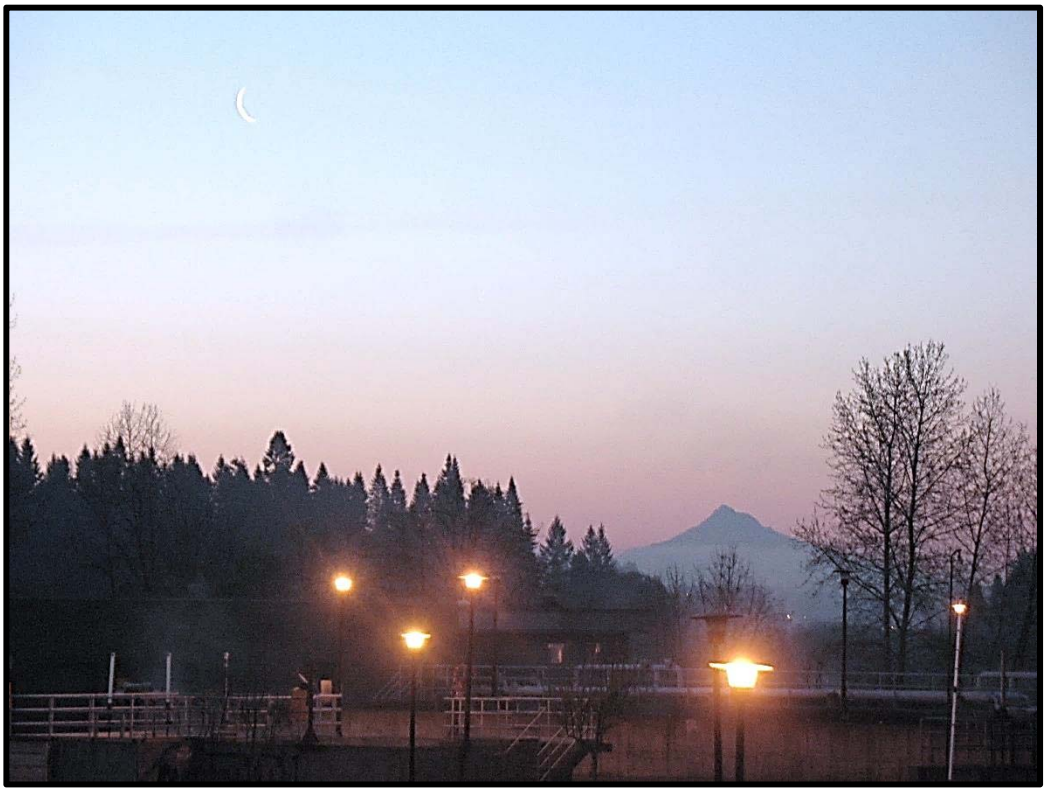
CLARK REGIONAL WASTEWATER DISTRICT

2014
Pretreatment Report



Salmon Creek Treatment Plant at Sunset

ACCREDITED AGENCY A•P•W•A

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CLARK REGIONAL WASTEWATER DISTRICT

COMMISSIONERS
Norm Harker
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Transmittal Letter

Re: 2014 Annual Pretreatment Report
Industrial Pretreatment
Permit Number: WA – 002363 – 9
Date: February 12, 2015

To:	Attention:	No. Copies	Action Requested	Transmitted Via
Washington State Department of Ecology	Carey Cholski	1 Original 1 Copy	Records	FedEx
Clark County SCTP	Kay Hust	1 Copy	Records	Email
City of Battle Ground	Scott Sawyer	1 Copy	Records	Email
City of Vancouver	Frank Dick	1 Copy	Records	Email

DESCRIPTION:
2014 Annual Pretreatment Report

MESSAGE:
Enclosed please find our 2014 Pretreatment Report. The report describes the Clark Regional Wastewater District's (District) Pretreatment Program for the Salmon Creek Treatment Plant (SCTP) activities during the 2014 reporting period of January 1, 2014 through December 31, 2014.

