

FACILITY NAME AND PERMIT NUMBER:

City of Othello WWTP (WA-0022357)

**FORM
2A
NPDES**



NPDES FORM 2A APPLICATION OVERVIEW

APPLICATION OVERVIEW

Form 2A has been developed in a modular format and consists of a “Basic Application Information” packet and a “Supplemental Application Information” packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

BASIC APPLICATION INFORMATION:

- A. Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.
- B. Additional Application Information for Applicants with a Design Flow \geq 0.1 mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.
- C. Certification.** All applicants must complete Part C (Certification).

SUPPLEMENTAL APPLICATION INFORMATION:

- D. Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):
 1. Has a design flow rate greater than or equal to 1mgd,
 2. Is required to have a pretreatment program (or has one in place), or
 3. Is otherwise required by the permitting authority to provide the information.
- E. Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):
 1. Has a design flow rate greater than or equal to 1 mgd,
 2. Is required to have a pretreatment program (or has one in place), or
 3. Is otherwise required by the permitting authority to submit results of toxicity testing.
- F. Industrial User Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:
 1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
 2. Any other industrial user that:
 - a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
 - b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
 - c. Is designated as an SIU by the control authority.
- G. Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).

ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)

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A.5. Indian Country.

a. Is the treatment works located in Indian Country?

Yes No

b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

Yes No

A.6. Flow. Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

a. Design flow rate 7.5/2.5 mgd

	Two Years Ago	Last Year	This Year
b. Annual average daily flow rate	<u>0.78</u>	<u>1.18</u>	<u>1.44</u>
c. Maximum daily flow rate	<u>2.98</u>	<u>1.83</u>	<u>1.77</u>

A.7. Collection System. Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

- Separate sanitary sewer 100 %
- Combined storm and sanitary sewer _____ %

A.8. Discharges and Other Disposal Methods.

a. Does the treatment works discharge effluent to waters of the U.S.? Yes No

If yes, list how many of each of the following types of discharge points the treatment works uses:

- i. Discharges of treated effluent 1
- ii. Discharges of untreated or partially treated effluent 0
- iii. Combined sewer overflow points 0
- iv. Constructed emergency overflows (prior to the headworks) 0
- v. Other _____

b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.? Yes No

If yes, provide the following for each surface impoundment:

Location : _____
(Latitude/Longitude as decimal degrees (NAD83/WGS84))

Annual average daily volume discharge to surface impoundment(s) _____ mgd

Is discharge continuous or intermittent?

c. Does the treatment works land-apply treated wastewater? Yes No

If yes, provide the following for each land application site:

Location : _____
(Latitude/Longitude as decimal degrees (NAD83/WGS84))

Number of acres: _____

Annual average daily volume applied to site: _____ mgd

Is land application continuous or intermittent?

d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works? Yes No

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If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

If transport is by a party other than the applicant, provide:

Transporter Name _____

Mailing Address _____

Contact Person _____

Title _____

Telephone Number (_____) _____

For each treatment works that receives this discharge, provide the following:

Name _____

Mailing Address _____

Contact Person _____

Title _____

Telephone Number (_____) _____

If known, provide the NPDES permit number of the treatment works that receives this discharge _____

Provide the average daily flow rate from the treatment works into the receiving facility. _____ mgd

- e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8. through A.8.d above (e.g., underground percolation, well injection): Yes No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

Annual daily volume disposed by this method: _____

Is disposal through this method continuous or intermittent?

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WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 once for each outfall (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. If you answered "no" to question A.8.a, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

- a. Outfall number 001
b. Location Owl Creek 99344
Adams WA
46.830 119.227
c. Distance from shore (if applicable) 0 ft.
d. Depth below surface (if applicable) 0 ft.
e. Average daily flow rate 2.0 Dry/7.5 Wet mgd
f. Does this outfall have either an intermittent or a periodic discharge? No
g. Is outfall equipped with a diffuser? No

A.10. Description of Receiving Waters.

- a. Name of receiving water Owl Creek to Lower Crab Creek to the Columbia River
b. Name of watershed (if known) WRIA 41
c. Name of State Management/River Basin (if known): Lower Crab
d. Critical low flow of receiving stream (if applicable)
e. Total hardness of receiving stream at critical low flow (if applicable): mg/l of CaCO3

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A.11. Description of Treatment

a. What level(s) of treatment are provided? Check all that apply.

Primary Secondary

Advanced Other. Describe: _____

b. Indicate the following removal rates (as applicable):

Design BOD5 removal or Design CBOD5 removal 85 %

Design SS removal 85 %

Design P removal N/A %

Design N removal N/A %

Other _____ %

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe:

The City adds granular chlorine to the effluent when fecal counts, due to bird waste contamination, begin to rise during spring or fall bird migration periods.

If disinfection is by chlorination is dechlorination used for this outfall? Yes No

d. Does the treatment plant have post aeration? Yes No

A.12. Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than one and one-half years apart.

Outfall number: 001 (Data for 2016 to 2017)

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	7.3	s.u.			
pH (Maximum)	10.5	s.u.			
Flow Rate	1.83	MGD	1.31	MGD	24
Temperature (Winter)	17.7	Deg C	5.64	Deg C	24
Temperature (Summer)	30.3	Deg C	19.2	Deg C	24

* For pH please report a minimum and a maximum daily value

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Conc.	Units	Number of Samples		

CONVENTIONAL AND NON CONVENTIONAL COMPOUNDS

BIOCHEMICAL OXYGEN DEMAND (Report one)	BOD5	47	mg/L	20	mg/L	24	SM5210-B	2
	CBOD5							
FECAL COLIFORM		2419	#/100ml	225	#/100ml	24	SM9221-E	N/A
TOTAL SUSPENDED SOLIDS (TSS)		196	mg/L	31	mg/L	24	SM2540-D	5

**END OF PART A.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM
2A YOU MUST COMPLETE**

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BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

350,000-400,000 gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

The City is undergoing an I/I study as part of the current Facilities Planning process.

B.2. Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

- a. The area surrounding the treatment plant, including all unit processes.
- b. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.
- c. Each well where wastewater from the treatment plant is injected underground.
- d. Wells, springs, other surface water bodies, and drinking water wells that are: 1) within ¼ mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.
- e. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.
- f. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where the hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g., chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? Yes No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: _____

Mailing Address: _____

Telephone Number: () _____

Responsibilities of Contractor: _____

B.5. Scheduled improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

- a. List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

001 - There is currently no implementation schedule required by the State. The City has initiated the Facilities Planning process to address treatment and collection system deficiencies.

- b. Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

Yes No

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c. If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule	Actual Completion
	MM/DD/YYYY	MM/DD/YYYY
- Begin Construction	____/____/____	____/____/____
- End Construction	____/____/____	____/____/____
- Begin Discharge	____/____/____	____/____/____
- Attain Operational Level	____/____/____	____/____/____

e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? Yes No

Describe briefly: _____

B.6. EFFLUENT TESTING DATA (GREATER THAN OR EQUAL TO 0.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods (See attachment A). In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number: 001

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NON CONVENTIONAL COMPOUNDS							
AMMONIA (as N)	21.8	mg/L	5.5	mg/L	24	SM4500-NH3-GH	0.3
CHLORINE (TOTAL RESIDUAL, TRC)	ND	ug/L	ND	ug/L	17	4500 Cl G	10
DISSOLVED OXYGEN	13.2	mg/L	5.6	mg/L	24	4500-OC/OG	0.2
TOTAL KJELDAHL NITROGEN (TKN)							
NITRATE PLUS NITRITE NITROGEN							
OIL and GREASE							
PHOSPHORUS (Total)							
TOTAL DISSOLVED SOLIDS (TDS)							
OTHER Alkalinity	440	mg/L	361	mg/L	24	SM2320-B	5

**END OF PART B.
 REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE**

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BASIC APPLICATION INFORMATION

PART C. CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:

Basic Application Information packet

Supplemental Application Information packet:

Part D (Expanded Effluent Testing Data)

Part E (Toxicity Testing: Biomonitoring Data)

Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

Part G (Combined Sewer Systems)

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Permittee

Name and Title of Responsible Official _____

Signature _____

Telephone number () _____

E-mail address _____

Date signed _____

Co-Permittee (if applicable)

Name and official title _____

Signature _____

Telephone number () _____

E-mail address _____

Date signed _____

Upon request of the permitting authority, you must submit any other information necessary to assure wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO¹:

¹If unknown, contact an Ecology regional wastewater permit coordinator at: http://www.ecy.wa.gov/programs/wq/permits/permit_coord.html

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SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing: 1.0 mgd and Pretreatment Works. If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old. The applicant should also review Attachment A.

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.											
ANTIMONY	ND	mg/L	ND	g/d	ND	mg/L	ND	g/d	1	EPA 200.8	0.0003
ARSENIC	0.0043 9	mg/L	13.4	g/d	0.004 39	mg/L	13.4	g/d	1	EPA 200.8	0.000082
BERYLLIUM	ND	mg/L	ND	g/d	ND	mg/L	ND	g/d	1	EPA 200.8	0.000353
CADMIUM	ND	mg/L	ND	g/d	ND	mg/L	ND	g/d	1	EPA 200.8	0.000039
CHROMIUM	ND	mg/L	ND	g/d	ND	mg/L	ND	g/d	1	EPA 200.8	0.00004
COPPER	0.0021 6	mg/L	6.6	g/d	0.002 16	mg/L	6.6	g/d	1	EPA 200.8	0.000065
LEAD	ND	mg/L	ND	g/d	ND	mg/L	ND	g/d	1	EPA 200.8	0.000015
MERCURY	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 245.7	0.0002
NICKEL	0.0011 1	mg/L	3.4	g/d	0.001 11	mg/L	3.4	g/d	1	EPA 200.8	0.00018
SELENIUM	ND	mg/L	ND	g/d	ND	mg/L	ND	g/d	1	EPA 200.8	0.00029
SILVER	ND	mg/L	ND	g/d	ND	mg/L	ND	g/d	1	EPA 200.8	0.000066
THALLIUM	ND	mg/L	ND	g/d	ND	mg/L	ND	g/d	1	EPA 200.8	0.00032
ZINC	0.0146	mg/L	44.6	g/d	0.014 6	mg/L	44.6	g/d	1	EPA 200.8	0.0002
CYANIDE	ND	mg/L	ND	g/d	ND	mg/L	ND	g/d	1	EPA 335.4	0.002
TOTAL PHENOLIC COMPOUNDS	ND	mg/L	ND	g/d	ND	mg/L	ND	g/d	1	EPA 420.1	0.015
HARDNESS (AS CaCO3)	414	mg/L		lb/day	257	mg/L	2184	lb/d	24	2340B	0.2

Use this space (or a separate sheet) to provide information on other metals requested by the permit writer

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Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS											
ACROLEIN	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.5
ACRYLONITRILE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
BENZENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
BROMOFORM	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
CARBON TETRACHLORIDE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
CHLOROBENZENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
CHLOROBIKIBROMO-METHANE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
CHLOROETHANE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
2-CHLORO-ETHYL VINYL ETHER	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.5
CHOLOROFORM	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
DICHLOROBROMO-METHANE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
1,1-DICHLOROETHANE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.5
1,2-DICHLOROETHANE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.5
1,2-DICHLOROETHYLENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.5
TRANS-1,2-DICHLOROETHYLENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
1,1-DICHLOROETHYLENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.5
1,2-DICHLOROPROPANE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.5
1,3-DICHLOROPROPYLENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
ETHYLBENZENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
METHYL BROMIDE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
METHYL CHLORIDE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
METHYLENE CHLORIDE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.5
1,1,2,2-TETRACHLOROETHANE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.5

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POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
TETRACHLORO-ETHYLENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
TOLUENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
1,1,1-TRICHLOROETHANE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.5
1,1,2-TRICHLOROETHANE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.5
TRICHLOROETHYLENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1
VINYL CHLORIDE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 624	0.1

Use this space (or a separate sheet) to provide information on other metals requested by the permit writer

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ACID-EXTRACTABLE COMPOUNDS

P-CHLORO-M-CRESOL	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
2-CHLOROPHENOL	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
2,4-DICHLOROPHENOL	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
2,4-DIMETHYLPHENOL	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
4,6-DINITRO-O-CRESOL	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.2
2,4-DINITROPHENOL	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.2
2-NITROPHENOL	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.2
4-NITROPHENOL	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.2
PENTA CHLOROPHENOL	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
PHENOL	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
2,4,6-TRICHLORO PHENOL	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1

Use this space (or a separate sheet) to provide information on other metals requested by the permit writer

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BASE-NEUTRAL COMPOUNDS

ACENAPHTHENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
ACENAPHTYLENE	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1
ANTHRACENE	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1
BENZIDINE	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1

FACILITY NAME AND PERMIT NUMBER:

City of Othello WWTP (WA-0022357)

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
BENZO(A) ANTHRACENE	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1
BENZO(J)FLUORANTHENE	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1
BENZO(r,s,t)PENTAPHENE											
BENZO(A)PYRENE	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1
3,4 BENZO-FLUORANTHENE	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1
BENZO(GH)PERYLENE	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1
BENZO(K)FLUORANTHENE	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1
BIS (2-CHLOROETHOXY) METHANE	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1
BIS (2-CHLOROETHYL)-ETHER	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1
BIS (2-CHLOROISOPROPYL) ETHER	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1
BIS (2-ETHYLHEXYL) PHTHALATE	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.2
4-BROMOPHENYL PHENYL ETHER	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1
BUTYL BENZYL PHTHALATE	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.2
2-CHLORO NAPHTHALENE	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1
4-CHLORPHENYL PHENYL ETHER	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1
CHRYSENE	ND	ug/L	ND	g/d	ND	ug/L	ND	ug/L	1	EPA 625	0.1
DIBENZO(a,j)ACRIDINE											
DIBENZO(a,h)ACRIDINE											
DIBENZO(a,e)PYRENE											
DIBENZO(a,h)PYRENE											
DI-N-BUTYL PHTHALATE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.2
DI-N-OCTYL PHTHALATE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.2
DIBENZO(A,H) ANTHRACENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
1,2-DICHLORO BENZENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1

FACILITY NAME AND PERMIT NUMBER:

City of Othello WWTP (WA-0022357)

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
1,3-DICHLORO BENZENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
1,4-DICHLORO BENZENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
3,3-DICHLORO BENZIDINE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
DIETHYL PHTHALATE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.2
DIMETHYL PHTHALATE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.2
2,4-DINITROTOLUENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
2,6-DINITROTOLUENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
1,2-DIPHENYLHYDRAZINE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
FLUORANTHENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
FLUORENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
HEXACHLORO BENZENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
HEXACHLOROBUT ADIENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
HEXACHLOROCYCLO-PENTADIENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
HEXA CHLOROETHANE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
INDENO(1,2,3-CD) PYRENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
ISOPHORONE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
3-METHYL CHOLANTHRENE											
NAPHTHALENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
NITROBENZENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
N-NITROSODI-N-PROPYLAMINE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
N-NITROSODI-METHYLAMINE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
N-NITROSODI-PHENYLAMINE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
PERYLENE											
PHENANTHRENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
PYRENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1
1,2,4-TRICHLOROBENZENE	ND	ug/L	ND	g/d	ND	ug/L	ND	g/d	1	EPA 625	0.1

FACILITY NAME AND PERMIT NUMBER:
City of Othello WWTP (WA-0022357)

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		

Use this space (or a separate sheet) to provide information on other metals requested by the permit writer

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**END OF PART D.
 REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM
 2A YOU MUST COMPLETE**

FACILITY NAME AND PERMIT NUMBER:

City of Othello WWTP (WA-0022357)

SUPPLEMENTAL APPLICATION INFORMATION

PART E. TOXICITY TESTING DATA

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

E.1. Required Tests.

