2018
DMR Report	DMR value exceeds Limit value (Permit)	DMR: 02/01/2018-02/28/2018, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2342, Comment: 'Letter of explanation submitted through MiWaters on March 1, 2018'	MI0023752	2/27/2018

DMR Report	DMR value exceeds Limit value (Permit)	DMR: 02/01/2018-02/28/2018, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 3133, Comment: 'Letter of explanation submitted through MiWaters on March 1, 2018'	MI0023752	2/26/2018
DMR Report	DMR value exceeds Limit value (Permit)	DMR: 02/01/2018-02/28/2018, 001A, Final Effluent (1), Fecal Coliform, Max 7-Day Geometric Mean - Permit Limit: 400 #/100mL; Value: 432, Comment: 'Letter of explanation submitted through MiWaters on March 1, 2018'	MI0023752	2/26/2018
DMR Report	DMR value exceeds Limit value (Permit)	DMR: 02/01/2018-02/28/2018, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 3059, Comment: 'Letter of explanation submitted through MiWaters on March 1, 2018'	MI0023752	2/25/2018
DMR Report	DMR value exceeds Limit value (Permit)	DMR: 02/01/2018-02/28/2018, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2786, Comment: 'Letter of explanation submitted through MiWaters on March 1, 2018'	MI0023752	2/24/2018
DMR Report	DMR value exceeds Limit value (Permit)	DMR: 02/01/2018-02/28/2018, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2786, Comment: 'Letter of explanation submitted through MiWaters on March 1, 2018'	MI0023752	2/23/2018
DMR Report	DMR value exceeds Limit value (Permit)	DMR: 02/01/2018-02/28/2018, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2786, Comment: 'Letter of explanation submitted through MiWaters on March 1, 2018'	MI0023752	2/22/2018
DMR Report	DMR value exceeds Limit value (Permit)	DMR: 02/01/2018-02/28/2018, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2440, Comment: 'Letter of explanation submitted through MiWaters on March 1, 2018'	MI0023752	2/21/2018
DMR Report	DMR value exceeds Limit value (Permit)	DMR: 02/01/2018-02/28/2018, 001A, Percent Removal (K), Total Suspended Solids Minimum % Removal, Minimum Monthly % Removal - Permit Limit: 85 %; Value: 83, Comment: 'Letter of explanation submitted through MiWaters on March 1, 2018'	MI0023752	2/1/2018
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 06/01/2017-06/30/2017, 001A, Percent Removal (K), Total Suspended Solids Minimum % Removal, Minimum Monthly % Removal - Permit Limit: 85 %; Value: 84, Comment: 'Letter of explanation for the violation will be submitted.'	MI0023752	6/1/2017

Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 05/01/2017-05/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 45 mg/L; Value: 47, Comment: 'Letter of explanation regarding all limitation exceedances to follow DMR submittal.'	MI0023752	5/22/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 05/01/2017-05/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 45 mg/L; Value: 47, Comment: 'Letter of explanation regarding all limitation exceedances to follow DMR submittal.'	MI0023752	5/21/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 05/01/2017-05/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 45 mg/L; Value: 48, Comment: 'Letter of explanation regarding all limitation exceedances to follow DMR submittal.'	MI0023752	5/20/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 05/01/2017-05/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 45 mg/L; Value: 48, Comment: 'Letter of explanation regarding all limitation exceedances to follow DMR submittal.'	MI0023752	5/19/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 05/01/2017-05/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 45 mg/L; Value: 48, Comment: 'Letter of explanation regarding all limitation exceedances to follow DMR submittal.'	MI0023752	5/18/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 05/01/2017-05/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 45 mg/L; Value: 47, Comment: 'Letter of explanation regarding all limitation exceedances to follow DMR submittal.'	MI0023752	5/17/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 05/01/2017-05/31/2017, 001A, Final Effluent (1), Total Phosphorus (as P), Maximum Monthly Average - Permit Limit: 1.0 mg/L; Value: 1.13, Comment: 'Letter of explanation regarding all limitation exceedances to follow DMR submittal.'	MI0023752	5/1/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 05/01/2017-05/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum Monthly Average - Permit Limit: 30 mg/L; Value: 37, Comment: 'Letter of explanation regarding all limitation exceedances to follow DMR submittal.'	MI0023752	5/1/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 05/01/2017-05/31/2017, 001A, Percent Removal (K), Total Suspended Solids Minimum % Removal, Minimum Monthly % Removal - Permit Limit: 85 %; Value: 71, Comment: 'Letter of explanation regarding all limitation exceedances to follow DMR submittal.'	MI0023752	5/1/2017

Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 04/01/2017-04/30/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2729, Comment: 'Limitation exceedance discussed in April 19, 2017 MiWaters submission'	MI0023752	4/12/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 04/01/2017-04/30/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2822, Comment: 'Limitation exceedance discussed in April 19, 2017 MiWaters submission'	MI0023752	4/11/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 04/01/2017-04/30/2017, 001A, Final Effluent (1), Fecal Coliform, Max 7-Day Geometric Mean - Permit Limit: 400 #/100mL; Value: 406, Comment: 'Limitation exceedance discussed in April 19, 2017 MiWaters submission'	MI0023752	4/10/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 04/01/2017-04/30/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 3026, Comment: 'Limitation exceedance discussed in April 19, 2017 MiWaters submission'	MI0023752	4/10/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 04/01/2017-04/30/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 3374, Comment: 'Limitation exceedance discussed in April 19, 2017 MiWaters submission'	MI0023752	4/9/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 04/01/2017-04/30/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 3334, Comment: 'Limitation exceedance discussed in April 19, 2017 MiWaters submission'	MI0023752	4/8/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 04/01/2017-04/30/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 3334, Comment: 'Limitation exceedance discussed in April 19, 2017 MiWaters submission'	MI0023752	4/7/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 04/01/2017-04/30/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 3334, Comment: 'Limitation exceedance discussed in April 19, 2017 MiWaters submission'	MI0023752	4/6/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 04/01/2017-04/30/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 3128, Comment: 'Limitation exceedance discussed in April 19, 2017 MiWaters submission'	MI0023752	4/5/2017

Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 04/01/2017-04/30/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2843, Comment: 'Limitation exceedance discussed in April 19, 2017 MiWaters submission'	MI0023752	4/4/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 04/01/2017-04/30/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2352, Comment: 'Limitation exceedance discussed in April 19, 2017 MiWaters submission'	MI0023752	4/3/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 04/01/2017-04/30/2017, 001A, Final Effluent (1), Total Phosphorus (as P), Maximum Monthly Average - Permit Limit: 50 lbs/day; Value: 56, Comment: 'Limitation exceedance related to high flows due to wet weather events discussed in April 19, 2017 MiWaters submission'	MI0023752	4/1/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 04/01/2017-04/30/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum Monthly Average - Permit Limit: 1500 lbs/day; Value: 2059, Comment: 'Limitation exceedance related to high flows due to wet weather events discussed in April 19, 2017 MiWaters submission'	MI0023752	4/1/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 04/01/2017-04/30/2017, 001A, Percent Removal (K), Total Suspended Solids Minimum % Removal, Minimum Monthly % Removal - Permit Limit: 85 %; Value: 64, Comment: 'Limitation violation related to high flows due to wet weather events discussed in April 19, 2017 MiWaters submission'	MI0023752	4/1/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 03/01/2017-03/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2340, Comment: 'Letter of explanation submitted through MiWaters March 15, 2017'	MI0023752	3/7/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 03/01/2017-03/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2715, Comment: 'Letter of explanation submitted through MiWaters March 15, 2017'	MI0023752	3/6/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 03/01/2017-03/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2762, Comment: 'Letter of explanation submitted through MiWaters March 15, 2017'	MI0023752	3/5/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 03/01/2017-03/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 45 mg/L; Value: 47, Comment: 'Letter of explanation submitted through MiWaters March 15, 2017'	MI0023752	3/5/2017

Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 03/01/2017-03/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2663, Comment: 'Letter of explanation submitted through MiWaters March 15, 2017'	MI0023752	3/4/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 03/01/2017-03/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 45 mg/L; Value: 46, Comment: 'Letter of explanation submitted through MiWaters March 15, 2017'	MI0023752	3/4/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 03/01/2017-03/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2663, Comment: 'Letter of explanation submitted through MiWaters March 15, 2017'	MI0023752	3/3/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 03/01/2017-03/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 45 mg/L; Value: 46, Comment: 'Letter of explanation submitted through MiWaters March 15, 2017'	MI0023752	3/3/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 03/01/2017-03/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2663, Comment: 'Letter of explanation submitted through MiWaters March 15, 2017'	MI0023752	3/2/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 03/01/2017-03/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 45 mg/L; Value: 46, Comment: 'Letter of explanation submitted through MiWaters March 15, 2017'	MI0023752	3/2/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 03/01/2017-03/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum Monthly Average - Permit Limit: 30 mg/L; Value: 31, Comment: 'Letter of explanation to follow via MiWaters unscheduled report'	MI0023752	3/1/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 03/01/2017-03/31/2017, 001A, Percent Removal (K), Total Suspended Solids Minimum % Removal, Minimum Monthly % Removal - Permit Limit: 85 %; Value: 74, Comment: 'Letter of explanation to follow via MiWaters unscheduled report'	MI0023752	3/1/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 03/01/2017-03/31/2017, 001A, Final Effluent (1), Total Suspended Solids, Maximum 7-Day Average - Permit Limit: 2250 lbs/day; Value: 2397, Comment: 'Letter of explanation submitted through MiWaters March 15, 2017'	MI0023752	3/1/2017

Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 02/01/2017-02/28/2017, 001A, Percent Removal (K), Total Suspended Solids Minimum % Removal, Minimum Monthly % Removal - Permit Limit: 85 %; Value: 78, Comment: 'Higher than seasonal average flows caused influent concentration dilution and less than optimal tertiary treatment resulting in lower than acceptable % removal.'	MI0023752	2/1/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 01/01/2017-01/31/2017, 001A, Percent Removal (K), Total Suspended Solids Minimum % Removal, Minimum Monthly % Removal - Permit Limit: 85 %; Value: 77, Comment: 'See "general report comments".'	MI0023752	1/1/2017
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 08/01/2016-08/31/2016, 001A, Final Effluent (1), Fecal Coliform, Max 7-Day Geometric Mean - Permit Limit: 400 #/100mL; Value: 673, Comment: 'Rain event caused excessive flow on Aug 16 and 17. Lack of adequate disinfection detention time on these days resulted in elevated daily results, which resulted in elevated 7 day average.'	MI0023752	8/22/2016
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 08/01/2016-08/31/2016, 001A, Final Effluent (1), Fecal Coliform, Max 7-Day Geometric Mean - Permit Limit: 400 #/100mL; Value: 536, Comment: 'Rain event caused excessive flow on Aug 16 and 17. Lack of adequate disinfection detention time on these days resulted in elevated daily results, which resulted in elevated 7 day average.'	MI0023752	8/21/2016
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 08/01/2016-08/31/2016, 001A, Final Effluent (1), Fecal Coliform, Max 7-Day Geometric Mean - Permit Limit: 400 #/100mL; Value: 536, Comment: 'Rain event caused excessive flow on Aug 16 and 17. Lack of adequate disinfection detention time on these days resulted in elevated daily results, which resulted in elevated 7 day average.'	MI0023752	8/20/2016
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 08/01/2016-08/31/2016, 001A, Final Effluent (1), Fecal Coliform, Max 7-Day Geometric Mean - Permit Limit: 400 #/100mL; Value: 536, Comment: 'Rain event caused excessive flow on Aug 16 and 17. Lack of adequate disinfection detention time on these days resulted in elevated daily results, which resulted in elevated 7 day average.'	MI0023752	8/19/2016
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 04/01/2016-04/30/2016, 001A, Percent Removal (K), Total Suspended Solids Minimum % Removal, Minimum Monthly % Removal - Permit Limit: 85 %; Value: 84, Comment: 'Rain events led to increased inflow & infiltration which led to ongoing dilution of plant influent thus lowering the avg. influent TSS mg/L. All effluent concentration and loading limits were met.'	MI0023752	4/1/2016
Effluent Limits - DEQ Sampling	DMR value exceeds Limit value (Permit)	DMR: 03/01/2016-03/31/2016, 001A, Percent Removal (K), Total Suspended Solids Minimum % Removal, Minimum Monthly % Removal - Permit Limit: 85 %; Value: 78, Comment: 'Rain events led to increased inflow & infiltration which led to ongoing dilution of plant influent thus lowering the avg. influent TSS mg/L. All effluent concentration and loading limits were met.'	MI0023752	3/1/2016