This submittal fulfills the Pretreatment Program reporting requirements as outlined in Section S6 of NPDES Permit No. WA0023639 issued to Clark Regional Wastewater District.

cc: File
Robin Krause, District Engineer
Tom Burns, Operations Manager

Andria Swann, Pretreatment Coordinator

ACCREDITED AGENCY A•P•W•A

COVER SHEET

NPDES Permit Holder: Clark Regional Wastewater District
Period Covered by this Report: January 1, 2014 to December 31, 2014
Report Date: February 15, 2015

NAMES/ADDRESSES OF TREATMENT PLANTS | **NPDES PERMIT #**

Salmon Creek Wastewater Treatment Plant
15100 NW McCann Road
Vancouver, WA 98685

WA – 002363-9

Person to contact concerning information in this report:

Name: Andria Swann
Title: Pretreatment Coordinator
Mailing Address: Clark Regional Wastewater District
PO Box 8979, Vancouver, WA 98668–8979
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E-mail: aswann@crwwd.com

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.

POTW Authorized Signature

2.12.15
Date

Pretreatment Coordinator
Title

Mission

Providing customer-focused, professional wastewater services
in an environmentally and financially responsible manner.

Vision

To be an active partner in Clark County, to support economic development and to manage and protect water resources.

Values

The Values of Clark Regional Wastewater District are "SERVICE":

Stewardship of the environmental and financial resources entrusted to the District

Employees who are talented and motivated professionals that work together in a spirit of cooperation

Responsibility, integrity and fairness in every decision, every interaction and in every challenge we undertake

Valued partner involved and active within our communities

Innovation and learning, creating an environment of personal and professional growth

Communication that is active, open, honest and timely

Efficient and effective solutions that are reliable, consistent and meet the needs of our communities

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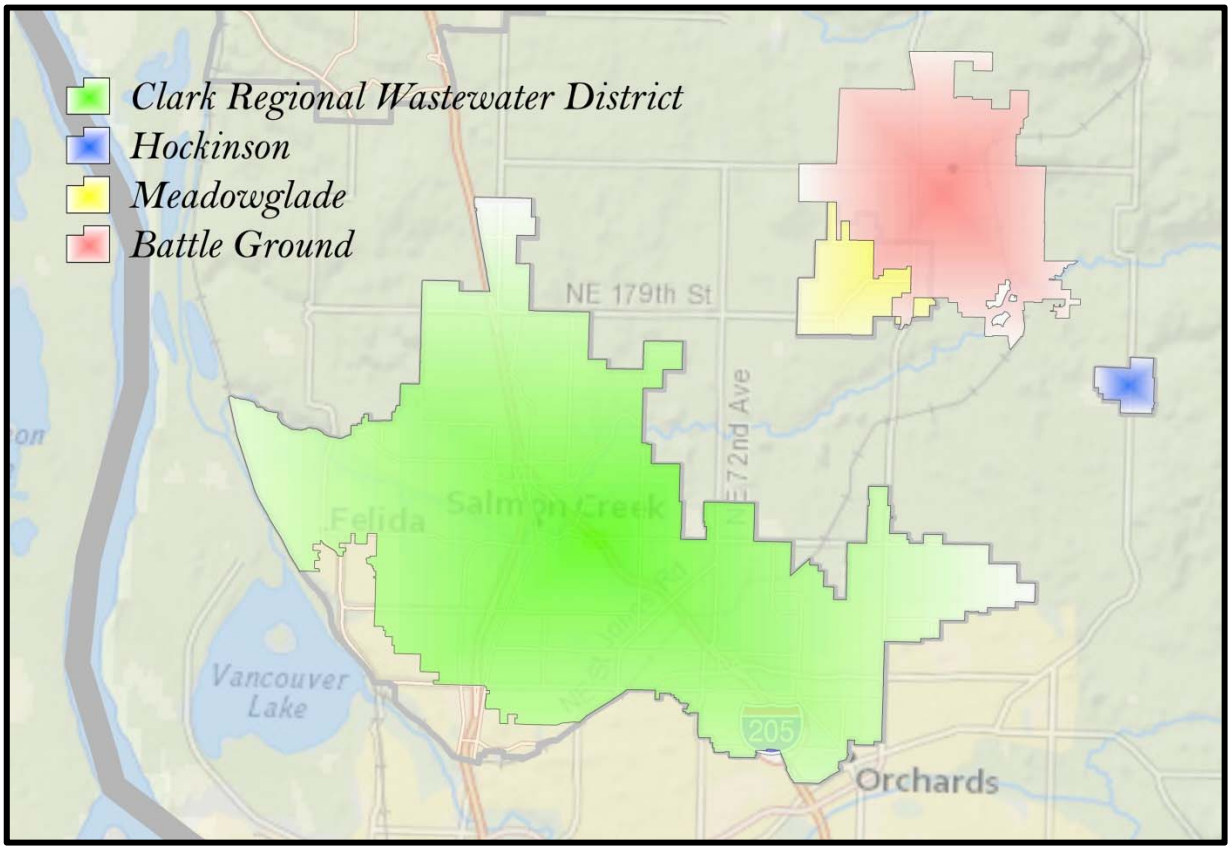
PROGRAM SUMMARY