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

chronic acute

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

Test number: _____ Test number: _____ Test number: _____

a. Test information.

Test Species & test method number			
Age at initiation of test			
Outfall number			
Dates sample collected			
Date test started			
Duration			

b. Give toxicity test methods followed.

Manual title			
Edition number and year of publication			
Page number(s)			

c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.

24-Hour composite			
Grab			

d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each.)

Before disinfection			
After disinfection			
After dechlorination			

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Test number: _____		Test number: _____		Test number: _____	
e. Describe the point in the treatment process at which the sample was collected.					
Sample was collected:					
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both					
Chronic toxicity					
Acute toxicity					
g. Provide the type of test performed.					
Static					
Static-renewal					
Flow-through					
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.					
Laboratory water					
Receiving water					
i. Type of dilution water. If salt water, specify "natural" or type of artificial sea salts or brine used.					
Fresh water					
Salt water					
j. Give the percentage effluent used for all concentrations in the test series.					
k. Parameters measured during the test. (State whether parameter meets test method specifications)					
pH					
Salinity					
Temperature					
Ammonia					
Dissolved oxygen					
l. Test Results.					
Acute:					
Percent survival in 100% effluent		%	%	%	%
LC ₅₀					
95% C.I.		%	%	%	%
Control percent survival		%	%	%	%
Other (describe)					

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Chronic:

NOEC	%	%	%
IC ₂₅	%	%	%
Control percent survival	%	%	%
Other (describe)			
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?			
Was reference toxicant test within acceptable bounds?			
What date was reference toxicant test run (MM/DD/YYYY)?	/ /	/ /	/ /
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

Yes No

If yes, describe: _____

E.4. Summary of Submitted Biomonitoring Test Information. If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

Date submitted: ____/____/____ (MM/DD/YYYY)

Summary of results: (see instructions)

**END OF PART E.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM
2A YOU MUST COMPLETE.**

FACILITY NAME AND PERMIT NUMBER:

City of Othello WWTP (WA-0022357)

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete part F.

GENERAL INFORMATION:

F.1. Pretreatment Program. Does the treatment works have, or is subject to, an approved pretreatment program?

Yes No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 1

b. Number of CIUs. _____

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: SVZ-USA, Inc.

Mailing Address: P.O. Box 715

Othello, WA 99344

F.4. Industrial Processes. Describe all the industrial processes that affect or contribute to the SIU's discharge.

Production of fruit and vegetable juice concentrates and purees

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): fruit and vegetable juice concentrates and purees

Raw material(s): raw fruit and vegetables from the field or frozen storage

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharge into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

90,000 gpd (continuous or intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

0 gpd (continuous or intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits Yes No

b. Categorical pretreatment standards Yes No

If subject to categorical pretreatment standards, which category and subcategory?

CFR Title 40, Part 407, Subpart F

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F.8. Problems at the Treatment Works Attributed to Waste Discharge by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

Yes No If yes, describe each episode.

RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE:

F.9. RCRA Waste. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail or dedicated pipe?

Yes No (go to F.12)

F.10. Waste Transport. Method by which RCRA waste is received (check all that apply):

Truck Rail Dedicated Pipe

F.11. Waste Description. Give EPA hazardous waste number and amount (volume or mass, specify units).

<u>EPA Hazardous Waste Number</u>	<u>Amount</u>	<u>Units</u>
<hr/>	<hr/>	<hr/>
<hr/>	<hr/>	<hr/>
<hr/>	<hr/>	<hr/>

CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER:

F.12. Remediation Waste. Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?

Yes (complete F.13 through F.15.) No

F.13. Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

F.14. Pollutants. List the hazardous constituents that are received (or are expected to be received). Include data on volume and concentration, if known. (Attach additional sheets if necessary.)

F.15. Waste Treatment.

a. Is this waste treated (or will be treated) prior to entering the treatment works?

Yes No

If yes, describe the treatment (provide information about the removal efficiency):

b. Is the discharge (or will the discharge be) continuous or intermittent?

Continuous Intermittent If intermittent, describe discharge schedule.

**END OF PART F.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM
2A YOU MUST COMPLETE**

FACILITY NAME AND PERMIT NUMBER:

City of Othello WWTP (WA-0022357)

SUPPLEMENTAL APPLICATION INFORMATION

PART G. COMBINED SEWER SYSTEMS

If the treatment works has a combined sewer system, complete Part G.

G.1. System Map. Provide a map indicating the following: (may be included with Basic Application Information)

- a. All CSO discharge points.
- b. Sensitive use areas potentially affected by CSOs (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems, and outstanding natural resource waters).
- c. Waters that support threatened and endangered species potentially affected by CSOs.

G.2. System Diagram. Provide a diagram, either in the map provided in G.1 or on a separate drawing, of the combined sewer collection system that includes the following information.

- a. Location of major sewer trunk lines, both combined and separate sanitary.
- b. Locations of points where separate sanitary sewers feed into the combined sewer system.
- c. Locations of in-line and off-line storage structures.
- d. Locations of flow-regulating devices.
- e. Locations of pump stations.

CSO OUTFALLS:

Complete questions G.3 through G.6 once for each CSO discharge point.

G.3. Description of Outfall.

- a. Outfall number _____
- b. Location _____
(city or town, if applicable) (Zip Code) _____

(County) (State) _____

(Latitude) (Longitude) _____
- c. Distance from shore (if applicable) _____ ft.
- d. Depth below surface (if applicable) _____ ft.
- e. Which of the following were monitored during the last year for this CSO?
 Rainfall CSO pollutant concentrations CSO frequency
 CSO flow volume Receiving water quality
- f. How many storm events were monitored during the last year? _____

G.4. CSO Events.

- a. Give the number of CSO events in the last year.
_____ events (actual or approx.)
- b. Give the average duration per CSO event.
_____ hours (actual or approx.)

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- c. Give the average volume per CSO event.
_____ million gallons (actual or approx.)
- d. Give the minimum rainfall that caused a CSO event in the last year
_____ Inches of rainfall

G.5. Description of Receiving Waters.

- a. Name of receiving water: _____
- b. Name of watershed/river/stream system: _____
United State Soil Conservation Service 14-digit watershed code (if known): _____
- c. Name of State Management/River Basin: _____
United States Geological Survey 8-digit hydrologic cataloging unit code (if known): _____

G.6. CSO Operations.

Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shell fish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable State water quality standard).

**END OF PART G.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM
2A YOU MUST COMPLETE.**

Additional information, if provided, will appear on the following pages.

ATTACHMENT A

EFFLUENT CHARACTERIZATION FOR PERMIT APPLICATION

This attachment is used in conjunction with Section V, Parts A, B, and C of EPA Application Form 2C, and Parts A.12, B.6, and D of EPA application Form 2A. It specifies effluent characterization requirements of the Department of Ecology and analytical procedure and detection and quantitation levels for some parameters. For new permit applications, analyze your wastewater for all parameters required by the application and any additional pollutants or groups of pollutants with an X in the left column. Existing Permittees should compile the data from the last year's data for parameters routinely measured. If you are a primary industry category with effluent guidelines you may have some mandatory testing requirements (see Table 2C-2 Form 2C). If you are a municipal POTW, EPA has identified mandatory testing requirements, which depend upon the design flow (see EPA Form 2A).

Ecology added this attachment to the application in order to reduce the number of analytical "non-detects" in required monitoring and to measure effluent concentrations near or below criteria values where possible at a reasonable cost. The applicant must use the specified analytical methods, detection limits (DLs) and quantitation levels (QLs) in the following table for application required monitoring unless:

- Another permit condition specifies other methods, detection levels, or quantitation levels.
- The method used produces measurable results in the sample and EPA has listed it as an EPA-approved method in 40 CFR Part 136.

If the applicant uses an alternative method, as allowed above, it must report the test method, DL, and QL in the application. If the applicant is unable to obtain the required DL and QL in its effluent due to matrix effects, the applicant must submit a matrix-specific detection limit (MDL) and a quantitation limit (QL) to Ecology with appropriate laboratory documentation.

	Form 2C Ref. #	Pollutant & CAS No. (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L unless specified	Quantitation Level (QL)² µg/L unless specified
10		Conventional (Part A)			
	a.	Biochemical Oxygen Demand	SM5210-B		2 mg/L
		Soluble Biochemical Oxygen Demand	SM5210-B ³		2 mg/L
	b.	Chemical Oxygen Demand	SM5220-D		10 mg/L
	c.	Total Organic Carbon	SM5310-B/C/D		1 mg/L
	d.	Total Suspended Solids	SM2540-D		5 mg/L
	e.	Total Ammonia (as N)	SM4500-NH3-B and C/D/E/G/H		20
	f.	Flow	Calibrated device		
		Dissolved oxygen	SM4500-OC/OG		0.2 mg/L
		Temperature (max. 7-day avg.)	Analog recorder or Use micro-recording devices known as thermistors		0.2° C
	i.	pH	SM4500-H ⁺ B	N/A	N/A
10		Nonconventional (Part B)			
		Total Alkalinity	SM2320-B		5 mg/L as CaCO ₃
	b.	Chlorine, Total Residual	SM4500 Cl G		50.0
	c.	Color	SM2120 B/C/E		10 color units

Form 2C Ref. #	Pollutant & CAS No. (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L unless specified	Quantitation Level (QL) ² µg/L unless specified
d.	Fecal Coliform	SM 9221E,9222	N/A	Specified in method - sample aliquot dependent
e.	Fluoride (16984-48-8)	SM4500-F E	25	100
f.	Nitrate + Nitrite Nitrogen (as N)	SM4500-NO3-E/F/H		100
g.	Nitrogen, Total Kjeldahl (as N)	SM4500-N _{org} B/C and SM4500NH ₃ -B/C/D/EF/G/H		300
	Soluble Reactive Phosphorus (as P)	SM4500-P E/F/G	3	10
i.	Phosphorus, Total (as P)	SM 4500 PB followed by SM4500-PE/PF	3	10
h.	Oil and Grease (HEM) (Hexane Extractable Material)	1664 A or B	1,400	5,000
	Salinity	SM2520-B		3 practical salinity units or scale (PSU or PSS)
	Settleable Solids	SM2540 -F		500 (or 1.0 mL/L)
k.	Sulfate (as mg/L SO ₄)	SM4110-B		0.2 mg/L
l.	Sulfide (as mg/L S)	SM4500-S ² F/D/E/G		0.2 mg/L
m.	Sulfite (as mg/L SO ₃)	SM4500-SO3B		2 mg/L
	Total Coliform	SM 9221B, 9222B, 9223B	N/A	Specified in method - sample aliquot dependent
	Total dissolved solids	SM2540 C		20 mg/L
	Total Hardness	SM2340B		200 as CaCO ₃
o.	Aluminum, Total (7429-90-5)	200.8	2.0	10
p.	Barium Total (7440-39-3)	200.8	0.5	2.0
	BTEX (benzene +toluene + ethylbenzene + m,o,p xylenes)	EPA SW 846 8021/8260	1	2
q.	Boron Total (7440-42-8)	200.8	2.0	10.0
r.	Cobalt, Total (7440-48-4)	200.8	0.05	0.25
s.	Iron, Total (7439-89-6)	200.7	12.5	50
t.	Magnesium, Total (7439-95-4)	200.7	10	50
u.	Molybdenum, Total (7439-98-7)	200.8	0.1	0.5
v.	Manganese, Total (7439-96-5)	200.8	0.1	0.5
	NWTPH Dx ⁴	Ecology NWTPH Dx	250	250
	NWTPH Gx ⁵	Ecology NWTPH Gx	250	250
w.	Tin, Total (7440-31-5)	200.8	0.3	1.5
x.	Titanium, Total (7440-32-6)	200.8	0.5	2.5

	Form 2C Ref. #	Pollutant & CAS No. (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L unless specified	Quantitation Level (QL)² µg/L unless specified
10		Metals, Cyanide and Total Phenols (Part C)			
	1M.	Antimony, Total (7440-36-0)	200.8	0.3	1.0
	2M.	Arsenic, Total (7440-38-2)	200.8	0.1	0.5
	3M.	Beryllium, Total (7440-41-7)	200.8	0.1	0.5
	4M.	Cadmium, Total (7440-43-9)	200.8	0.05	0.25
		Chromium (hex) dissolved (18540-29-9)	SM3500-Cr EC	0.3	1.2
	5M.	Chromium, Total (7440-47-3)	200.8	0.2	1.0
	6M.	Copper, Total (7440-50-8)	200.8	0.4	2.0
	7M.	Lead, Total (7439-92-1)	200.8	0.1	0.5
	8M.	Mercury, Total (7439-97-6)	1631E	0.0002	0.0005
	9M.	Nickel, Total (7440-02-0)	200.8	0.1	0.5
	10M.	Selenium, Total (7782-49-2)	200.8	1.0	1.0
	11M.	Silver, Total (7440-22-4)	200.8	0.04	0.2
	12M.	Thallium, Total (7440-28-0)	200.8	0.09	0.36
	13M.	Zinc, Total (7440-66-6)	200.8	0.5	2.5
	14M.	Cyanide, Total (57-12-5)	335.4	5	10
		Cyanide, Weak Acid Dissociable	SM4500-CN I	5	10
		Cyanide, Free Amenable to Chlorination (Available Cyanide)	SM4500-CN G	5	10
	15M.	Phenols, Total	EPA 420.1		50
10		Acid Compounds			
	1A.	2-Chlorophenol (95-57-8)	625	1.0	2.0
	2A.	2,4-Dichlorophenol (120-83-2)	625	0.5	1.0
	3A.	2,4-Dimethylphenol (105-67-9)	625	0.5	1.0
	4A.	4,6-dinitro-o-cresol (534-52-1) (2-methyl-4,6-dinitrophenol)	625/1625B	1.0	2.0
	5A.	2,4 dinitrophenol (51-28-5)	625	1.0	2.0
	6A.	2-Nitrophenol (88-75-5)	625	0.5	1.0
	7A.	4-nitrophenol (100-02-7)	625	0.5	1.0
	8A.	Parachlorometa cresol (59-50-7) (4-chloro-3-methylphenol)	625	1.0	2.0
	9A.	Pentachlorophenol (87-86-5)	625	0.5	1.0
	10A.	Phenol (108-95-2)	625	2.0	4.0
	11A.	2,4,6-Trichlorophenol (88-06-2)	625	2.0	4.0
10		Volatile Compounds			
	1V.	Acrolein (107-02-8)	624	5	10
	2V.	Acrylonitrile (107-13-1)	624	1.0	2.0
	3V.	Benzene (71-43-2)	624	1.0	2.0
	5V.	Bromoform (75-25-2)	624	1.0	2.0
	6V.	Carbon tetrachloride (56-23-5)	624/601 or SM6230B	1.0	2.0