Appendix 5

Appendix 6

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

DISADVANTAGED COMMUNITY STATUS DETERMINATION WORKSHEET

The following data is required from each municipality to assess the disadvantaged community status. Please provide the necessary information and return to:

Mark Conradi
Water Infrastructure Financing Section
Finance Division
conradim@michigan.gov

Please contact Mark Conradi (conradim@michigan.gov) with any questions on the completion of the form.

Please check the box this determination is for:

DWSRF ☐

CWSRF ☑

Total amount of anticipated debt for the proposed project, if applicable.

$35,300,000

Annual payments on the existing debt for the system.

$455,117.50

Total operation, maintenance, and replacement expenses for the system on an annual basis.

$4,104,839

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

7,964

For determinations made using anticipated debt, a final determination will be made based upon the awarded loan amount.

If you need this information in an alternate format, contact EGLE-Accessibility@Michigan.gov or call 800-662-9278.

Appendix 7

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU

In the matter of:

ACO-SW05-015
Date Entered: ____________

Gregg G. Guetschow, City Manager
City of Owosso
301 West Main Street
Owosso, Michigan 48867
______________________________/

ADMINISTRATIVE CONSENT ORDER

This document results from allegations by the Water Bureau (WB) of the Department of Environmental Quality (DEQ). The DEQ alleges the city of Owosso (City), which owns and operates the Owosso/Mid-Shiawassee Co. Wastewater Treatment Plant located at 1410 Chippewa Trail, Owosso, Shiawassee County, Michigan, is in violation of Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), MCL 324.3101 et seq. The City and the DEQ agree to resolve the violations set forth in the Findings section of this Administrative Consent Order (Consent Order) and to resolve this matter by entry of this Consent Order.

I. STIPULATIONS

The City and the DEQ stipulate as follows:

1.1 The NREPA MCL 324.101 et seq. is an act that controls pollution to protect the environment and natural resources in the state.

1.2 Pollution Control, Part 31, Water Resources Protection, of the NREPA (Part 31), MCL 324.3101 et seq., and the rules promulgated pursuant thereto, provides for the protection, conservation, and the control of pollution of the water resources of the state.

1.3 The DEQ is authorized by Section 3112(2) of Part 31 of the NREPA to enter orders requiring persons to abate pollution, and the director of the DEQ or his designee is delegated under Section 301(b) of the NREPA, MCL 324.301(b) to enter into this Consent Order with the City.

1.4 The City stipulates to the issuance and entry of this Consent Order to comply by consent and stipulates that the termination of this matter by a final order to be entered as a Consent Order is proper and acceptable. The City further agrees not to contest the issuance of this Consent Order. This Consent Order, thus, shall be considered a final order of the DEQ and shall become effective on the date it is signed by the Chief of the WB, delegee of the director, pursuant to Section 301(b) of the NREPA.

1.5 The City and the DEQ agree that the signing of this Consent Order is for settlement purposes only and does not constitute an admission by the City that the law has been violated.

1.6 The city manager as signatory to this Consent Order on behalf of the City agrees and attests that he is fully authorized to assure the compliance of the City with all requirements under this Consent Order.

1.7 The City shall achieve compliance with the aforementioned regulations in accordance with the requirements contained in Section III, Compliance Program, of this Consent Order.

II. FINDINGS

2.1 Section 3109(2) of Part 31 of the NREPA states: "The discharge of any raw sewage of human origin, directly or indirectly, into any of the waters of the state shall be considered prima facie evidence of a violation of this part by the municipality in which the discharge originated..."

2.2 Section 3109(4) of Part 31 of the NREPA states: "A violation of this section is prima facie evidence of the existence of a public nuisance and in addition to the remedies provided for in this part may be abated according to law in an action brought by the attorney general in a court of competent jurisdiction."

2.3 The City is authorized to discharge treated municipal wastewaters from the Owosso/Mid-Shiawassee County wastewater treatment plant (WWTP) to the Shiawassee River in accordance with the effluent limitations and monitoring requirements and other conditions as set forth in its National Pollutant Discharge Elimination System (NPDES) Permit number MI0023752 issued April 20, 2004 and expiring October 1, 2006.

2.4 The City of Corunna, Owosso Township, and Caledonia Township are all tributary to the City's WWTP, but each municipality maintains its own collection system.

2.5 The WWTP has a rated maximum capacity of 12 million gallons/day (MGD). The NPDES permit is based on a design flow rate of 6 MGD. During wet weather conditions, the WWTP has received in excess of 14 MGD. During some storm events, the inflow and infiltration (I/I) into the plant is greater than can be processed by all treatment systems at the WWTP.