INTRODUCTION

The Clark Regional Wastewater District's (District) National Pollutant Discharge Elimination (NPDES) Permit No. WA-002363 – 9 as issued by the Department of Ecology (Ecology), states as a condition of the permit under § S6.A.4, that the District shall provide Ecology with an annual pretreatment report of its non-delegated Pretreatment Program to briefly describe its program activities during the previous calendar year. The District acts as a local regulatory presence by monitoring and surveying industrial waste users of the District sewer system, with the goals of protecting public health and the Salmon Creek Treatment Plant (SCTP) while also enhancing the environment. The District performs inspections and monitoring activities on four (4) significant industrial users (SIUs) and two (2) minor industrial users (MIUs). Continuous surveying of new businesses is conducted throughout the year. In 2014 the SCTP was monitored in accordance with permit requirements set forth in the NPDES permit. The summary of these actives is outlined below.



The map depicts areas discharging into the SCTP through the District sewage conveyance system. The Columbia River is the receiving water for all flow discharged from the POTWs.

PLANT PERFORMANCE

Priority Pollutants

The District, in accordance with the SCTP Permit, monitors the influent and effluent for priority pollutants quarterly. SCTP staff monitors the Biosolids for priority pollutants quarterly. The monitoring results indicate that pollutants are present in non-inhibitory concentrations or are non-detectable in the influent and effluent.

Metals

The concentrations of all metals in the influent show a 43% decrease from 2013. Concentrations of metals in the effluent show an 85% decrease from 2013 data. The 2014 monitoring indicates an overall decrease in concentration from the previous decade of monitoring. The below chart shows percent removal rates for all metals. All metal concentrations were found to be below inhibition levels.

Parameter	Percent Removal
Antimony	93%
Arsenic	24%
Beryllium	82%
Cadmium	81%
Chromium	94%
Copper	87%
Iron	98%
Lead	94%
Molybdenum	25%
Nickel	67%
Selenium	81%
Silver	63%
Thallium	86%
Zinc	72%

All metals above detection levels were well below any known inhibition levels. Removal rates for detected metals range from 25% for Molybdenum to 98% for Iron. Mercury concentrations we significantly lower than previous years and show a 100% removal rate. Antimony, Beryllium, Cadmium, Chromium, Copper, Lead, Selenium and Thallium all had removal rates great than 75%. Arsenic, Nickel and Zinc all had removal rates between 24% and 72%.

Conventional Pollutants

The District samples for Volatile Organic, Semi-Volatile Organic, Pesticide, PCB's and selected conventional pollutants on an annual basis. Most volatile organic compounds are below detection limits in both influent and effluent samples. The Volatile Organic analytical results of the influent sample were less than the detection levels for 30 of the 34 reported compounds. The analytical results of the effluent sample were less than the detection

levels for all of the reported compounds. The compounds above detection levels were found to be well below any known inhibition level.

The Semi-Volatile Organic analytical results were less than the detection levels in the influent for 55 of the 57 analyzed compounds. The effluent analytical results were less than the detection levels for all of the analyzed compounds with the exception of Bis(2-ethylhexyl) phthalate which had a 96% removal rate

Organochlorine Pesticides and PCB analytical results were less than the detection levels for all influent and effluent samples.

Ten Unknown TIC were found in the influent by Semi-Volatile analysis. Two TIC were observed in the effluent by Semi-Volatile analysis. No TIC were observed in the influent or effluent by Volatile analysis.