Form 2C Ref. #	Pollutant & CAS No. (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L unless specified	Quantitation Level (QL) ² µg/L unless specified
7V.	Chlorobenzene (108-90-7)	624	1.0	2.0
9V.	Chloroethane (75-00-3)	624/601	1.0	2.0
10V.	2-Chloroethylvinyl Ether (110-75-8)	624	1.0	2.0
11V.	Chloroform (67-66-3)	624 or SM6210B	1.0	2.0
8V.	Dibromochloromethane (124-48-1)	624	1.0	2.0
20B.	1,2-Dichlorobenzene (95-50-1)	624	1.9	7.6
21B.	1,3-Dichlorobenzene (541-73-1)	624	1.9	7.6
22B.	1,4-Dichlorobenzene (106-46-7)	624	4.4	17.6
12V.	Dichlorobromomethane (75-27-4)	624	1.0	2.0
14V.	1,1-Dichloroethane (75-34-3)	624	1.0	2.0
15V.	1,2-Dichloroethane (107-06-2)	624	1.0	2.0
16V.	1,1-Dichloroethylene (75-35-4)	624	1.0	2.0
17V.	1,2-Dichloropropane (78-87-5)	624	1.0	2.0
18V.	1,3-dichloropropene (mixed isomers) (1,2-dichloropropylene) (542-75-6) ⁶	624	1.0	2.0
19V.	Ethylbenzene (100-41-4)	624	1.0	2.0
20V.	Methyl bromide (74-83-9) (Bromomethane)	624/601	5.0	10.0
21V.	Methyl chloride (74-87-3) (Chloromethane)	624	1.0	2.0
22V.	Methylene chloride (75-09-2)	624	5.0	10.0
23V.	1,1,2,2-Tetrachloroethane (79-34-5)	624	1.9	2.0
24V.	Tetrachloroethylene (127-18-4)	624	1.0	2.0
25V.	Toluene (108-88-3)	624	1.0	2.0
26V.	1,2-Trans-Dichloroethylene (156-60-5) (Ethylene dichloride)	624	1.0	2.0
27V.	1,1,1-Trichloroethane (71-55-6)	624	1.0	2.0
28V.	1,1,2-Trichloroethane (79-00-5)	624	1.0	2.0
29V.	Trichloroethylene (79-01-6)	624	1.0	2.0
31V.	Vinyl chloride (75-01-4)	624/SM6200B	1.0	2.0
10	Base/Neutral Compounds (compounds in bold are Ecology PBTs)			
	1B. Acenaphthene (83-32-9)	625	0.2	0.4
	2B. Acenaphthylene (208-96-8)	625	0.3	0.6
	3B. Anthracene (120-12-7)	625	0.3	0.6
	4B. Benzidine (92-87-5)	625	12	24
	15B. Benzyl butyl phthalate (85-68-7)	625	0.3	0.6
	5B. Benzo(a)anthracene (56-55-3)	625	0.3	0.6
	7B. Benzo(b)fluoranthene (3,4-benzofluoranthene) (205-99-2) ⁷	610/625	0.8	1.6
	Benzo(j)fluoranthene (205-82-3) ⁷	625	0.5	1.0

Form 2C Ref. #	Pollutant & CAS No. (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L unless specified	Quantitation Level (QL) ² µg/L unless specified
9B.	Benzo(k)fluoranthene (11,12-benzofluoranthene) (207-08-9) ⁷	610/625	0.8	1.6
	Benzo(r,s,t)pentaphene (189-55-9)	625	0.5	1.0
6B.	Benzo(a)pyrene (50-32-8)	610/625	0.5	1.0
8B.	Benzo(ghi)Perylene (191-24-2)	610/625	0.5	1.0
10B.	Bis(2-chloroethoxy)methane (111-91-1)	625	5.3	21.2
11B.	Bis(2-chloroethyl)ether (111-44-4)	611/625	0.3	1.0
12B.	Bis(2-chloroisopropyl)ether (39638-32-9)	625	0.3	0.6
13B.	Bis(2-ethylhexyl)phthalate (117-81-7)	625	0.1	0.5
14B.	4-Bromophenyl phenyl ether (101-55-3)	625	0.2	0.4
16B.	2-Chloronaphthalene (91-58-7)	625	0.3	0.6
17B.	4-Chlorophenyl phenyl ether (7005-72-3)	625	0.3	0.5
18B.	Chrysene (218-01-9)	610/625	0.3	0.6
	Dibenzo (a,h)acridine (226-36-8)	610M/625M	2.5	10.0
	Dibenzo (a,j)acridine (224-42-0)	610M/625M	2.5	10.0
19B.	Dibenzo(a-h)anthracene (53-70-3)(1,2,5,6-dibenzanthracene)	625	0.8	1.6
	Dibenzo(a,e)pyrene (192-65-4)	610M/625M	2.5	10.0
	Dibenzo(a,h)pyrene (189-64-0)	625M	2.5	10.0
23B.	3,3-Dichlorobenzidine (91-94-1)	605/625	0.5	1.0
24B.	Diethyl phthalate (84-66-2)	625	1.9	7.6
25B.	Dimethyl phthalate (131-11-3)	625	1.6	6.4
26B.	Di-n-butyl phthalate (84-74-2)	625	0.5	1.0
27B.	2,4-dinitrotoluene (121-14-2)	609/625	0.2	0.4
28B.	2,6-dinitrotoluene (606-20-2)	609/625	0.2	0.4
29B.	Di-n-octyl phthalate (117-84-0)	625	0.3	0.6
30B.	1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	1625B	5.0	20
31B.	Fluoranthene (206-44-0)	625	0.3	0.6
32B.	Fluorene (86-73-7)	625	0.3	0.6
33B.	Hexachlorobenzene (118-74-1)	612/625	0.3	0.6
34B.	Hexachlorobutadiene (87-68-3)	625	0.5	1.0
35B.	Hexachlorocyclopentadiene (77-47-4)	1625B/625	0.5	1.0
36B.	Hexachloroethane (67-72-1)	625	0.5	1.0
37B.	Indeno(1,2,3-cd)Pyrene (193-39-5)	610/625	0.5	1.0
38B.	Isophorone (78-59-1)	625	0.5	1.0
	3-Methyl cholanthrene (56-49-5)	625	2.0	8.0

Form 2C Ref. #	Pollutant & CAS No. (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L unless specified	Quantitation Level (QL) ² µg/L unless specified
39B.	Naphthalene (91-20-3)	625	0.3	0.6
40B.	Nitrobenzene (98-95-3)	625	0.5	1.0
41B.	N-Nitrosodimethylamine (62-75-9)	607/625	2.0	4.0
42B.	N-Nitrosodi-n-propylamine (621-64-7)	607/625	0.5	1.0
43B.	N-Nitrosodiphenylamine (86-30-6)	625	0.5	1.0
	Perylene (198-55-0)	625	1.9	7.6
44B.	Phenanthrene (85-01-8)	625	0.3	0.6
45B.	Pyrene (129-00-0)	625	0.3	0.6
46B.	1,2,4-Trichlorobenzene (120-82-1)	625	0.3	0.6
10	Dioxin			
	2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin (176-40-16) (2,3,7,8 TCDD)	1613B	1.3 pg/L	5 pg/L
10	Pesticides/PCBs			
1P.	Aldrin (309-00-2)	608	0.025	0.05
2P.	alpha-BHC (319-84-6)	608	0.025	0.05
3P.	beta-BHC (319-85-7)	608	0.025	0.05
4P.	gamma-BHC (58-89-9)	608	0.025	0.05
5P.	delta-BHC (319-86-8)	608	0.025	0.05
6P.	Chlordane (57-74-9) ⁸	608	0.025	0.05
7P.	4,4'-DDT (50-29-3)	608	0.025	0.05
8P.	4,4'-DDE (72-55-9)	608	0.025	0.0510
9P.	4,4' DDD (72-54-8)	608	0.025	0.05
10P.	Dieldrin (60-57-1)	608	0.025	0.05
11P.	alpha-Endosulfan (959-98-8)	608	0.025	0.05
12P.	beta-Endosulfan (33213-65-9)	608	0.025	0.05
13P.	Endosulfan Sulfate (1031-07-8)	608	0.025	0.05
14P.	Endrin (72-20-8)	608	0.025	0.05
15P.	Endrin Aldehyde (7421-93-4)	608	0.025	0.05
16P.	Heptachlor (76-44-8)	608	0.025	0.05
17P.	Heptachlor Epoxide (1024-57-3)	608	0.025	0.05
18P.	PCB-1242 (53469-21-9) ⁹	608	0.25	0.5
19P.	PCB-1254 (11097-69-1)	608	0.25	0.5
20P.	PCB-1221 (11104-28-2)	608	0.25	0.5
21P.	PCB-1232 (11141-16-5)	608	0.25	0.5
22P.	PCB-1248 (12672-29-6)	608	0.25	0.5
23P.	PCB-1260 (11096-82-5)	608	0.13	0.5
24P.	PCB-1016 (12674-11-2) ⁹	608	0.13	0.5
25P.	Toxaphene (8001-35-2)	608	0.24	0.5

1. Detection level (DL) or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B.
2. Quantitation Level (QL) also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to $(1, 2, \text{ or } 5) \times 10^n$, where n is an integer. (64 FR 30417).
ALSO GIVEN AS:
The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency December 2007).
3. Soluble Biochemical Oxygen Demand method note: First, filter the sample through a Millipore Nylon filter (or equivalent) - pore size of 0.45-0.50 um (prep all filters by filtering 250 ml of laboratory grade deionized water through the filter and discard). Then, analyze sample as per method 5210-B.
4. NWTPH Dx - Northwest Total Petroleum Hydrocarbons Diesel Extended Range – see <http://www.ecy.wa.gov/biblio/97602.html>
5. NWTPH Gx - Northwest Total Petroleum Hydrocarbons Gasoline Extended Range – see <http://www.ecy.wa.gov/biblio/97602.html>
6. 1, 3-dichloroproylene (mixed isomers) You may report this parameter as two separate parameters: cis-1, 3-dichloropropene (10061-01-5) and trans-1, 3-dichloropropene (10061-02-6).
7. Total Benzofluoranthenes - Because Benzo(b)fluoranthene, Benzo(j)fluoranthene and Benzo(k)fluoranthene co-elute you may report these three isomers as total benzofluoranthenes.
8. Chlordane – You may report alpha-chlordane (5103-71-9) and gamma-chlordane (5103-74-2) in place of chlordane (57-74-9). If you report alpha and gamma-chlordane, the DL/PQLs that apply are 0.025/0.050.
9. PCB 1016 & PCB 1242 – You may report these two PCB compounds as one parameter called PCB 1016/1242.
10. An X placed in this box means you must analyze for all pollutants in the group. This may be in addition to NPDES application requirements.

To request ADA accommodation including materials in a format for the visually impaired, call the Water Quality Program at Ecology, 360-407-6600. Persons with impaired hearing may use the Washington Relay Service at 711. Persons with a speech disability may call TTY at 877-833-6341.

PROCESS DESCRIPTION

The WWTF consists of a facultative lagoon system that discharges to Owl Creek. Figure 1 presents a map of the existing WWTF. The WWTF was first constructed in 1963. The last major facility expansion occurred in 1981 when the City added two primary lagoons to the existing lagoon system. In 1992, the City replaced the outfall channel to Owl Creek with an 18-inch PVC pipe and in March 2006, the City replaced the headworks culvert. Prior to the headworks culvert replacement, water backed up into the influent flow meter causing inaccurate high readings. Since the headworks culvert replacement, the measured influent flow has dropped significantly.

Wastewater flows by gravity from the City to the headworks where an ultrasonic flow meter measures the influent flow in a 12-inch Parshall flume. Flow from the headworks is equally split between the two earthen dike primary lagoons. The primary lagoons have a combined surface area of 50 acres and provide 48 days of retention time at average flow rates. The discharge from the primary lagoons flows over a stair-step cascade aerator to the secondary lagoons, which operate in series. The two 9-acre secondary lagoons provide a combined detention time of 14 days at average flow. Recirculation pumps located at the headworks building can return all the flow from the secondary lagoons back to the primary lagoons if necessary. The secondary lagoons discharge to the 12.3 acre polishing lagoon, which provide 10 days of detention time at average flow.

The discharge from the polishing pond flows through two chlorine contact chambers to Owl Creek through an 18-inch PVC pipe. The City does not currently inject chlorine into the chlorine contact chambers since effluent fecal coliform numbers are less than the permitted limits except during the spring and fall bird migrations. The City adds granular chlorine to the effluent when fecal counts due to bird waste contamination start to rise during spring or fall bird migration periods.

No significant industrial users discharge to the WWTF. Ecology has rated the plant a Class I facility because the WWTF is a facultative lagoon treatment facility.