2.6 The City has experienced numerous sanitary sewer overflows (SSOs) in the recent past that discharged into surface waters of the state. The chart below lists the SSO events:

Dates of Sanitary Sewer Overflows and Volume of Discharge

LOCATION	DATE	VOLUME (gallons)	RECEIVING WATER	CAUSE	DATE OF RESOLUTION
Wright Street Force Main	12/26/1995	Unknown	Shiawassee River	Force Main failure	12/2001
Wright Street Force Main	1/9/1996	Unknown	Shiawassee River	Force Main failure	12/2001
WWTP	1/17/1996	400,000	Shiawassee River	Power outage	1/29/1996
Main Interceptor	2/21/1997-2/22/1997	1,000,000*	Shiawassee River	Main Interceptor unable to handle flow	
Wright Street Force Main	3/24/1997-3/26/1997	30,000	Shiawassee River	Force Main Failure	12/2001
WWTP	5/31/1998	600,000	Shiawassee River	Power outage	5/31/1998

Manhole by Chipman Drain	8/12/1998	600	Shiawassee River	Root mass in manhole blocked flow	
Palmer Street Lift Station	3/18/1999	<1,000	Hopkins Lake	Power outage	5/11/2001
Main Interceptor	5/19/2000	2,000,000*	Shiawassee River	Main Interceptor unable to handle flow	
Manhole by Chipman Drain	9/23-24/00	90,000	Shiawassee River	Roots and Drain unable to handle flow	
Manholes by Chipman Drain and M-52	2/10/2001	<1,000,000*	Shiawassee River	Collection system unable to handle flow	
S. Shiawassee St. @ W. South Street	7/16/2001	Unknown	No discharge to surface water	Overflow from manhole	7/16/2001
N. bank Shiawassee River w. of M52 bridge	7/7/02-7/8/02	5,000	Shiawassee River	Blockage of inverted siphon	
N. bank Shiawassee River w. of M52 bridge	3/24/2003	500	Shiawassee River	Blockage of inverted siphon by pieces of pipe due to soil borings	8/19/2004
Manhole overflows just downstream of M-52 bridge and just upstream of M-71 bridge	5/23/2004-5/27/2004	>1,000,000*	Shiawassee River	Collection system unable to handle flow	
Manholes downstream	1/13/2005-1/14/2005	500,000	Shiawassee River	Collection system	

of M-52 bridge and upstream of M-71 bridge in Owosso	unable to handle flow

* Approximate overflow volume

III. COMPLIANCE PROGRAM

IT IS THEREFORE AGREED AND ORDERED THAT the City will take the following actions to prevent further violations of Part 31:

3.1 The City agrees to submit to the DEQ for review and approval an initial work plan based on the existing assessment of the sewer collection system that has priority areas to be remediated identified on it within 30 days of entry into this Consent Order, to the address located in paragraph 3.8 of this Consent Order. The City agrees to submit to the DEQ for review and approval a final work plan within 30 days after receiving approval of the plan from the DEQ addressing the planned remediation of illicit public sector Inflow and Infiltration (I/I) and other major areas of public sector I/I that are upstream of the areas in the City experiencing sanitary sewer overflows (SSO's). The City agrees to submit a summary report annually, due on March 1, with the first one due on March 1, 2006 and the last one due the year after all of the planned illicit I/I and other major I/I removal efforts has been completed, in accordance with the City's final approved work plan. The annual summary report shall consist of the most recent assessment of the sewer collection system. The annual assessment of the sewer collection system shall include the results of the City conducting television inspections of all sewer lines in the priority subbasins, all manhole inspections in the collection system, and smoke testing of the lines; any new information that the assessments of the sewer system identify; a summary of the investigation, assessment and remediation activities completed in the previous calendar year; and the work that is left to be completed in the complete identification and removal of illicit I/I and other major public sector I/I connections to the City's sewer collection system. The City agrees that the complete assessment of the sewer collection system and the illicit I/I and other major public sector I/I separation efforts will last no longer than five years, beginning with the date that the DEQ approves the final work plan.

3.2 The City agrees to conduct a private sector inspection program in year 1 and 2 of the five year work plan in paragraph 3.1 of this Consent Order to quantify the number and location of illicit private sector connections to the sewer collection system. When existing sump pump and roof drains connecting to the sanitary sewer are located, the City will immediately initiate an enforcement process beginning with a certified letter from the City to the homeowner in accordance with the City's rules and regulations pursuant to Article IV, Sewer Service, Section 34-101 to Section 34-245 of Chapter 34, Utilities and Services, of the City Code of Ordinances for the City of Owosso. This enforcement process will be initiated with the goal of removing the existing sump pumps and roof drains from the City's sewerage system. A pilot program conducted during year 1 and 2 for the removal of gravity footing drains will also be conducted in order to better define the private sector I/I contribution in the overall sewer model and the actual cost of corrective actions.

3.3 The City agrees to conduct flow monitoring and report the results of the monitoring in its annual report due by no later than March 1 of 2006 and 2007, to the DEQ, Water Bureau, Lansing District Office and as required by paragraph 3.1 of this Consent Order. The City agrees to conduct flow monitoring on the southwest quadrant of the City's sewer collection system and complete it in 2005 and to conduct and complete the flow monitoring for the southeast quadrant in 2006.

3.4 The City agrees that by March 1, 2007, the City will submit an initial work plan for review and approval that will list the proposed schedule with dates, beginning in 2007, not to exceed ten years for an efficient and appropriate control strategy to reduce or contain I/I from private sector sources and that is equivalent to the remedial design standard of the 25-year/24-hourstorm, using growth conditions and normal soil moisture and in accordance with the DEQ Sanitary Sewer Overflow Policy of December 27, 2002.

Some initial options include:

1. I/I reduction including gravity footing drain separation, or
2. Public sector I/I reduction; private sector inflow reduction without gravity footing drain removal, and retention of flow which exceeds system capacity through the use of satellite retention basins or a single basin, or
3. A combination of gravity footing drain separation, retention, and storage.