The Maximum Allowable Headworks Loading (MAHL) of metals was found to be similar to previous years. Biosolids concentrations of all metals remain well below the standards for land application of Biosolids. SCTP has not experienced inhibition or pass-through from industrial sources.

PROGRAM UPDATE

The District diligently performed pretreatment activities as required by Permit during 2014. During 2014 there were four Significant Industrial Users (SIUs), discharging to the Salmon Creek Wastewater Treatment Plant, three located within the District and one located within the City of Battle Ground. Three SIU's discharged to SCTP through the District sanitary sewer system and Discovery Clean Water Alliance (DCWA) transmission system. All three SIU's located in the District are Categorical Industrial Users (CIUs), one 40 CFR 433 Metal Finishing and two 40 CFR 469 Electrical and Electronics Components. One SIU is located in City of Battle Ground and discharges to SCTP through the Battle Ground sanitary sewer system and the DCWA transmission system. All four of the SIUs were sampled by the District twice and inspected once during 2014. Copies of all analytical results and inspection reports were forwarded to Ecology for review.

INDUSTRIAL SURVEYING

Industries that may require wastewater discharge permits are identified through submittal review of Commercial/Industrial Pretreatment Application surveys. Surveys are submitted to the District and the City of Battle Ground as part of the development review process and are reviewed by staff. A total of 39 businesses were surveyed by the District. No new potential SIU's were found during 2014 in any of the jurisdictions.

PRIORITIES AND ACCOMPLISHMENTS FOR REPORTING YEAR

Public Education and Outreach

The District participated in multiple public education and outreach opportunities throughout 2014. Public education and outreach efforts include newsletter distribution, Freeze the Grease program, online outreach, and community events. The newsletter outreach effort focused on pollution prevention habits that are formed at home. Users were taken on a 'tour' through the sewer system and given tips to help prevent pollution from entering the sewer system. A web based approach to public education and outreach enabled users to refer to the District website for more information on topics discussed in the residential newsletter. Distribution of "Freeze the Grease" kits to District customers was continued as part of an educational program encouraging people to keep grease and non-dispersible materials out of their home laterals. District staff attended several community events to discuss residential discharge issues with the public and distribute information. A county-wide educational program "Smart Flush" implemented during 2011 was continued during 2014. The Smart Flush program addresses the discharge of non-dispersible material on a county-wide basis. The District developed a new kiosk for community events that introduced Reggie the Rag Ball as a new outreach character. Reggie the Rag Ball discourages users from flushing wipes, rags and other non-dispersible material into the sewer system.

FOG Program

The District continued its implementation of the FOG program for control of FOG discharged to the sanitary sewer system. The District conducted 629 FOG inspections in 2014. 105 re-inspections were required due to failure to meet District standards, a 16.6% re-inspection rate. Pretreatment staff has been working closely with facilities that have non-compliant histories. The District FOG program included the City of Battle Ground's service area and the City of Ridgefield during 2014.

	2013	**2014**
Total FOG Inspections	572	**629**
Re-Inspections	90	**105**
Re-Inspection Rate (%)	15.7	**16.8**

Corrosion Control

Multiple corrosion and odor control measures are being explored by the District with the intent to determine which measures perform best under specific conditions. The District has invested in equipment including storage tanks, pumps, and Hydrogen Sulfide (H_2S) detection monitors which are deployed to monitor concentrations of air phase H_2S for control of chemical feed rates at select pump stations. The District purchased an OdaLog RTx, a compact portable wireless gas data-logger, which is capable of transmitting data twice per day, allowing for improved chemical feed rate control. Efforts to mitigate corrosion issues have been continued in 2014.

Regional Coordination and Training

In 2014 the District was active in the Oregon Association of Clean Water Agencies (ACWA) Pretreatment subcommittee through the attendance of monthly committee meetings. This participation has helped to keep the District pretreatment staff up to date with regulatory changes at the federal and regional level. Pretreatment staff attended the 2014 National Association of Clean Water Agencies (NACWA) National Pretreatment and Pollution Prevention conference in Minneapolis, MN. The Pacific Northwest Source Control Training Associations 2014 Pretreatment Workshop held in Vancouver, WA was attended by the District Pretreatment Coordinator and the District FOG Inspector. The District staff participated in the Planning Committee for this workshop. The Pretreatment Coordinator also participated in the Local Interagency Networking Cooperative (LINC).