DESIGN CRITERIA

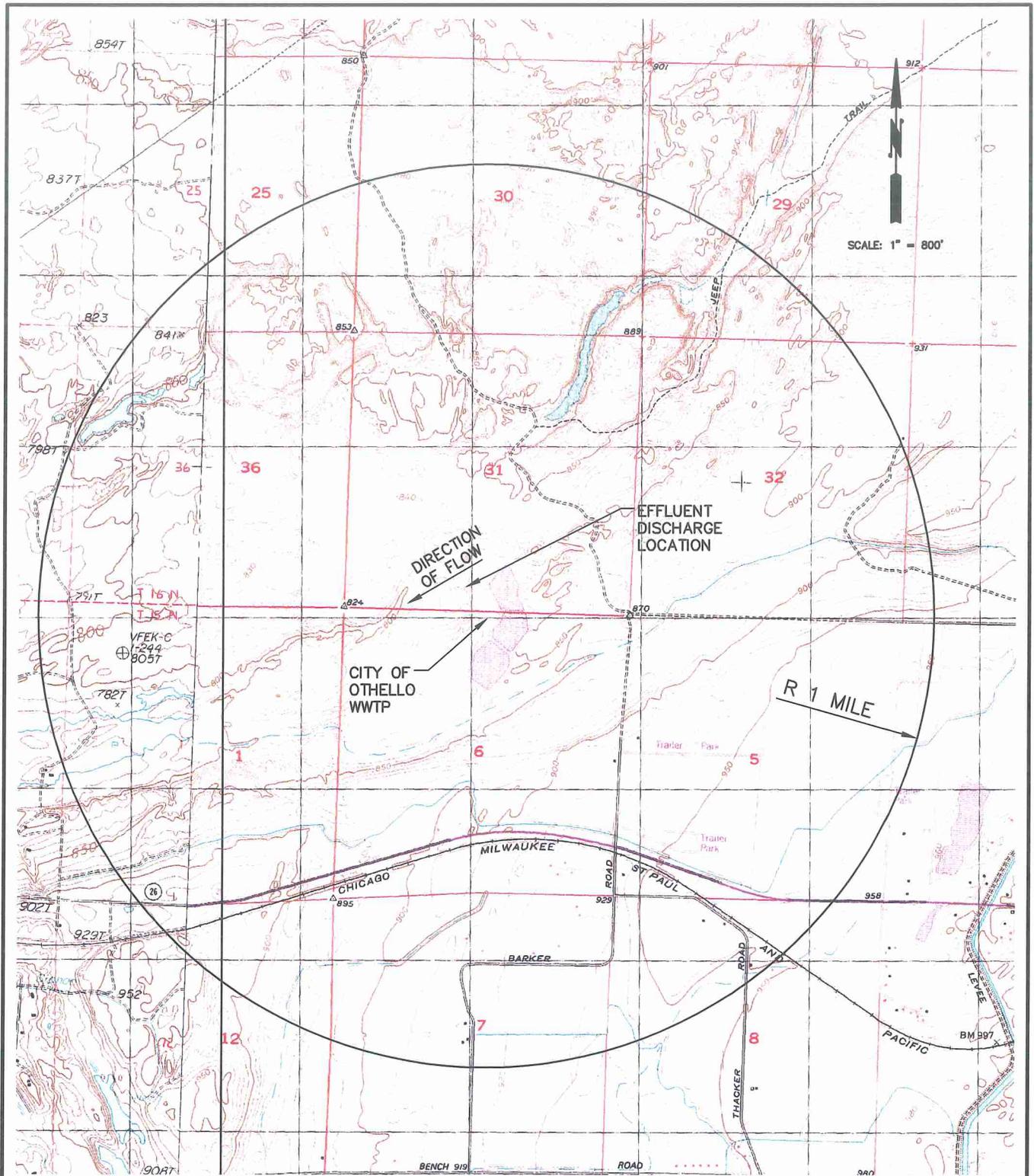
Table 1 presents the design criteria for the WWTF as presented in the *Wastewater System Engineering Report*, Anderson Perry & Associates, Inc 2005 (2005 Wastewater Report).

TABLE 1
WWTF Design Criteria

Design Flow	
Dry Weather, mgd	2.00
Wet Weather, mgd	7.50
Design Loadings	
Population	13,000
Biochemical Oxygen Demand, lbs/day	2,600
Total Suspended Solids, lbs/day	2,600

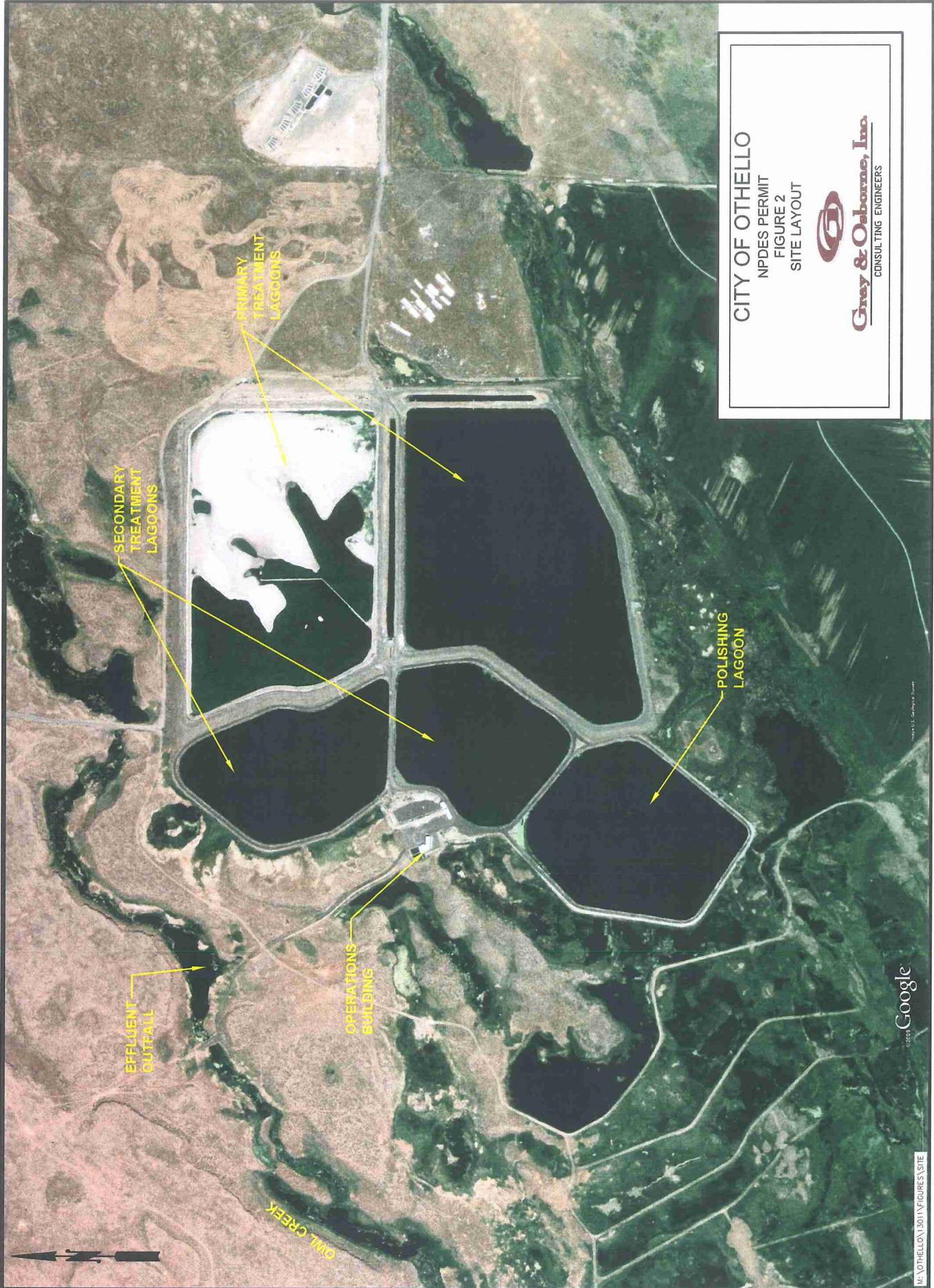
Influent Sewage Pipe	
Type, diameter	RCP 30"
Capacity, mgd	8.4
Primary Treatment Lagoons	
Quantity	2
Construction	Earthen Dike and Earthen Lined
Dimensions (mid water), ft	840 x 1400
Average Side Water Depth, ft	5.5
Surface Area, mid water, acre (each)	25
Surface Loading, lb/ac/day	52
Average Freeboard, ft	3.5
Side Slopes	3:1
Detention Time at average flow, days	48
Distribution Ports, Quantity, diameter	4, 8"
Port Velocity, average flow	2.75
Recirculation Ports, Quantity, diameter	6, 10"
Port Velocity, average circulation flow, fps	7.1
Lagoon Recirculation Pump	
Capacity total, mgd	12.5
Pumps, Quantity	2
Pumps, capacity, each, gpm	4,400
Total dynamic head, ft	8
Motor, hp	20
Secondary Treatment Lagoons	
Quantity	2
Construction	Earthen Dike and Earthen Lined
Dimensions (mid water), ft	550 x 700
Average Side Water Depth, ft	5
Surface Area, acre (each)	9
Average Freeboard, ft	2.5
Side Slopes	2.5:1
Detention Time at average flow, days	14
Distribution Ports, Quantity, diameter	2, 8"
Port Velocity, average flow, fps	1.6
Collection Ports, Quantity, diameter	3, 18"
Polishing Lagoon	
Quantity	1
Dimensions (mid water), ft	830 x 640
Construction	Earthen Dike and Earthen Lined
Average Side Water Depth, ft	5
Surface Area, mid water, acre	12.3
Average Freeboard, ft	2.5
Side Slopes	2.5:1
Detention Time at average flow, days	10

Distribution Ports, Quantity, diameter	1, 18"
Port Velocity, average flow, fps	3.2
Collection Ports, Quantity, diameter	1, 24"
Chlorine Contact Chambers	
Quantity	2
Dimension, ft	26 x 58
Average Water Depth, ft	5.87
Detention, average flow, hrs	1.60
Detention, with one basin out of service, hrs	0.8
Chlorination Equipment	
Quantity	2
Capacity, lb/day	500
Chlorination Rate, mg/L	15
Usage, average flow, lb/day	100
Domestic Water Well	
Capacity, gpm	5 gpm @ 60 psi



CITY OF OTHELLO
 NPDES PERMIT
 FIGURE 1
 TOPOGRAPHICAL MAP

Gray & Osborne, Inc.
 CONSULTING ENGINEERS

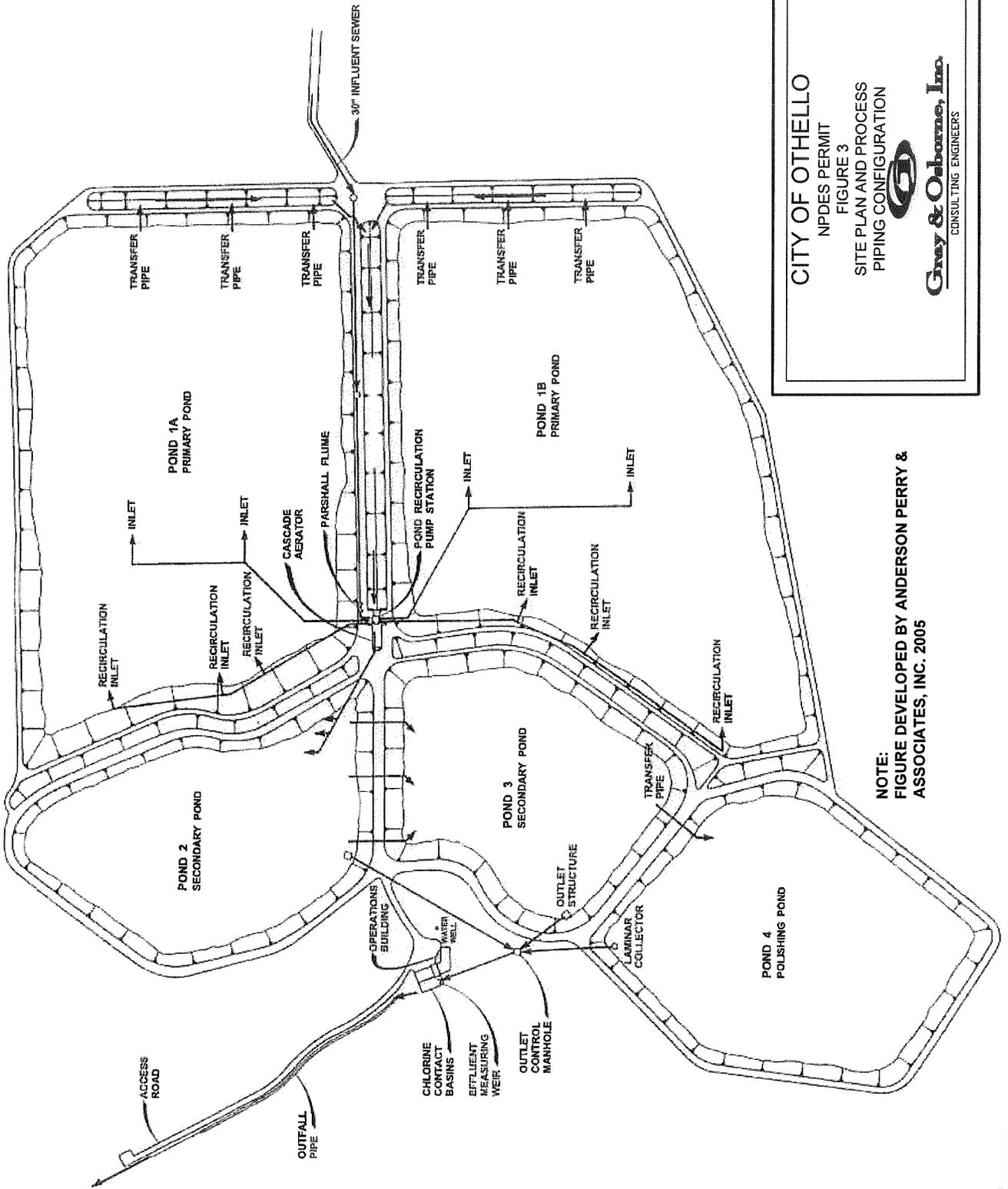


CITY OF OTHELLO
NPDES PERMIT
FIGURE 2
SITE LAYOUT



©2009 Google

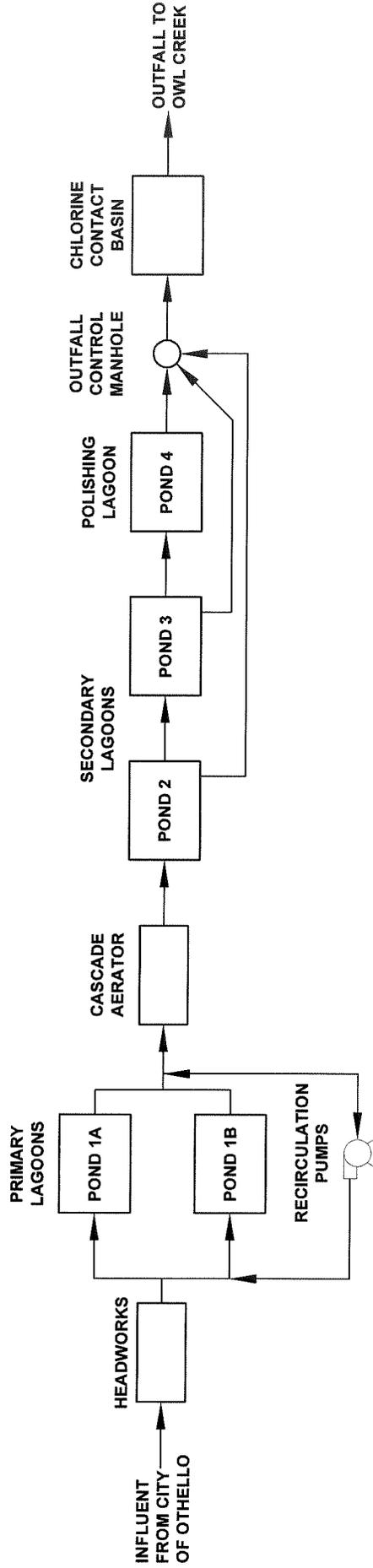
M:\OTHELLO\13011\FIGURES\SITE



CITY OF OTHELLO
 NPDES PERMIT
 FIGURE 3
 SITE PLAN AND PROCESS
 PIPING CONFIGURATION

Gray & Osborne, Inc.
 CONSULTING ENGINEERS

NOTE:
 FIGURE DEVELOPED BY ANDERSON PERRY &
 ASSOCIATES, INC. 2005



PROCESS FLOW DIAGRAM

CITY OF OTHELLO
NPDES PERMIT
FIGURE 4
PROCESS FLOW DIAGRAM



Well Type Legend:

- Water Wells
- Resource Protection Wells
- Decommissioned Wells
- Multiple Well Types

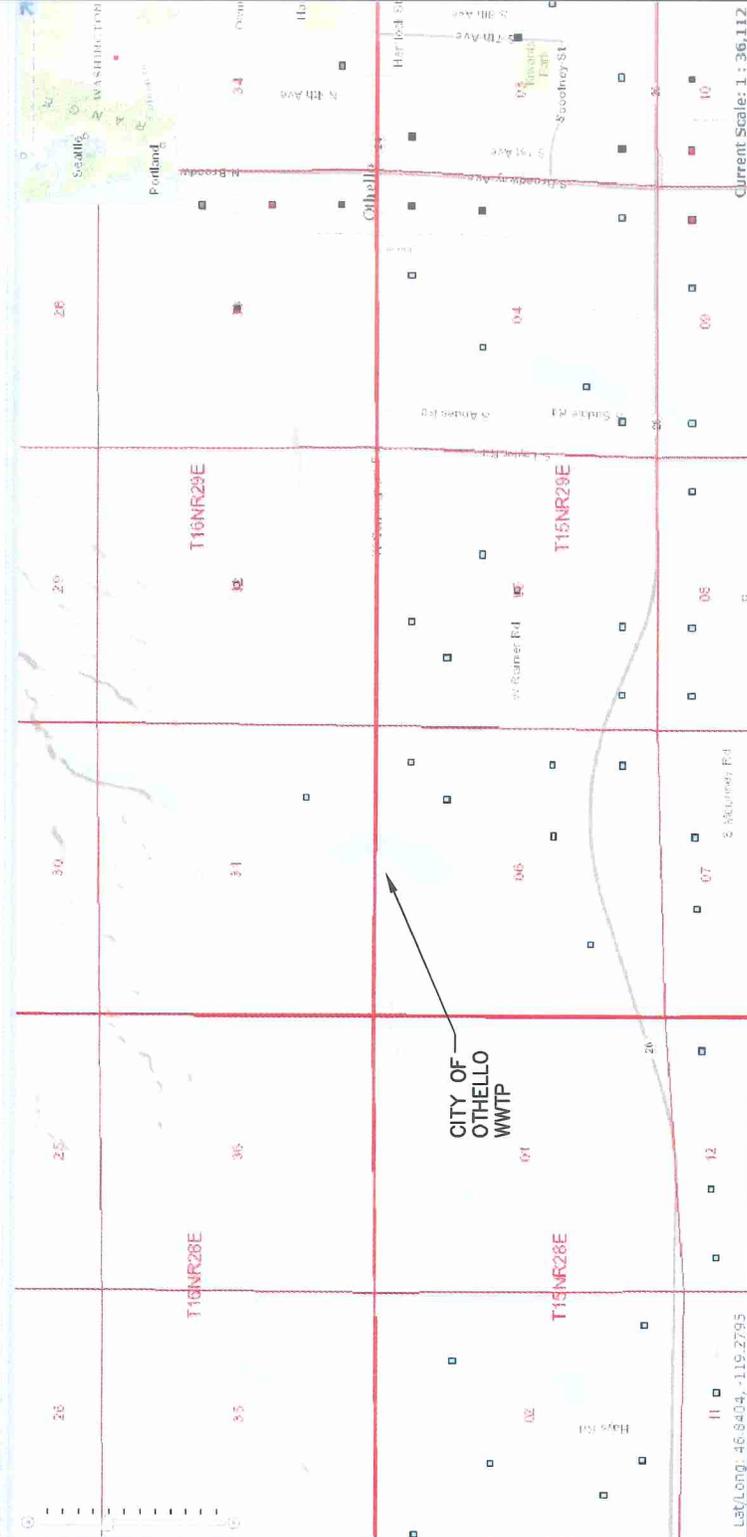
Administrative Boundaries:
(Turn layers on/off top)

- Section
- Townships
- Parcels
- Watersheds (WRIA)

Background Layers:

- USGS Topo Map
- Terrain Map
- Aerial Imagery

Zoom In Full Pan Speed
Zoom Out Full Pan Speed
Home



CITY OF OTHELLO
 NPDES PERMIT
 FIGURE 5
 WELLS NEAR WWTP



Grey & Osborne, Inc.
CONSULTING ENGINEERS

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: VARELA & ASSOCIATES, INC
Address: 601 W MALLON AVE
SPOKANE, WA 99201

Batch #: 180321065
Project Name: OTHELLO WWTP

Attn:

Analytical Results Report

Sample Number	180321065-001	Sampling Date	3/21/2018	Date/Time Received	3/21/2018 4:15 PM
Client Sample ID	OTHELLO WWTP EFFLUENT	Sampling Time	12:30 PM	Extraction Date	
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Antimony	ND	mg/L	0.001	4/4/2018 3:10:00 PM	KNP	EPA 200.8	
Arsenic	0.00439	mg/L	0.001	4/4/2018 3:10:00 PM	KNP	EPA 200.8	
Beryllium	ND	mg/L	0.001	4/4/2018 3:10:00 PM	KNP	EPA 200.8	
Cadmium	ND	mg/L	0.001	4/4/2018 3:10:00 PM	KNP	EPA 200.8	
Chromium	ND	mg/L	0.001	4/4/2018 3:10:00 PM	KNP	EPA 200.8	
Copper	0.00216	mg/L	0.001	4/4/2018 3:10:00 PM	KNP	EPA 200.8	
Cyanide	ND	mg/L	0.01	3/27/2018 4:34:00 PM	TLM	EPA 335.4	
Lead	ND	mg/L	0.001	4/4/2018 3:10:00 PM	KNP	EPA 200.8	
Mercury-CVAFS	0.00521	ug/L	0.01	3/28/2018	SDR	EPA 245.7	J
Nickel	0.00111	mg/L	0.001	4/4/2018 3:10:00 PM	KNP	EPA 200.8	
4,4-DDD	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
4,4-DDE	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
4,4-DDT	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
Aldrin	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
alpha-BHC	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
Aroclor 1016 (PCB-1016)	ND	ug/L	0.8	3/29/2018	MAH	EPA 608	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.8	3/29/2018	MAH	EPA 608	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.8	3/29/2018	MAH	EPA 608	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.8	3/29/2018	MAH	EPA 608	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.8	3/29/2018	MAH	EPA 608	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.8	3/29/2018	MAH	EPA 608	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.8	3/29/2018	MAH	EPA 608	
beta-BHC	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
Chlordane	ND	ug/L	0.4	3/29/2018	MAH	EPA 608	
delta-BHC	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
Dieldrin	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
Endosulfan I	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
Endosulfan II	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
Endosulfan sulfate	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
Endrin	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
Endrin aldehyde	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
Endrin ketone	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
gamma-BHC (Lindane)	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
Heptachlor	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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Client: VARELA & ASSOCIATES, INC
Address: 601 W MALLON AVE
SPOKANE, WA 99201

Batch #: 180321065
Project Name: OTHELLO WWTP

Attn:

Analytical Results Report

Sample Number 180321065-001 **Sampling Date** 3/21/2018 **Date/Time Received** 3/21/2018 4:15 PM
Client Sample ID OTHELLO WWTP EFFLUENT **Sampling Time** 12:30 PM **Extraction Date**
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Heptachlor epoxide	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
Methoxychlor	ND	ug/L	0.04	3/29/2018	MAH	EPA 608	
Toxaphene	ND	ug/L	0.4	3/29/2018	MAH	EPA 608	
Phenolics	ND	mg/L	0.05	3/30/2018	MER	EPA 420.1	
Selenium	ND	mg/L	0.001	4/4/2018 3:10:00 PM	KNP	EPA 200.8	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
1,2-Dichlorobenzene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
1,2-Diphenyl hydrazine	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
1,3-Dichlorobenzene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
1,4-Dichlorobenzene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
1-Methylnaphthalene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
2,3,4,6-Tetrachlorophenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
2,3,5,6-Tetrachlorophenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
2,4,5-Trichlorophenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
2,4,6-Trichlorophenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
2,4-Dichlorophenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
2,4-Dimethylphenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
2,4-Dinitrophenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
2,4-Dinitrotoluene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
2,6-Dinitrotoluene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
2-Chloronaphthalene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
2-Chlorophenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
2-Methylnaphthalene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
2-Methylphenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
2-Nitroaniline	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
2-Nitrophenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
3+4-Methylphenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
3-Nitroaniline	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
4-Bromophenyl-phenylether	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
4-Chloro-3-methylphenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
4-Chloroaniline	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
4-Nitroaniline	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	

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Client: VARELA & ASSOCIATES, INC
Address: 601 W MALLON AVE
SPOKANE, WA 99201

Batch #: 180321065
Project Name: OTHELLO WWTP

Attn:

Analytical Results Report

Sample Number 180321065-001 **Sampling Date** 3/21/2018 **Date/Time Received** 3/21/2018 4:15 PM
Client Sample ID OTHELLO WWTP EFFLUENT **Sampling Time** 12:30 PM **Extraction Date**
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
4-Nitrophenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Acenaphthene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Acenaphthylene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Aniline	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Anthracene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Benzidine	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Benzo(ghi)perylene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Benzo[a]anthracene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Benzo[a]pyrene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Benzo[b]fluoranthene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Benzo[k]fluoranthene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Benzyl alcohol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
bis(2-Chloroethyl)ether	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Butylbenzylphthalate	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Carbazole	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Chrysene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Dibenz[a,h]anthracene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Dibenzofuran	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Diethylphthalate	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Dimethylphthalate	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Di-n-butylphthalate	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Di-n-octylphthalate	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Fluoranthene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Fluorene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Hexachlorobenzene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Hexachlorobutadiene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Hexachlorocyclopentadiene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Hexachloroethane	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Isophorone	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Naphthalene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Nitrobenzene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	

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Client: VARELA & ASSOCIATES, INC
Address: 601 W MALLON AVE
SPOKANE, WA 99201

Batch #: 180321065
Project Name: OTHELLO WWTP

Attn:

Analytical Results Report

Sample Number 180321065-001 **Sampling Date** 3/21/2018 **Date/Time Received** 3/21/2018 4:15 PM
Client Sample ID OTHELLO WWTP EFFLUENT **Sampling Time** 12:30 PM **Extraction Date**
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrosodimethylamine	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
n-Nitroso-di-n-propylamine	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
n-Nitrosodiphenylamine	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Pentachlorophenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Phenanthrene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Phenol	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Pyrene	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Pyridine	ND	ug/L	0.5	3/30/2018 11:56:00 PM	HSW	EPA 625	
Silver	ND	mg/L	0.001	4/4/2018 3:10:00 PM	KNP	EPA 200.8	
Thallium	ND	mg/L	0.001	4/4/2018 3:10:00 PM	KNP	EPA 200.8	
1,1,1-Trichloroethane	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
1,1,2-Trichloroethane	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
1,1-Dichloroethane	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
1,1-Dichloroethene	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
1,2-Dichloroethane	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
1,2-Dichloropropane	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
2-Chloroethyl vinyl ether	ND	ug/L	2.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Acrolein	ND	ug/L	2.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Acrylonitrile	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Benzene	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Bromodichloromethane	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Bromoform	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Bromomethane	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Carbon Tetrachloride	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Chlorobenzene	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Chloroethane	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Chloroform	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Chloromethane	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
cis-1,3-Dichloropropene	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Dibromochloromethane	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Ethylbenzene	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Methylene chloride	ND	ug/L	2.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Tetrachloroethene	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Toluene	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	

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Client: VARELA & ASSOCIATES, INC
Address: 601 W MALLON AVE
SPOKANE, WA 99201

Batch #: 180321065
Project Name: OTHELLO WWTP

Attn:

Analytical Results Report

Sample Number	180321065-001	Sampling Date	3/21/2018	Date/Time Received	3/21/2018 4:15 PM		
Client Sample ID	OTHELLO WWTP EFFLUENT	Sampling Time	12:30 PM	Extraction Date			
Matrix	Water	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
trans-1,2-Dichloroethene	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
trans-1,3-Dichloropropene	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Trichloroethene	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Trichlorofluoromethane	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Vinyl Chloride	ND	ug/L	0.5	3/28/2018 12:15:00 PM	ARY	EPA 624	
Zinc	0.0146	mg/L	0.001	4/4/2018 3:10:00 PM	KNP	EPA 200.8	

Surrogate Data

Sample Number	180321065-001			
Surrogate Standard	Method	Percent Recovery	Control Limits	
DCB	EPA 608	80.2	30-130	
1,2-Dichlorobenzene-d4	EPA 624	103.0	70-130	
4-Bromofluorobenzene	EPA 624	93.4	70-130	
Toluene-d8	EPA 624	102.8	70-130	
2,4,6-Tribromophenol	EPA 625	107.2	53-125	
2-Fluorobiphenyl	EPA 625	83.2	12-116	
2-Fluorophenol	EPA 625	75.4	10-139	
Nitrobenzene-d5	EPA 625	84.4	49-118	
Phenol-d5	EPA 625	88.4	28-154	
Terphenyl-d14	EPA 625	51.2	20-137	

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Client: VARELA & ASSOCIATES, INC
Address: 601 W MALLON AVE
SPOKANE, WA 99201

Batch #: 180321065
Project Name: OTHELLO WWTP

Attn:

Analytical Results Report

Sample Number	180321065-002	Sampling Date	3/21/2018	Date/Time Received	3/21/2018 4:15 PM
Client Sample ID	TRIP BLANK	Sampling Time		Extraction Date	
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1-Trichloroethane	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
1,1,2-Trichloroethane	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
1,1-Dichloroethane	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
1,1-Dichloroethene	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
1,2-Dichloroethane	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
1,2-Dichloropropane	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
2-Chloroethyl vinyl ether	ND	ug/L	2.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Acrolein	ND	ug/L	2.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Acrylonitrile	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Benzene	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Bromodichloromethane	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Bromoform	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Bromomethane	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Carbon Tetrachloride	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Chlorobenzene	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Chloroethane	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Chloroform	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Chloromethane	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
cis-1,3-Dichloropropene	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Dibromochloromethane	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Ethylbenzene	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Methylene chloride	ND	ug/L	2.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Tetrachloroethene	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Toluene	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
trans-1,2-Dichloroethene	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
trans-1,3-Dichloropropene	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Trichloroethene	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Trichlorofluoromethane	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	
Vinyl Chloride	ND	ug/L	0.5	3/28/2018 12:49:00 PM	ARY	EPA 624	

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Client: VARELA & ASSOCIATES, INC
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Batch #: 180321065
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Attn:

Analytical Results Report

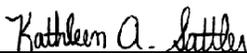
Sample Number	180321065-002	Sampling Date	3/21/2018	Date/Time Received	3/21/2018 4:15 PM
Client Sample ID	TRIP BLANK	Sampling Time		Extraction Date	
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
-----------	--------	-------	-----	---------------	---------	--------	-----------