3.5 Implementing the Control Strategy from Private Sector Sources

A. If the City and the DEQ determine that the City will complete the requirement for a control strategy through I/I reduction including gravity footing drain separation, based upon approval of the initial work plan submitted in accordance with paragraph 3.4 of this Consent Order, the City shall submit a final work plan to the DEQ for review and approval by no later than June 1, 2007. This final work plan shall:

1. Describe the strategy for the separation efforts of the private sector sources of I/I to the City's system, including appropriate permitting needs;
2. Include time frames for separation efforts not to exceed ten years;
3. Describe the location of the sources and the way in which the City will ensure compliance from the homeowner for the separation effort;
4. Describe the reporting method and frequency of reporting that the City will use to notify the DEQ of its progress of the separation efforts, which may include, but its not limited to reporting at the same time as the annual report required by paragraph 3.6 of this Consent Order; and
5. Provide for one year of flow monitoring after the ten years of separation efforts to comply with the provisions of the remedial design standard of the 25-year/24-hourstorm, using growth conditions and normal soil moisture and in accordance with the DEQ Sanitary Sewer Overflow Policy of December 27, 2002.

B. If the City and the DEQ determine that retention and related facilities are needed as a part of the control strategy chosen, based on the results of the flow monitoring conducted in 2005 and 2006, the City shall submit a basis of design with appropriate details for review and approval describing the necessary size, planned location(s), design, and financing of the facilities by June 1, 2007. The appropriate permitting shall be obtained prior to the beginning of construction and the construction of these facilities shall be completed by December 1, 2010.

C. If the City and the DEQ determine that a combination of gravity footing drain separation, retention, and storage is needed, based on the results of the flow monitoring conducted in 2005 and 2006, the basis of design for review and approval describing necessary size, planned location(s), design, and financing of the gravity footing drain separation, retention and storage shall be submitted by June 1, 2007. The appropriate permitting shall be obtained prior to the beginning of construction and the construction of the retention and storage of this option shall be completed by December 1, 2010; and the gravity footing drain separation of this option shall be completed no later than June 1, 2017.

3.6 The City agrees to submit annual performance reviews to the DEQ Lansing District Office of the operation of the City's sewerage system, including an analysis of the effectiveness of the work completed, pursuant to this Consent Order, in eliminating illicit public and private connections to the sewerage system, thereby reducing the I/I to the sewerage system. The City shall include its first five years of annual performance reviews with its summary report due annually on March 1, in accordance with paragraph 3.1 of this Consent Order. The City shall continue to submit annual performance reviews on March 1 until this Consent Order is terminated in accordance with Section XII of this Consent Order.

3.7 The City agrees to create and pass Rules and Regulations pursuant to its authority of Section 34-203 of Ordinance No. 433 of 1985, entitled "Rules and Regulations" of the City Code of Ordinances for the City of Owosso. The City shall submit these Rules and Regulations to the DEQ for review and approval within 30 days of entry of this Consent Order. The Rules and Regulations shall be created to ban the construction and connection of potential public and private I/I sources to the City's sewerage system that are not strictly approved by the City and other applicable local, state or federal permitting authorities, including, but not limited to footing drains, rooftop drains and sump pumps; the Rules and Regulations shall list policies and standards for the elimination of existing illicit I/I sources; and the Rules and Regulations shall list an enforcement procedure that the City shall undertake if new illicit connections are discovered.

3.8 The City shall submit all reports, work plans, specifications, schedules, or any other writing required by this section to the Lansing District Supervisor, DEQ-WB-Lansing District, P. O. Box 30242, 4th Floor, North Tower, Lansing, Michigan, 48909. Alternatively, mailings requiring a street address may be sent to the Lansing District Supervisor at DEQ-WB-Lansing District, Constitution Hall, 525 W. Allegan, 4th Floor, North Tower, Lansing, Michigan, 48933. The cover letter with each submittal shall identify the specific paragraph and requirement of this Consent Order that the submittal is intended to satisfy.

IV. DEQ APPROVAL OF SUBMITTALS

4.1 For any work plan, proposal, or other document, excluding applications for permits or licenses, that are required by this Consent Order to be submitted to the DEQ by the City, the following process and terms of approval shall apply.

4.2 All work plans, proposals, and other documents required to be submitted by this Consent Order shall include all of the information required by the applicable statute and/or rule, and all of the information required by the applicable paragraph(s) of this Consent Order.

4.3 In the event the DEQ disapproves a work plan, proposal, or other document, it will notify the City, in writing, specifying the reasons for such disapproval. The City shall submit, within 30 days of receipt of such disapproval, a revised work plan, proposal, or other document which adequately addresses the reasons for the DEQ's disapproval. If the revised work plan, proposal, or other document is still not acceptable to the DEQ, the DEQ will notify the City of this disapproval.

4.4 In the event the DEQ approves with specific modifications, a work plan, proposal, or other document, it will notify the City, in writing, specifying the modifications required to be made to such work plan, proposal, or other document prior to its implementation and the specific reasons for such modifications. The DEQ may require the City to submit, prior to implementation and within 30 days of receipt of such approval with specific modifications, a revised work plan, proposal, or other document which adequately addresses such modifications. If the revised work plan, proposal, or other document is still not acceptable to the DEQ, the DEQ will notify the City of this disapproval.

4.5 Upon DEQ approval, or approval with modifications, of a work plan, proposal, or other document, such work plan, proposal, or other document shall be incorporated by reference into this Consent Order and shall be enforceable in accordance with the provisions of this Consent Order.

4.6 Failure by the City to submit an approvable work plan, proposal, or other document, within the applicable time periods specified above, constitutes a violation of this Consent Order and shall subject the City to the enforcement provisions of this Consent Order, including the stipulated penalty provisions specified in paragraph 9.3.

4.7 Any delays caused by the City's failure to submit an approvable work plan, proposal, or other document when due shall in no way affect or alter the City's responsibility to comply with any other deadline(s) specified in this Consent Order.