GOALS FOR 2015

Listed below are the pretreatment program 2015 goals:

1. To continue to actively participate in the Local Interagency Networking Cooperative (LINC).
2. Update procedures and implement changes to the pretreatment program as needed.
3. Continue public outreach activities.
4. Evaluate the effectiveness of the FOG program.
5. Continue to work with partner agencies to advance Public Health and environmental programs in Clark County.
6. To keep abreast of changes of regulations and industrial processes.

FUTURE PROGRAM WORK

1. Continue development and population of FOG inspection tracking program to respond to growing needs.
2. Review and update pretreatment program documents as needed.
3. Continue educational outreach program.
4. Continue to attend peer group meetings to stay informed of activities and regulatory Impacts affecting the District.
5. Develop an Annual Target Survey cycle for all commercial businesses in the District service area.

PROGRAM RESOURCES

PRETREATMENT STAFFING RESOURCES

1 – Pretreatment Coordinator
1 – FOG Inspector (0.5 FTE)

The Pretreatment Coordinator is responsible for administration and all activities listed under the program requirements with oversight from the District Engineer. The FOG Inspector works partially under the supervision of the Pretreatment Coordinator and performs inspections, sampling, data entry and other FOG Program related duties as assigned. The engineering department has additional support staff such as the GIS staff, development review staff, and administrative staff. The District currently utilizes contract laboratories in the area for analysis of treatment plant and industrial monitoring conducted throughout the year.

PRETREATMENT EQUIPMENT INVENTORY

1	Oakton pH Meter
1	Sigma 900 Portable Sampler w/Accessories
2	Sigma 950 Area Velocity Flow Meter
1	1999 Chevrolet Astro Van
1	American Sigma Composite Sampler
5	Odalogger

APPENDIX A: SIGNIFICANT INDUSTRIAL USERS

SIGNIFICANT INDUSTRIAL USERS	REPORTING QUARTER	DISTRICT INSPECTIONS	DISTRICT SAMPLING	SELF-MONITORING	LIMIT VIOLATIONS	REPORTING STATUS	Average Monthly Flow (GPD)
PRO-TECH INDUSTRIES, INC.	1	0	0	1	0	C	
14113 NE 3rd Court	2	1	1	1	0	C	
Vancouver, WA 98685	3	0	1	1	1	C	
WA Permit No. ST 6194, effective 10/1/08	4	0	0	1	0	C	
40 CFR Part 433.17							272
Exceeded limit for Non-polar O&G. The occurrence was reported to Department of Ecology. The exceedance was likely caused by a sampling error by new staff. The facility was in compliance with all other requirements in 2014.							
nLIGHT PHOTONICS CORPORATION	1	0	1	3	0	C	
5408 NE 88th Street	2	0	0	3	0	C	
Vancouver, WA 98665	3	1	1	3	0	C	
WA Permit No. ST 6025, effective 10/1/08	4	0	0	3	0	C	
40 CFR Part 469							2,735
No exceedances or excursions from permit requirements were reported in 2014.							
IMAT INC.	1	1	1	3	0	C	
12516 NE 95th Street	2	0	0	3	0	C	
Vancouver, WA 98682	3	1	1	3	0	C	
WA Permit No. ST 6162, effective 2/1/09; Mod. 4/6/09, 8/11/09	4	0	0	3	0	C	
40 CFR Part 469							528
No exceedances or excursions from permit requirements were reported in 2014. The facility upgraded their high flow alarm system in 2014. When total monthly flow reaches a set point that is close to the monthly MAX the alarm will sound and discontinue flow until alarm is re-set.							
OLDCASTLE BUILDING ENVELOPE	1	1	1	3	3	C	
1611 SE Commerce Avenue	2	0	0	3	0	C	
Battle Ground, WA 98604	3	0	0	3	0	C	
WA Permit No. ST 6203, effective 11/30/12	4	0	1	3	0	C	
							Not reported
Exceeded Max Flow in January, February and March due to a bad sensor in flow monitoring device. These occurrences were referred to the Department of Ecology. Flow meter was replaced with no further deviations from permit in 2014. Average monthly flow is not reported. The permit requires only maximum daily flow.							