Surrogate Data

Sample Number	180321065-002						
Surrogate Standard		Method		Percent Recovery		Control Limits	
1,2-Dichlorobenzene-d4		EPA 624		103.6		70-130	
4-Bromofluorobenzene		EPA 624		92.6		70-130	
Toluene-d8		EPA 624		103.8		70-130	

Authorized Signature



Kathleen A. Sattler, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: VARELA & ASSOCIATES, INC

Order ID: 180321065

601 W MALLON AVE

Order Date: 3/21/2018

SPOKANE

WA

99201

Contact Name:

Project Name: OTHELLO WWTP

Comment: 625/608/PHENOLICS/HG SUBCONTRACTED TO ANATEK-M

Sample #: 180321065-001 **Customer Sample #:** OTHELLO WWTP EFFLUENT

Recv'd:



Matrix: Water

Collector:

Date Collected: 3/21/2018

Quantity: 8

Date Received: 3/21/2018 4:15:00 PM

Time Collected: 12:30 PM

Comment:

Test	Lab	Method	Due Date	Priority
CYANIDE TOTAL EPA	S	EPA 335.4	4/2/2018	<u>Normal (~10 Days)</u>
OC PEST/PCB 608	M	EPA 608	4/2/2018	<u>Normal (~10 Days)</u>
PHENOLICS TOTAL	M	EPA 420.1	4/2/2018	<u>Normal (~10 Days)</u>
SEMIVOLATILES 625	M	EPA 625	4/2/2018	<u>Normal (~10 Days)</u>
Volatiles Priority Pollutant	S	EPA 624	4/2/2018	<u>Normal (~10 Days)</u>
Antimony	S	EPA 200.8	4/2/2018	<u>Normal (~10 Days)</u>
Arsenic	S	EPA 200.8	4/2/2018	<u>Normal (~10 Days)</u>
BERYLLIUM	S	EPA 200.8	4/2/2018	<u>Normal (~10 Days)</u>
Cadmium	S	EPA 200.8	4/2/2018	<u>Normal (~10 Days)</u>
Chromium	S	EPA 200.8	4/2/2018	<u>Normal (~10 Days)</u>
Copper	S	EPA 200.8	4/2/2018	<u>Normal (~10 Days)</u>
Lead	S	EPA 200.8	4/2/2018	<u>Normal (~10 Days)</u>
MERCURY-CVAFS	M	EPA 245.7	4/2/2018	<u>Normal (~10 Days)</u>
Nickel	S	EPA 200.8	4/2/2018	<u>Normal (~10 Days)</u>
Priority Pollutant Metals	S	N/A	4/2/2018	<u>Normal (~10 Days)</u>
Selenium	S	EPA 200.8	4/2/2018	<u>Normal (~10 Days)</u>
Silver	S	EPA 200.8	4/2/2018	<u>Normal (~10 Days)</u>
Thallium	S	EPA 200.8	4/2/2018	<u>Normal (~10 Days)</u>
Zinc	S	EPA 200.8	4/2/2018	<u>Normal (~10 Days)</u>

Customer Name: VARELA & ASSOCIATES, INC
601 W MALLON AVE
SPOKANE WA 99201

Order ID: 180321065
Order Date: 3/21/2018

Contact Name:

Project Name: OTHELLO WWTP

Comment: 625/608/PHENOLICS/HG SUBCONTRACTED TO ANATEK-M

Sample #: 180321065-002 **Customer Sample #:** TRIP BLANK

Recv'd: **Matrix:** Water **Collector:** **Date Collected:** 3/21/2018

Quantity: 2 **Date Received:** 3/21/2018 4:15:00 PM **Time Collected:**

Comment:

Test	Lab	Method	Due Date	Priority
Volatiles Priority Pollutant	S	EPA 624	4/2/2018	<u>Normal (~10 Days)</u>

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature of the sample(s)? (°C)	10.8/10.9
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	Yes
Is there a trip blank to accompany VOC samples?	Yes
Labels and chain agree?	Yes
Total number of containers?	10



Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
 504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

30321 065 **VARE** Last Due **4/2/2018**
 1st SAMP 3/21/2018 1st RCVD 3/21/2018
 OTHELLO WWTP

Company Name: Varela & Associates Inc.	Project Manager:
Address: 601 W. Mallon Ave.	Project Name & #:
City: Spokane State: WA Zip: 99201	Email Address:
Phone: 509-328-6066	Purchase Order #:
Fax:	Sampler Name & phone:

Turn Around Time & Reporting
 Please refer to our normal turn around times at:
<http://www.anateklabs.com/services/guidelines/reporting.asp>

Normal
 Next Day*
 2nd Day*
 Other*

*All rush order requests must be prior approved.
 Phone
 Mail
 Fax
 Email

Provide Sample Description **List Analyses Requested**

All samples are from an effluent grab sample of the Othello WWTP.				Preservative:							
				# of Containers	Sample Volume	Priority Analytes	PP-BVA	PP-Phenolics	PP-Pesticides	PP-VOC w/acetone	Cyanide
Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Priority Analytes	PP-BVA	PP-Phenolics	PP-Pesticides	PP-VOC w/acetone	Cyanide
	Othello WWTP Effluent	12:30pm 3/21/18	Waste Water	10							
	trip blank			8						X	

Note Special Instructions/Comments

SNBS
 M-608, 625, Hg, Phenolics

	Printed Name	Signature	Company	Date	Time
Relinquished by	Travis Denham	<i>Travis Denham</i>	Varela & Associates	3/21/18	4:15pm
Received by	Andrew Mendez	<i>Andrew Mendez</i>	Anatek Labs	3-21-18	16:15
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact? Y N
 Labels & Chains Agree? Y N
 Containers Sealed? Y N
 VOC Head Space? Y N

Hand, Cooler, Ice

Temperature (°C): 10.8°C

Preservative: HCl 56295

H₂SO₄ R329-2-2 pH P16230-71

Date & Time: 3-21-18 1739

Inspected By: *MJ*

Accepted Pat McQuire June 10, 2013

This form is equivalent to EPA NPDES Form 3510-2A

RECEIVED
JUN 03 2013

FACILITY NAME AND PERMIT NUMBER:
City of Othello Wastewater Treatment Plant
(WA-0022357)

FORM
2A
NPDES



NPDES FORM 2A APPLICATION OVERVIEW



APPLICATION OVERVIEW

Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

BASIC APPLICATION INFORMATION:

- A. **Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.
- B. **Additional Application Information for Applicants with a Design Flow \geq 0.1 mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.
- C. **Certification.** All applicants must complete Part C (Certification).

SUPPLEMENTAL APPLICATION INFORMATION:

- D. **Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):
 - 1. Has a design flow rate greater than or equal to 1 mgd,
 - 2. Is required to have a pretreatment program (or has one in place), or
 - 3. Is otherwise required by the permitting authority to provide the information.
- E. **Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):
 - 1. Has a design flow rate greater than or equal to 1 mgd,
 - 2. Is required to have a pretreatment program (or has one in place), or
 - 3. Is otherwise required by the permitting authority to submit results of toxicity testing.
- F. **Industrial User Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:
 - 1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
 - 2. Any other industrial user that:
 - a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
 - b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
 - c. Is designated as an SIU by the control authority.
- G. **Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).

ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)

FACILITY NAME AND PERMIT NUMBER:

City of Othello Wastewater Treatment Plant
(WA-0022357)

A.5. Indian Country.

a. Is the treatment works located in Indian Country?

Yes No

b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

Yes No

A.6. Flow. Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

a. Design flow rate 7.50 MGD mgd

Wet month
Two Years Ago (2010)

2.0 MGD - Dry month (no irrigation)
Last Year (2011)

ADM 6/10
This Year (2012)

b. Annual average daily flow rate (influent) 1.202 MGD

1.072 MGD

0.945 MGD

c. Maximum daily flow rate (Influent) 2.028 MGD

2.217 MGD

1.672 MGD

A.7. Collection System. Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

Separate sanitary sewer

100 %

Combined storm and sanitary sewer

0 %

A.8. Discharges and Other Disposal Methods.

a. Does the treatment works discharge effluent to waters of the U.S.?

Yes No

If yes, list how many of each of the following types of discharge points the treatment works uses:

i. Discharges of treated effluent 1

ii. Discharges of untreated or partially treated effluent 0

iii. Combined sewer overflow points 0

iv. Constructed emergency overflows (prior to the headworks) 0

v. Other _____

b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.?

Yes No

If yes, provide the following for each surface impoundment:

Location: _____

Annual average daily volume discharge to surface impoundment(s) _____ mgd

Is discharge continuous or intermittent?

c. Does the treatment works land-apply treated wastewater?

Yes No

If yes, provide the following for each land application site:

Location: _____

Number of acres: _____

Annual average daily volume applied to site: _____ mgd

Is land application continuous or intermittent?

d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works?

Yes No

FACILITY NAME AND PERMIT NUMBER:

City of Othello Wastewater Treatment Plant
(WA-0022357)

If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

If transport is by a party other than the applicant, provide:

Transporter Name _____

Mailing Address _____

Contact Person _____

Title _____

Telephone Number (_____) _____

For each treatment works that receives this discharge, provide the following:

Name _____

Mailing Address _____

Contact Person _____

Title _____

Telephone Number (_____) _____

If known, provide the NPDES permit number of the treatment works that receives this discharge _____

Provide the average daily flow rate from the treatment works into the receiving facility. _____ mgd

- e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8. through A.8.d above (e.g., underground percolation, well injection): Yes No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

Annual daily volume disposed by this method: _____

Is disposal through this method continuous or intermittent?

FACILITY NAME AND PERMIT NUMBER:

City of Othello Wastewater Treatment Plant

(WA-0022357)

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 once for each outfall (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. If you answered "no" to question A.8.a, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

- a. Outfall number 001
- b. Location Owl Creek 99344
(City or town, if applicable) (Zip Code)
Adams WA
(County) (State)
46.830 119.227
(Latitude) Provide these as decimal degrees (NAD83/WGS84) (Longitude)
- c. Distance from shore (if applicable) 0 ft.
- d. Depth below surface (if applicable) _____ ft.
- e. Average daily flow rate (design) 2.0 dry / 7.5 wet MGD
- f. Does this outfall have either an intermittent or a periodic discharge?
 Yes No (go to A.9.g.)
If yes, provide the following information:
Number f times per year discharge occurs: _____
Average duration of each discharge: _____
Average flow per discharge: _____ mgd
Months in which discharge occurs: _____
- g. Is outfall equipped with a diffuser?
 Yes No

A.10. Description of Receiving Waters.

- a. Name of receiving water Owl Creek to Lower Crab Creek to the Columbia River
- b. Name of watershed (if known) WRIA 41
United States Soil Conservation Service 14-digit watershed code (if known): _____
- c. Name of State Management/River Basin (if known): _____
United States Geological Survey 8-digit hydrologic cataloging unit code (if known): _____
- d. Critical low flow of receiving stream (if applicable)
acute _____ cfs chronic _____ cfs
- e. Total hardness of receiving stream at critical low flow (if applicable): _____ mg/l of CaCO₃

FACILITY NAME AND PERMIT NUMBER:

City of Othello Wastewater Treatment Plant

(WA-0022357)

A.11. Description of Treatment

a. What level of treatment are provided? Check all that apply.

Primary Secondary

Advanced Other. Describe: _____

b. Indicate the following removal rates (as applicable):

Design BOD5 removal or Design CBOD5 removal 85 %

Design SS removal 85 %

Design P removal _____ %

Design N removal _____ %

Other _____ %

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe:

The City adds granular chlorine to the effluent when fecal counts, due to bird waste contamination, begin to rise during spring or fall bird migration periods.

If disinfection is by chlorination is dechlorination used for this outfall? Yes No

d. Does the treatment plant have post aeration? Yes No

A.12 Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than one and one-half years apart.

Outfall number: 001

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	5.81	s.u.			
pH (Maximum)	9.8	s.u.			
Flow Rate	1.90	MGD	1.01	MGD	1090
Temperature (Winter)	11.1	°C	3.6	°C	567
Temperature (Summer)	26.1	°C	19.9	°C	293

* For pH please report a minimum and a maximum daily value

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Conc.	Units	Number of Samples		

CONVENTIONAL AND NON CONVENTIONAL COMPOUNDS								
BIOCHEMICAL OXYGEN DEMAND (Report one)	BOD5	32.9	mg/L	11.2	mg/L	149	SM5210-B	2 mg/L
	CBOD5							
FECAL COLIFORM		800.0	#/100mL	75.0	#/100mL	141	SM9222-D	NA
TOTAL SUSPENDED SOLIDS (TSS)		39.0	mg/L	9.7	mg/L	151	SM2540-D	5 mg/L

END OF PART A.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

City of Othello Wastewater Treatment Plant
(WA-0022357)

BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

0.72 MGD in 2012 (from Ecology 2012 I&I Report spreadsheet)

Briefly explain any steps underway or planned to minimize inflow and infiltration.

The City is attempting to identify leaking sewer lines and plans to replace them as resources are available.

B.2. Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

- a. The area surrounding the treatment plant, including all unit processes.
- b. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.
- c. Each well where wastewater from the treatment plant is injected underground.
- d. Wells, springs, other surface water bodies, and drinking water wells that are: 1) within $\frac{1}{4}$ mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.
- e. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.
- f. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where the hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g., chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? Yes No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: _____

Mailing Address: _____

Telephone Number: () _____

Responsibilities of Contractor: _____

B.5. Scheduled improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

a. List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

N/A

b. Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

Yes No

FACILITY NAME AND PERMIT NUMBER:

**City of Othello Wastewater Treatment Plant
(WA-0022357)**

c. If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule MM/DD/YYYY	Actual Completion MM/DD/YYYY
- Begin Construction	/ /	/ /
- End Construction	/ /	/ /
- Begin Discharge	/ /	/ /
- Attain Operational Level	/ /	/ /

e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? Yes No

Describe briefly: _____

B.6. EFFLUENT TESTING DATA (GREATER THAN 0.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods (See attachment A). In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum effluent testing data must be based on at least three pollutant scans and must be no more than four and on-half years old.

Outfall Number: 001

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NON CONVENTIONAL COMPOUNDS							
AMMONIA (as N)	8.50	mg/L	3.64	mg/L	152	SM4500-NH3-GH	0.3 mg/L
CHLORINE (TOTAL RESIDUAL, TRC)	0.17	µg/L	0.04	µg/L	624	4500 Cl G	50 µg/L
DISSOLVED OXYGEN	17.43	mg/L	4.83	mg/L	699	4500-OG	0.2 mg/L
TOTAL KJELDAHL NITROGEN (TKN)	14.4	mg/L	14.2	mg/L	3	SM4500-Norg C	1.00 mg/L, 0.063 mg/L
NITRATE PLUS NITRITE NITROGEN	0.52	mg/L	0.36	mg/L	3	SM4500-NO3 F	0.01 mg/L, 0.0028 mg/L
OIL and GREASE	1.6	mg/L	0.9*	mg/L	3	1664	2.5 mg/L, 1.1 mg/L
PHOSPHORUS (Total)	2.66	mg/L	2.59	mg/L	3	SM4500-PF, SM4500-PB(S)	0.500 mg/L, 0.0061 mg/L
TOTAL DISSOLVED SOLIDS (TDS)	616	mg/L	613	mg/L	3	SM2540 C	10 mg/L
OTHER: Hardness	221	mg/L	145	mg/L	151	2340B	0.2 mg/L as CaCO ₃
OTHER: Alkalinity	465	mg/L	347	mg/L	151	SM2320-B	5 mg/L as CaCO ₃

**END OF PART B.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM
2A YOU MUST COMPLETE**

*Per Department of Ecology, non-detect values were included in this average as half the MDL value.