4.8 No informal advice, guidance, suggestions, or comments by the DEQ regarding reports, work plans, plans, specifications, schedules or any other writing submitted by the City will be construed as relieving the City of its obligation to obtain written approval, if and when required by this Consent Order.

V. EXTENSIONS

5.1 The City and the DEQ agree that the DEQ may grant the City a reasonable extension of the specified deadlines set forth in this Consent Order. Any extension shall be preceded by a written request in duplicate to the DEQ, WB, Enforcement Unit Chief, Constitution Hall, 525 W. Allegan, P.O. Box 30273, Lansing, Michigan, 48909-7773, and the Lansing District Supervisor at the address in paragraph 3.8, no later than ten business days prior to the pertinent deadline, and shall include:

a. Identification of the specific deadline(s) of this Consent Order that will not be met.
b. A detailed description of the circumstances that will prevent the City from meeting the deadline(s).
c. A description of the measures the City has taken and/or intends to take to meet the required deadline; and
d. The length of the extension requested and the specific date on which the obligation will be met.

The Lansing District Supervisor, in consultation with the Enforcement Unit Chief, shall respond in writing to such requests. No change or modification to this Consent Order shall be valid unless in writing from the DEQ, and if applicable, signed by both parties.

VI. REPORTING

6.1 The City shall verbally report any violation(s) of the terms and conditions of this Consent Order to the Lansing District Supervisor by no later than the close of the next business day following detection of such violation(s) and shall follow such notification with a written report within five business days following detection of such violation(s). The written report shall include a detailed description of the violation(s), as well as a description of any actions proposed or taken to correct the violation(s). The City shall report any anticipated violation(s) of this Consent Order to the above-referenced individual in advance of the relevant deadlines whenever possible.

VII. RETENTION OF RECORDS

7.1 Upon request by an authorized representative of the DEQ, the City shall make available to the DEQ all records, plans, logs, and other documents required to be maintained under this Consent Order or pursuant to Part 31 or its rules. All such documents shall be retained by the City for at least a period of three years from the date of generation of the record unless a longer period of record retention is required by Part 31 or its rules.

VIII. RIGHT OF ENTRY

8.1 The City shall allow any authorized representative or contractor of the DEQ, upon presentation of proper credentials, to enter upon the premises of the facility at all reasonable times for the purpose of monitoring compliance with the provisions of this Consent Order. This paragraph in no way limits the authority of the DEQ to conduct tests and inspections pursuant to the NREPA and the rules promulgated thereunder, or any other applicable statutory provision.

IX. PENALTIES

9.1 The City agrees to pay to the State of Michigan $2,500 as partial compensation for the cost of investigations and enforcement activities arising from the violations specified in Section II of this Consent Order. Payment shall be made within 30 days of the effective date of this Consent Order in accordance with paragraph 9.6.

9.2 The City agrees to pay a civil fine of $20,000 for the violations specified in Section II of this Consent Order. Payment shall be made within 30 days of the effective date of this Consent Order in accordance with paragraph 9.6.

9.3 For each failure to comply with the provisions of Section III and IV of this Consent Order, the City shall pay stipulated penalties of **$500** per violation per day for 1 to 7 days of violation, **$1000** per violation per day for 8 to 14 days of violation, and **$1500** per violation per day for each day of violation thereafter. Failure to perform any of the following requirements shall be considered separate violations of this Consent Order and are subject to stipulated penalties under this paragraph:

a. Failure to submit an approvable work plan, proposal, or other document by the required dates in accordance with Section III.

b. Failure to implement, complete or comply with any activity or condition required by Section III, including those contained in any approved work plan or other document required to be implemented and completed by Section III; and

c. Failure to submit approvable revised work plans, proposals, or other documents addressing a DEQ disapproval or approval with modifications by the required dates in accordance with paragraphs 4.3 or 4.4.

9.4 For each failure to comply with any other provision of this Consent Order not specified in paragraph 9.3, the City shall pay stipulated penalties of **$500** per violation per day for each day of violation. Failure to perform any of the following requirements shall be considered separate violations of this Consent Order and are subject to stipulated penalties under this paragraph:

a. Failure to verbally report violations and submit written reports by the required dates in accordance with paragraph 6.1.

b. Failure to retain records on site in accordance with paragraph 7.1.

c. Failure to pay civil fines, costs, or stipulated or interest penalties by the required dates in accordance with this section; and

d. Any other requirement of this Consent Order.

9.5 Stipulated penalties accruing under paragraphs 9.3 or 9.4 shall be paid within 30 days after written demand by the DEQ in accordance with paragraph 9.6.

9.6 The City agrees to pay all funds due pursuant to this agreement by check made payable to the State of Michigan and delivered to the DEQ, Revenue Control Unit, P.O. Box 30657, 525 West Allegan Street, 5th Floor, South Tower, Lansing, Michigan, 48909-8157. To ensure proper credit, all payments made pursuant to this Consent Order must include the **Payment Identification Number WTR3034**.

9.7 The City agrees not to contest the legality of the civil fine or costs paid pursuant to paragraphs 9.1, and 9.2, above. The City further agrees not to contest the legality of any stipulated penalties or interest penalties assessed pursuant to paragraphs 9.3, 9.4 and 9.5, above, but reserves the right to dispute the factual basis upon which a demand by the DEQ for stipulated penalties or interest penalties is made.

X. DISPUTE RESOLUTION

10.1 Unless otherwise provided in this Consent Order, the dispute resolution procedures of this section shall be the City's exclusive mechanism to resolve disputes arising under or with respect to this Consent Order. However, the procedures set forth in this section shall not apply to actions by the state to enforce obligations of the City under this Consent Order. Initiation of dispute resolution shall not be cause for the City to delay the performance of any compliance requirements or response activity.