C = Compliance; NC = Noncompliance; SNC = Significant Noncompliance; NSCIU = Non-Significant Categorical Industrial User

APPENDIX B: MINOR INDUSTRIAL USERS

MINOR INDUSTRIAL USERS	REPORTING QUARTER	DISTRICT INSPECTIONS	DISTRICT SSAMPLING	SELF-MONITORING	LIMIT VIOLATIONS	REPORTING QTR STATUS	
WASTE CONNECTIONS	1	0	0	1	0	C	
9411 NE 94th Avenue	2	1	0	1	0	C	
Vancouver, WA 98662	3	0	0	1	0	C	
MIU Letter of Discharge (LOD) 3-2010 expires March 31, 2015	4	0	0	1	0	C	
The District issued a Letter of Discharge to Waste Connections in 2012 for their wash area. The Waste Connections wash pad is used to clean garbage trucks and receptacles. The permit requires them to sample and analyze wastewater from the wash pad in order to characterize the wastewater. They are required to maintain a pH of 6.0 - 9.0 and report results of monitoring for pollutants found in Appendix D of 40 CFR 122 Tables II and III annually and utilize approved Best Management Practices during washing events. Waste Connections completed all required self-monitoring during 2014.							
LAPEL SOLUTIONS	1	1	0	3	0	C	
11304 NE 66th St	2	0	0	3	0	C	
Vancouver, WA 98662	3	0	0	3	0	C	
MIU Letter of Discharge (LOD) 2-2014 expires March 31, 2015	4	0	0	3	0	C	
The District issued a Letter of Discharge to Lapel Solutions in 2014 for the discharge of industrial process wastewater. The permit requires the permitee to monitor and report pH and flow monthly. They are also required to conduct waste characterization sampling before the end of the permit cycle. Their pH limit is 6.0 – 9.0. They are required to develop a Spill Prevention and Response Plan.							

C = Compliance; NC = Noncompliance; SNC = Significant Noncompliance; NSCIU = Non-Significant Categorical Industrial User

APPENDIX C: COMPLIANCE & ENFORCEMENT ACTIVITIES

SIGNIFICANT INDUSTRIAL USERS	POTW INSPECTION DATES	POTW SAMPLE DATES	INSPECTION FINDINGS
PRO-TECH INDUSTRIES, INC.	6/9/2014	3/11/2014	No findings reported.
nLIGHT PHOTONICS CORPORATION	8/7/2014	3/7/2014	No findings reported.
IMAT INC.	3/5/2014	10/6/2014	No findings reported.
			System changes noted.
OLDCASTLE BUILDING ENVELOPE	2/19/2014	10/8/2014	No findings reported.
			Flow meter in repair.
MINOR INDUSTRIAL USERS			
WASTE CONNECTIONS	4/8/2014	Not Sampled	No findings reported.
LAPEL SOLUTIONS	3/27/2014	Not Sampled	No findings reported.

INTERFERENCE & PASS-THROUGH

In 2014 there were no pass-through events at the treatment plant. There were no interferences reported to pretreatment staff.

APPENDIX D: LOCAL LIMIT EVALUATION

SUMMARY

The Maximum Allowable Headworks Loading (MAHL) of metals was found to be similar to previous years. Biosolids concentrations of all metals in Biosolids remain well below the standards for land application of Biosolids. SCTP has not experienced inhibition or pass-through from industrial sources. Monitoring indicates that influent concentrations of contaminants assigned local limitations are at levels below maximum allowable headworks loading (MAHL).