FACILITY NAME AND PERMIT NUMBER:

City of Othello Wastewater Treatment Plant
(WA-0022357)

BASIC APPLICATION INFORMATION

PART C. CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:

Basic Application Information packet

Supplemental Application Information packet:

Part D (Expanded Effluent Testing Data)

Part E (Toxicity Testing: Biomonitoring Data)

Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

Part G (Combined Sewer Systems)

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title Tim Wilson, Mayor, City of Othello

Signature Mayor Tim Wilson

Telephone number (509) 488-5686

Date signed 05-30-13

Upon request of the permitting authority, you must submit any other information necessary to assure wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

FACILITY NAME AND PERMIT NUMBER:
City of Othello Wastewater Treatment Plant
(WA-0022357)

SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing: 1.0 mgd and Pretreatment Works. If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old. The applicant should also review Attachment A.

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		

METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.

ANTIMONY	ND	mg/L	ND	g	ND	mg/L	ND	g	3	200.8/301 0A	0.001 mg/L, 4.98E-05 mg/L
ARSENIC	0.003	mg/L	12.26	g	0.003	mg/L	11.60	g	3	200.8/301 0A	0.001mg/L, 0.00018 mg/L
BERYLLIUM	ND	mg/L	ND	g	ND	mg/L	ND	g	3	200.8/301 0A	0.001 mg/L, 2.03E-05 mg/L
CADMIUM	ND	mg/L	ND	g	ND	mg/L	ND	g	3	200.8/301 0A	0.00025 mg/L, 3.08E-05 mg/L
CHROMIUM	0.001	mg/L	3.54	g	0.000365	mg/L	1.41	g	3	200.8/301 0A	0.001 mg/L, 9.40E-05 mg/L
COPPER	0.003	mg/L	12.26	g	0.003	mg/L	11.60	g	3	200.8/301 0A	0.002 mg/L, 5.19E-05 mg/L
LEAD	0.001	mg/L	3.54	g	0.000339	mg/L	1.31	g	3	200.8/301 0A	0.0005 mg/L, 1.75E-05 mg/L
MERCURY	0.000052	mg/L	0.207	g	0.0000295	mg/L	0.114	g	3	245.1	0.0002 mg/L, 2.10E-05 mg/L
NICKEL	0.0015	mg/L	6.13	g	0.00117	mg/L	4.51	g	3	200.8/301 0A	0.001 mg/L, 4.10E-05 mg/L
SELENIUM	0.002	mg/L	8.18	g	0.000793	mg/L	3.07	g	3	200.8/301 0A	0.002 mg/L, 0.00038 mg/L
SILVER	ND	mg/L	ND	g	ND	mg/L	ND	g	3	200.8/301 0A	0.0002 mg/L, 1.89E-05 mg/L
THALLIUM	0.001	mg/L	3.54	g	0.000413	mg/L	1.60	g	3	200.8/301 0A	0.001 mg/L, 0.00024 mg/L
ZINC	0.013	mg/L	51.7	g	0.0113	mg/L	43.84	g	3	200.8/301 0A	0.0025 mg/L, 0.00023 mg/L
CYANIDE	ND	mg/L	ND	g	ND	mg/L	ND	g	3	SM4500- CNC/SM4 500CNC	0.005 mg/L, 0.0019 mg/L
TOTAL PHENOLIC COMPOUNDS	0.13	mg/L	516.7	g	0.0537	mg/L	207.6	g	3	420.4	0.5 mg/L, 0.01 mg/L
HARDNESS (AS CaCO3)	221	mg/L	665.3	kg	145	mg/L	554.3	kg	151	2340B	0.2 mg/L as CaCO ₃

Use this space (or a separate sheet) to provide information on other metals requested by the permit writer

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*Per Department of Ecology, non-detect values were included in this average as half the MDL value.

FACILITY NAME AND PERMIT NUMBER:

**City of Othello Wastewater Treatment Plant
(WA-0022357)**

Outfall number: **001** (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS											
ACROLEIN	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	4 µg/L, 0.42 µg/L
ACRYLONITRILE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	1 µg/L, 1.83 µg/L
BENZENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.19 µg/L
BROMOFORM	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.17 µg/L
CARBON TETRACHLORIDE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.31 µg/L
CHLOROBENZENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.16 µg/L
CHLOROBIDBROMO-METHANE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.15 µg/L
CHLOROETHANE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.31 µg/L
2-CHLORO-ETHYLVINYL ETHER	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	1 µg/L, 0.45 µg/L
CHOLOROFORM	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.23 µg/L
DICHLOROBROMO-METHANE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.14 µg/L
1,1-DICHLOROETHANE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.26 µg/L
1,2-DICHLOROETHANE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.22 µg/L
1,2-DICHLOROETHYLENE	NA										
TRANS-1,2-DICHLORO-ETHYLENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.19 µg/L
1,1-DICHLOROETHYLENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.26 µg/L
1,2-DICHLOROPROPANE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.2 µg/L
1,3-DICHLOROPROPYLENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.2 µg/L
ETHYLBENZENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.21 µg/L
METHYL BROMIDE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.28 µg/L
METHYL CHLORIDE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.26 µg/L
METHYLENE CHLORIDE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.27 µg/L
1,1,2,2-TETRACHLORO-ETHANE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.19 µg/L

TETRACHLORO-ETHYLENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.26 µg/L
TOLUENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.2 µg/L
1,1,1-TRICHLOROETHANE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.26 µg/L
1,1,2-TRICHLOROETHANE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.22 µg/L
TRICHLOROETHYLENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.19 µg/L
VINYL CHLORIDE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.17 µg/L

Use this space (or a separate sheet) to provide information on other metals requested by the permit writer

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ACID-EXTRACTABLE COMPOUNDS

P-CHLORO-M-CRESOL	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.23 µg/L
2-CHLOROPHENOL	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.3 µg/L
2,4-DICHLOROPHENOL	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	1 µg/L, 0.2 µg/L
2,4-DIMETHYLPHENOL	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.3 µg/L
4,6-DINITRO-O-CRESOL	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.3 µg/L
2,4-DINITROPHENOL	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	1 µg/L, 0.4 µg/L
2-NITROPHENOL	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.3 µg/L
4-NITROPHENOL	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	1 µg/L, 0.5 µg/L
PENTA-CHLOROPHENOL	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.21 µg/L
PHENOL	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.08 µg/L
2,4,6-TRICHLORO-PHENOL	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.16 µg/L

Use this space (or a separate sheet) to provide information on other metals requested by the permit writer

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BASE-NEUTRAL COMPOUNDS

ACENAPHTHENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.2 µg/L
ACENAPHTYLENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.2 µg/L
ANTHRACENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.2 µg/L
BENZIDINE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	5 µg/L
BENZO(A)ANTHRACENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.1 µg/L
BENZO(J)FLUORANTHENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	1 µg/L, 0.4 µg/L
BENZO(r,s,t)PENTAPHENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	1 µg/L, 0.7 µg/L
BENZO(A)PYRENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.2 µg/L

3.4 BENZO-FLUORANTHENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.3 µg/L
BENZO(GHI)PERYLENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.11 µg/L
BENZO(K)FLUORANTHENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.2 µg/L
BIS (2-CHLOROETHOXY) METHANE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.2 µg/L
BIS (2-CHLOROETHYL)-ETHER	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.19 µg/L
BIS (2-CHLOROISOPROPYL) ETHER	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.15 µg/L
BIS (2-ETHYLHEXYL) PHTHALATE	1.2	µg/L	4769.1	mg	1.07	µg/L	4126.2	mg	3	625	0.5 µg/L, 1 µg/L
4-BROMOPHENYL PHENYL ETHER	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.14 µg/L
BUTYL BENZYL PHTHALATE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.17 µg/L
2-CHLORO NAPHTHALENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.11 µg/L
4-CHLOROPHENYL PHENYL ETHER	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.09 µg/L
CHRYSENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.1 µg/L
DIBENZO(a,j)ACRIDINE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	2 µg/L, 0.3 µg/L
DIBENZO(a,h)ACRIDINE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	2 µg/L, 0.9 µg/L
DI-N-BUTYL PHTHALATE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.2 µg/L
DI-N-OCTYL PHTHALATE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.16 µg/L
DIBENZO(A,H) ANTHRACENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.18 µg/L
1,2-DICHLORO BENZENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.17 µg/L
1,3-DICHLORO BENZENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.14 µg/L
1,4-DICHLORO BENZENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	624	0.4 µg/L, 0.19 µg/L
3,3-DICHLORO BENZIDINE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	1 µg/L, 0.5 µg/L
DIETHYL PHTHALATE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.1 µg/L
DIMETHYL PHTHALATE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.4 µg/L
2,4-DINITROTOLUENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.2 µg/L
2,6-DINITROTOLUENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.2 µg/L
1,2-DIPHENYLHYDRAZINE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.08 µg/L
FLUORANTHENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.2 µg/L
FLUORENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.11 µg/L

HEXACHLORO BENZENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.1 µg/L
HEXACHLOROBUT ADIENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.3 µg/L
HEXACHLOROCYCLO-PENTADIENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.17 µg/L
HEXA CHLOROETHANE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.2 µg/L
INDENO(1,2,3-CD) PYRENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.1 µg/L
ISOPHORONE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.11 µg/L
3-METHYL CHOLANTHRENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	2 µg/L, 0.2 µg/L
NAPHTHALENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.1 µg/L
NITROBENZENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.2 µg/L
N-NITROSODI-N-PROPYLAMINE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.18 µg/L
N-NITROSODI-METHYLAMINE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.08 µg/L
N-NITROSODI-PHENYLAMINE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	1 µg/L, 0.15 µg/L
PERYLENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	1 µg/L, 0.3 µg/L
PHENANTHRENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.2 µg/L
PYRENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.1 µg/L, 0.1 µg/L
1,2,4-TRICHLOROBENZENE	ND	µg/L	ND	mg	ND	µg/L	ND	mg	3	625	0.5 µg/L, 0.2 µg/L

Use this space (or a separate sheet) to provide information on other metals requested by the permit writer

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**END OF PART D.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM
2A YOU MUST COMPLETE**

PROCESS DESCRIPTION

The WWTF consists of a facultative lagoon system that discharges to Owl Creek. Figure 1 presents a map of the existing WWTF. The WWTF was first constructed in 1963. The last major facility expansion occurred in 1981 when the City added two primary lagoons to the existing lagoon system. In 1992, the City replaced the outfall channel to Owl Creek with an 18-inch PVC pipe and in March 2006, the City replaced the headworks culvert. Prior to the headworks culvert replacement, water backed up into the influent flow meter causing inaccurate high readings. Since the headworks culvert replacement, the measured influent flow has dropped significantly.

Wastewater flows by gravity from the City to the headworks where an ultrasonic flow meter measures the influent flow in a 12-inch Parshall flume. Flow from the headworks is equally split between the two earthen dike primary lagoons. The primary lagoons have a combined surface area of 50 acres and provide 48 days of retention time at average flow rates. The discharge from the primary lagoons flows over a stair-step cascade aerator to the secondary lagoons, which operate in series. The two 9-acre secondary lagoons provide a combined detention time of 14 days at average flow. Recirculation pumps located at the headworks building can return all the flow from the secondary lagoons back to the primary lagoons if necessary. The secondary lagoons discharge to the 12.3 acre polishing lagoon, which provide 10 days of detention time at average flow.

The discharge from the polishing pond flows through two chlorine contact chambers to Owl Creek through an 18-inch PVC pipe. The City does not currently inject chlorine into the chlorine contact chambers since effluent fecal coliform numbers are less than the permitted limits except during the spring and fall bird migrations. The City adds granular chlorine to the effluent when fecal counts due to bird waste contamination start to rise during spring or fall bird migration periods.

No significant industrial users discharge to the WWTF. Ecology has rated the plant a Class I facility because the WWTF is a facultative lagoon treatment facility.

DESIGN CRITERIA

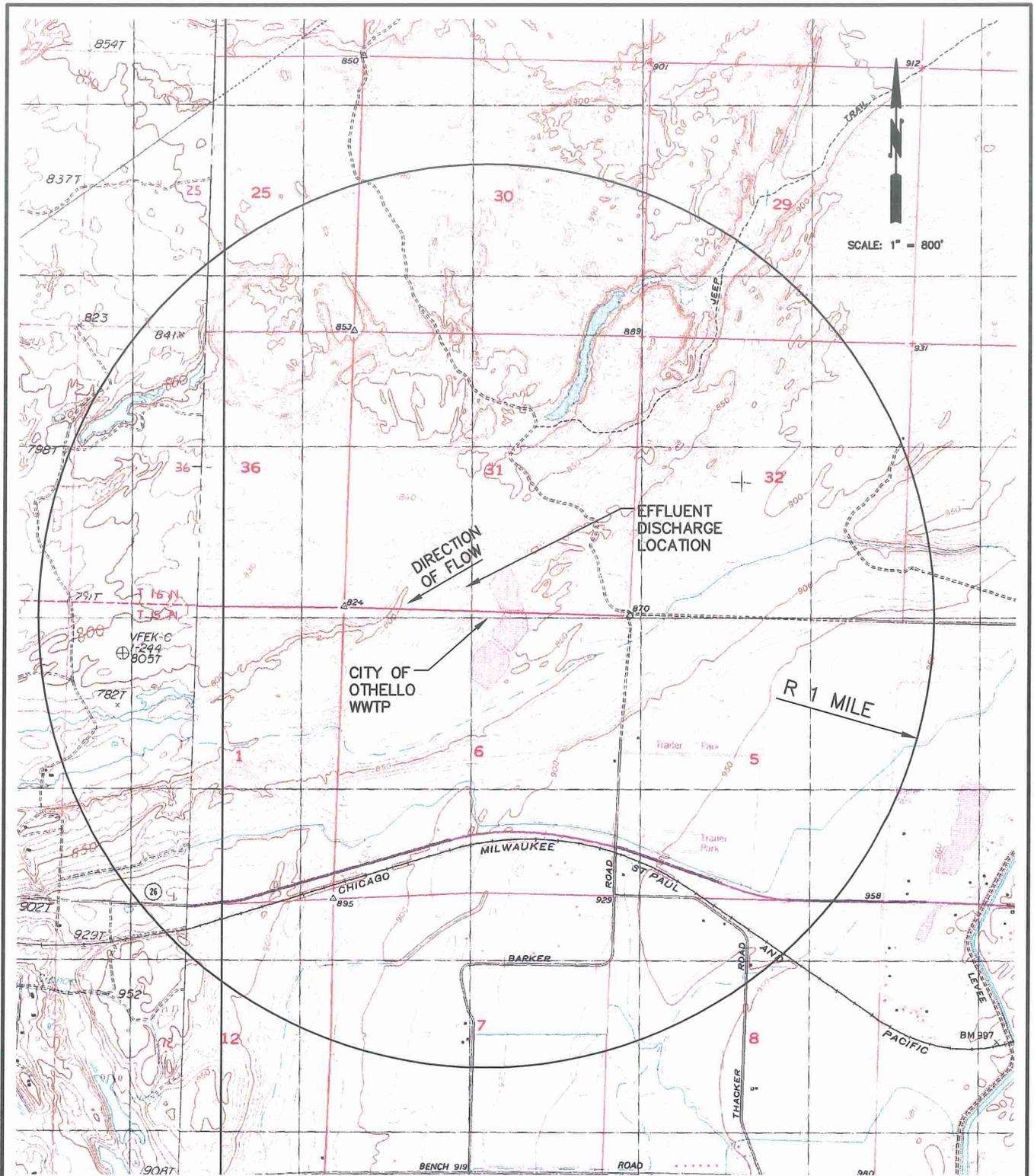
Table 1 presents the design criteria for the WWTF as presented in the *Wastewater System Engineering Report*, Anderson Perry & Associates, Inc 2005 (2005 Wastewater Report).