10.2 Any dispute by the City that arises under this Consent Order shall in the first instance be the subject of informal negotiations between the City and the DEQ (parties). The period of negotiations shall not exceed 20 days from the date of written notice by the City to the DEQ that a dispute has arisen, unless the time period for negotiations is modified by written agreement between the parties. A dispute under this section shall occur when the City sends the DEQ a written notice of dispute. If agreement cannot be reached on any issue within this 20-day period, the DEQ shall provide a written statement of its decision to the City and, in the absence of initiation of formal dispute resolution by the City under paragraph 10.3, the DEQ's position as outlined in its written informal decision, shall be binding on the parties.

10.3 If the City and the DEQ cannot informally resolve a dispute under paragraph 10.2, the City may initiate formal dispute resolution by requesting review of the disputed issues by the DEQ, WB Chief. This written request must be filed with the DEQ, WB Chief within 15 days of the City's receipt of the DEQ's informal decision that is issued at the conclusion of the informal dispute resolution procedure set forth in paragraph 10.2. The City's request shall state the issues in dispute; the relevant facts upon which the dispute is based; any factual data, analysis, or opinion supporting its position; and all supporting documentation upon which the City bases its position. Within 21 days of the WB Chief's receipt of the City's request for a review of disputed issues, the WB Chief will provide a written statement of decision to the City, which will include a statement of his/her understanding of the issues in dispute; the relevant facts upon which the dispute is based; any factual data, analysis, or opinion supporting her/his position; and all supporting documentation relied upon by the WB Chief in review of the disputed issues. The WB Chief's time period for review of the disputed issues may be extended by written agreement of the parties.

10.4 The written statement of the WB Chief issued under paragraph 10.3 shall be a final decision and is binding on the parties unless, within 21 days under the Revised Judicature Act after receipt of the DEQ's written statement of decision, the City files a petition for judicial review in a court of competent jurisdiction that shall set forth a description of the matter in dispute, the efforts made by the parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of this Consent Order.

10.5 An administrative record of the dispute shall be maintained by the DEQ. The administrative record shall include all of the information provided by the City pursuant to paragraph 10.3, as well as any other documents relied upon by the DEQ in making its final decision pursuant to paragraph 10.3. Where appropriate, the DEQ shall allow submission of supplemental statements of position by the parties to the dispute.

10.6 In documented form on any dispute, the City shall have the burden of demonstrating on the administrative record that the position of the DEQ is arbitrary and capricious or otherwise not in accordance with law. In documented form on any dispute initiated by the City, it shall bear the burden of persuasion on factual issues.

10.7 Notwithstanding the invocation of dispute resolution procedures under this section, stipulated penalties shall accrue from the first day of any failure or refusal to comply with any term or condition of this Consent Order, but payment shall be stayed pending resolution of the dispute. Stipulated penalties shall be paid within 30 days after resolution of the dispute. The City shall pay that portion of a demand for payment of stipulated penalties that is not subject to dispute resolution procedures in accordance with and in the manner provided in Section IX (Penalties).

XI. FORCE MAJEURE

11.1 The City shall perform the requirements of this Consent Order within the time limits established herein, unless performance is prevented or delayed by events that constitute a "Force Majeure." Any delay in the performance attributable to a "Force Majeure" shall not be deemed a violation of the City's obligations under this Consent Order in accordance with this section.

11.2 For the purpose of this Consent Order, "Force Majeure" means an occurrence or nonoccurrence arising from causes not foreseeable, beyond the control of, and without the fault of the City, such as: an Act of God, untimely review of permit applications or submissions by the DEQ or other applicable authority, and acts or omissions of third parties that could not have been avoided or overcome by the City's diligence and that delay the performance of an obligation under this Consent Order. "Force Majeure" does not include, among other things, unanticipated or increased costs, changed financial circumstances, or failure to obtain a permit or license as a result of the City's actions or omissions.

11.3 The City shall notify the DEQ, by telephone, within 48 hours of discovering any event that causes a delay in its compliance with any provision of this Consent Order. Verbal notice shall be followed by written notice within ten calendar days and shall describe, in detail, the anticipated length of delay, the precise cause or causes of delay, the measures taken by the City to prevent or minimize the delay, and the timetable by which those measures shall be implemented. The City shall adopt all reasonable measures to avoid or minimize any such delay.

11.4 Failure of the City to comply with the notice requirements and time provisions under paragraph 11.3 shall render this Section XI void and of no force and effect as to the particular incident involved. The DEQ may, at its sole discretion and in appropriate circumstances, waive in writing the notice requirements of paragraph 11.3, above.

11.5 If the parties agree that the delay or anticipated delay was beyond the control of the City, this may be so stipulated, and the parties to this Consent Order may agree upon an appropriate modification of this Consent Order. If the parties to this Consent Order are unable to reach such agreement, the dispute shall be resolved in accordance with Section X (Dispute Resolution) of this Consent Order. The burden of proving that any delay was beyond the reasonable control of the City, and that all the requirements of this Section XI have been met by the City, rests with the City.

11.6 An extension of one compliance date based upon a particular incident does not necessarily mean that the City qualifies for an extension of a subsequent compliance date without providing proof regarding each incremental step or other requirement for which an extension is sought.

XII. GENERAL PROVISIONS

12.1 With respect to any violations not specifically addressed and resolved by this Consent Order, the DEQ reserves the right to pursue any other remedies to which it is entitled for any failure on the part of the City to comply with the requirements of the NREPA and its rules.

12.2 The DEQ and the City consent to enforcement of this Consent Order in the same manner and by the same procedures for all final orders entered pursuant to Part 31, MCL 324.3101 et seq.; and enforcement pursuant to Part 17, Michigan Environmental Protection Act, of the NREPA, MCL 324.1701 et seq.

12.3 This Consent Order in no way affects the City's responsibility to comply with any other applicable state, federal, or local laws or regulations.

12.4 The WB, at its discretion, may seek stipulated fines or statutory fines for any violation of this Consent Order. However, the WB is precluded from seeking both a stipulated fine under this Consent Order and a statutory fine for the same violation.