TABLE 1
WWTF Design Criteria

Design Flow	
Dry Weather, mgd	2.00
Wet Weather, mgd	7.50
Design Loadings	
Population	13,000
Biochemical Oxygen Demand, lbs/day	2,600
Total Suspended Solids, lbs/day	2,600

Influent Sewage Pipe	
Type, diameter	RCP 30"
Capacity, mgd	8.4
Primary Treatment Lagoons	
Quantity	2
Construction	Earthen Dike and Earthen Lined
Dimensions (mid water), ft	840 x 1400
Average Side Water Depth, ft	5.5
Surface Area, mid water, acre (each)	25
Surface Loading, lb/ac/day	52
Average Freeboard, ft	3.5
Side Slopes	3:1
Detention Time at average flow, days	48
Distribution Ports, Quantity, diameter	4, 8"
Port Velocity, average flow	2.75
Recirculation Ports, Quantity, diameter	6, 10"
Port Velocity, average circulation flow, fps	7.1
Lagoon Recirculation Pump	
Capacity total, mgd	12.5
Pumps, Quantity	2
Pumps, capacity, each, gpm	4,400
Total dynamic head, ft	8
Motor, hp	20
Secondary Treatment Lagoons	
Quantity	2
Construction	Earthen Dike and Earthen Lined
Dimensions (mid water), ft	550 x 700
Average Side Water Depth, ft	5
Surface Area, acre (each)	9
Average Freeboard, ft	2.5
Side Slopes	2.5:1
Detention Time at average flow, days	14
Distribution Ports, Quantity, diameter	2, 8"
Port Velocity, average flow, fps	1.6
Collection Ports, Quantity, diameter	3, 18"
Polishing Lagoon	
Quantity	1
Dimensions (mid water), ft	830 x 640
Construction	Earthen Dike and Earthen Lined
Average Side Water Depth, ft	5
Surface Area, mid water, acre	12.3
Average Freeboard, ft	2.5
Side Slopes	2.5:1
Detention Time at average flow, days	10

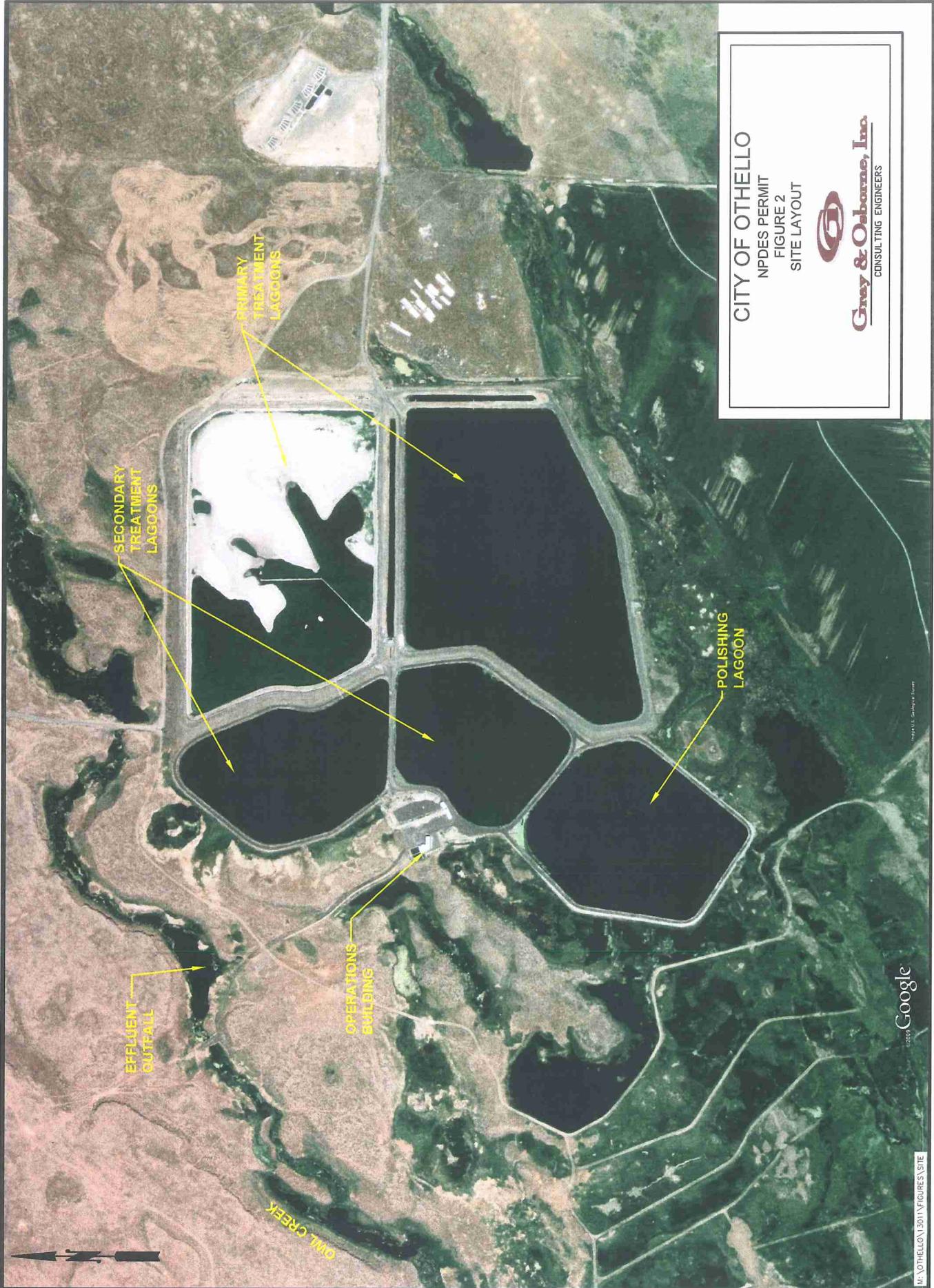
Distribution Ports, Quantity, diameter	1, 18"
Port Velocity, average flow, fps	3.2
Collection Ports, Quantity, diameter	1, 24"
Chlorine Contact Chambers	
Quantity	2
Dimension, ft	26 x 58
Average Water Depth, ft	5.87
Detention, average flow, hrs	1.60
Detention, with one basin out of service, hrs	0.8
Chlorination Equipment	
Quantity	2
Capacity, lb/day	500
Chlorination Rate, mg/L	15
Usage, average flow, lb/day	100
Domestic Water Well	
Capacity, gpm	5 gpm @ 60 psi



CITY OF OTHELLO
 NPDES PERMIT
 FIGURE 1
 TOPOGRAPHICAL MAP



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 CONSULTING ENGINEERS

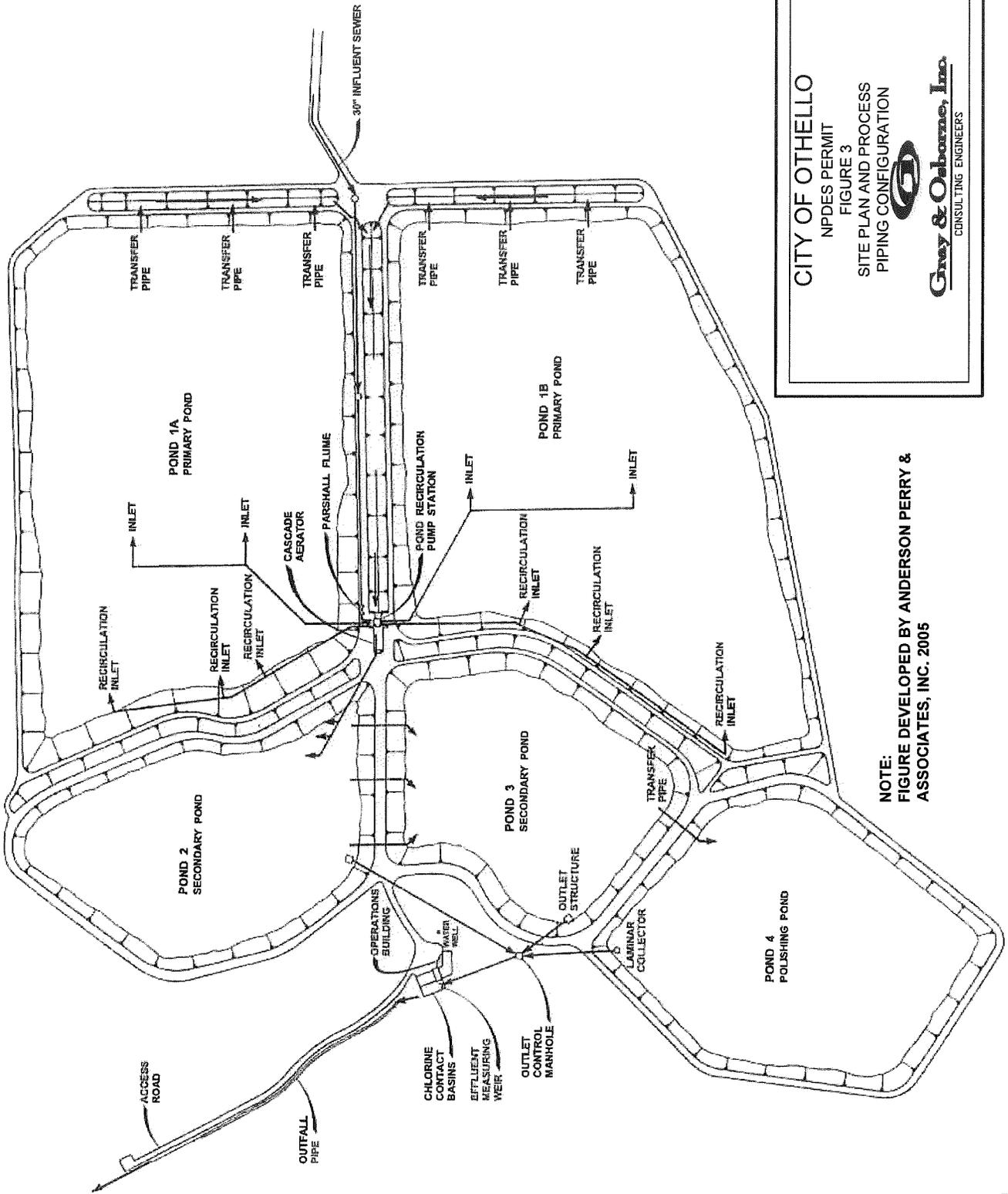


CITY OF OTHELLO
NPDES PERMIT
FIGURE 2
SITE LAYOUT



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M:\OTHELLO\13011\FIGURES\SITE

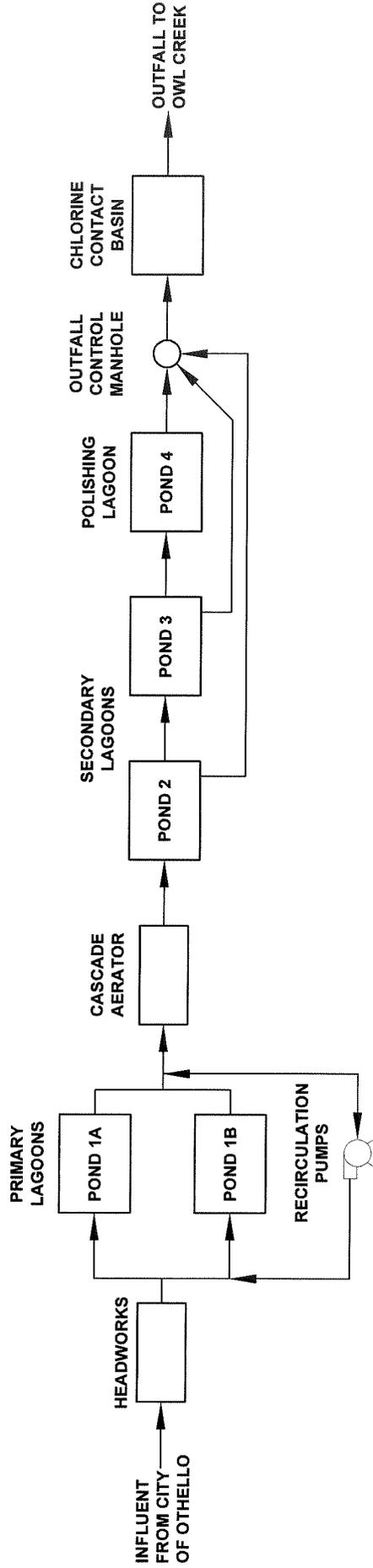


CITY OF OTHELLO
 NPDES PERMIT
 FIGURE 3
 SITE PLAN AND PROCESS
 PIPING CONFIGURATION



Gray & Osborne, Inc.
 CONSULTING ENGINEERS

NOTE:
 FIGURE DEVELOPED BY ANDERSON PERRY &
 ASSOCIATES, INC. 2005



PROCESS FLOW DIAGRAM

CITY OF OTHELLO
NPDES PERMIT
FIGURE 4
PROCESS FLOW DIAGRAM



Well Type Legend:

- Water Wells
- Resource Protection Wells
- Decommissioned Wells
- Multiple Well Types

Administrative Boundaries:

- (Turn layers on/off by)
- Section
 - Townships
 - Parcels
 - Watersheds (WRIA)

Background Layers:

- USGS Topo Map
- Terrain Map
- Aerial Imagery



CITY OF OTHELLO
 NPDES PERMIT
 FIGURE 5
 WELLS NEAR WWTP



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