12.5 Nothing in this Consent Order is or shall be considered to affect any liability the City may have for natural resource damages caused by the City's ownership and/or operation of the facility. The State of Michigan does not waive any rights to bring an appropriate action to recover such damages to the natural resources.

12.6 In the event the City sells or transfers the facility, it shall advise any purchaser or transferee of the existence of this Consent Order in connection with such sale or transfer. Within 30 calendar days, the City shall also notify the WB Lansing District Supervisor, in writing, of such sale or transfer, the identity and address of any purchaser or transferee, and confirm the fact that notice of this Consent Order has been given to the purchaser and/or transferee. The purchaser and/or transferee of this Consent Order must agree, in writing, to assume all of the obligations of this Consent Order. A copy of that agreement shall be forwarded to the WB Lansing District Supervisor within 30 days of assuming the obligations of this Consent Order.

12.7 The provisions of this Consent Order shall apply to and be binding upon the parties to this action, and their successors and assigns.

12.8 This Consent Order constitutes a civil settlement and satisfaction as to the resolution of the violations specifically addressed herein; however, it does not resolve any criminal action that may result from these same violations.

XIII. TERMINATION

13.1 This Consent Order shall remain in full force and effect until terminated by a written Termination Notice (TN) issued by the DEQ. Prior to issuance of a written TN, the City shall submit a request consisting of a written certification that the City has fully complied with the requirements of this Consent Order and has made payment of any fines, including stipulated penalties, required in this Consent Order. Specifically, this certification shall include:

a. The date of compliance with each provision of the compliance program in Section III, and the date any fines or penalties were paid.

b. A statement that all required information has been reported to the district supervisor; and

c. Confirmation that all records required to be maintained pursuant to this Consent Order are being maintained at the facility.

The DEQ may also request additional relevant information. The DEQ shall not unreasonably withhold issuance of a TN.

Signatories

The undersigned CERTIFY they are fully authorized by the party they represent to enter into this Consent Order to comply by consent and to EXECUTE and LEGALLY BIND that party to it.

DEPARTMENT OF ENVIRONMENTAL QUALITY

____

Richard A. Powers, Chief
Water Bureau

____

Date

CITY OF OWOSSO

By: Gregg G. Guetschow, City Manager

____

Date

APPROVED AS TO FORM:

____

By: Alan F. Hoffman, Assistant Attorney General
For: Mark W. Matus
Assistant Attorney General in Charge
Environment, Natural Resources, and Agriculture Division
Michigan Department of Attorney General

____

Date

Appendix 8

The Argus Press Company
201 E. Exchange Street
Owosso, Michigan 48867
Phone (989) 725-5136 • Fax (989) 725-6376
Thomas E. Campbell, President & Publisher

CITY OF OWOSSO
NOTICE OF PROJECT PLAN
PUBLIC HEARING
FOR THE CWSRF PROJECT PLAN
TO REPLACE
AGING INFRASTRUCTURE
AT THE WWTP

The Owosso City Council will hold a public hearing to receive comment from interested persons on the proposed Clean Water State Revolving Fund Project Plan to replace aging infrastructure at the Wastewater Treatment Plant (WWTP) at the City Council meeting on Monday, May 16, 2022, at 7:30 p.m. in the City Hall Council Chambers.

The Project Plan focuses on replacing aged equipment and improving the reliability of the WWTP. Phase 1 project construction will involve replacement of biological towers, replacement of filters, disinfection upgrades, and electrical improvements.

The proposed project will occur within the WWTP site and include replacement of existing equipment. Therefore, construction activities would have only a short-term disruption within the WWTP site, including temporary noise and dust associated with construction projects. The improvements should not cause measurable long term detrimental environmental impacts.

The City is requesting a CWSRF loan for project design and construction costs, which are estimated at $13,000,000.

Copies of the plan detailing the proposed project are available for inspection at the City Clerk's Office and on the City of Owosso website at www.ci.owosso.mi.us. Issues viewing the Project Plan should be directed to the City Clerk's Office, email: city.clerk@ci.owosso.mi.us, phone: (989)725-0500.

An overview of the project will be presented at the City Council meeting on Monday, May 16, 2022, at 7:30 p.m.

All interested parties are invited to submit written comments on the proposed Project Plan. All comments must be received by 5:00 p.m. on May 16, 2022, to be considered as part of the public record. Written comments received before the hearing record is closed on May 16, 2022 will receive responses in the final project plan. Written comments should be sent to:

Owosso City Clerk's Office
301 West Main
Owosso, MI 48867

Amy K. Kirkland, CMC
Owosso City Clerk

The City of Owosso will provide necessary reasonable auxiliary aids and services, such as signers for the hearing impaired and audio recordings of printed materials being considered at the meeting, to individuals with disabilities at the meeting/hearing upon seventy-two (72) hours notice to the City of Owosso. Individuals with disabilities requiring auxiliary aids or services should contact the City of Owosso by writing, calling, or emailing the following: Owosso City Clerk's Office, 301 West Main Street, Owosso, MI 48867; Phone: (989) 725-0500; Email: city.clerk@ci.owosso.mi.us. The City of Owosso Website address is www.ci.owosso.mi.us.

Publish: April 8, 2022

AFFIDAVIT OF PUBLICATION

In the matter of **Notice of Project Plan Public Hearing - City of Owosso**

STATE OF MICHIGAN }
}ss **Thomas E. Campbell**
County of Shiawassee }

Being first duly sworn, says that he is the Publisher of **THE ARGUS-PRESS**, a newspaper published in the English language for the dissemination of local or transmitted news and intelligence of a general character and legal news, which is a duly qualified newspaper and that annexed hereto is a copy of a certain order taken from said newspaper, in which the order was published on the 8th day of April, A.D., 2022.

SIGNED:

Subscribed and sworn to before me
this 8th day of April A.D., 2022

Sheila R Mondeau Ralph

Sheila R Mondeau Ralph, Notary Public
Shiawassee County, Michigan
My Commission expires: March 17, 2028