Average Total Daily Flows for 2014	**7.35**	mgd
Average Daily Domestic Flows for 2014	7.34	mgd
Average Daily Comm/Ind Flows for 2014	0.0096	mgd
Average Daily Battle Ground Flows for 2014	**1.4**	mgd
Average Daily Inflow/Infiltration	**1.5**	mgd
Maximum Industrial Flow [3]	**2.34**	mgd

Parameter:	Local Limit:	Ave Inf Conc:	Ave Dom Conc:	Ave I/I Conc:	MAHL [1]	MAHL [2]	CHL	CDL	CIL	MIL	%LL	RC	MAHL (i)	%RC
	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(lbs.)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(%)	(lbs)	(lbs)	(%)
Arsenic (As)	0.53	0.00235	0.00144	0	10.4	0.66	0.144	0.088	0.056	10.3	0.005	10.3	10.3	99
Cadmium (Cd)	0.28	0.00025	0.00313	0	5.7	0.32	0.02	0.19	-0.18	5.5	-0.03	5.6	5.5	103
Chromium (Cr)	14.29	0.006250	0.00625	0	279.3	15.24	0.38	0.38	0.00	278.9	0.00	278.9	278.9	100
Copper (Cu)	3.59	0.09125	0.00313	0	70.3	8.68	5.59	0.19	5.40	70.1	7.70	64.7	70.1	92
Cyanide (CN)	5.09	0.0054	0.0042	0	99.6	5.74	0.33	0.26	0.07	99.3	0.07	99.3	99.3	100
Mercury (Hg)	0.20	0.000095	0.0000574	0	3.9	0.22	0.006	0.00	0.00	3.9	0.00	3.9	3.9	100
Molybdenum	0.18	0.00453	0.00625	0	3.5	0.40	0.28	0.00	0.28	0.0	0.00	3.2	3.5	92
Nickel (Ni)	3.77	0.00305	0.00433	0	73.8	4.24	0.19	0.27	-0.08	73.6	-0.11	73.7	73.6	100
Silver (Ag)	4.41	0.00042	0.00204	0	86.2	4.81	0.03	0.12	-0.10	86.1	-0.12	86.2	86.1	100
Zinc (Zn)	1.76	0.13750	0.13715	0	42.7	7.50	8.42	8.40	0.03	34.3	0.08	34.3	34.3	100
Lead (Pb)	1.13	0.00150	0.00206	0	22.2	1.34	0.09	0.13	-0.03	22.1	-0.16	22.1	22.1	100
Selenium (Se)	1.46	0.00101	0.00268	0	28.7	1.60	0.06	0.16	-0.10	28.5	-0.36	28.6	28.5	100

*I/I Conc: Per DOE Guidance, assumed to be zero because of lack of data

Domestic concentration data: Average of analytical results of CRWWD domestic wastewater sampling conducted in CRWWD during 1998, 1999, 2000, and 2003, except where noted

MAHL[1]: Per e-mail from Dave Knight to CRWWD Pretreatment Coordinator (dated 1/20/05), an MAHL was estimated by multiplying the domestic flows and concentrations times 8.34, adding the total of the industrial flow (maximum set aside for IU's) times the local limit times 8.34

MAHL[2] developed during the Local Limits Technical Evaluation of 2008

[3] The maximum flows set aside for IU's used in the MAHL calculation are from the Wastewater Facilities Plan/General Sewer Plan for the SCTP 2004

Current maximum flow set aside for industrial users was calculated as follows:

CRWWD: 2096 acres zoned industrial x 1012.5 gallons per acre per day = 2.13 mgd

BG: 490 acres zoned industrial x 421.875 gallons per acre per day = 0.21 mgd

Current total maximum industrial flows = 2.34 mgd

APPENDIX E: POLLUTANT ANALYTICAL RESULTS

SALMON CREEK WASTEWATER TREATMENT PLANT SAMPLING

	Parameter	Influent								Average Influent
	Sample date	3/5/14		6/4/14		9/10/14		10/8/14		
	Results in mg/L									
CAS ID#	*Total Metals per EPA 200 series*		Qualifiers		Qualifiers		Qualifiers		Qualifiers	
7440-36-0	Antimony	0.00025	J	< 0.01000		0.00430	J	0.00085	J	0.01540
7440-38-2	Arsenic	0.0015		0.0017	J	0.0022	J	0.00170	J	0.00710
7440-41-7	Beryllium	< 0.0010		< 0.020		< 0.0005		< 0.0005		0.02200
7440-43-9	Cadmium	0.00009	J	< 0.0100		0.00027	J	0.00027	J	0.01063
7440-47-3	Chromium	0.001	J	< 0.0200		0.0057	J	0.0036	J	0.03040
7440-50-8	Copper	0.023		0.064		0.097		0.08300		0.26700
7439-89-6	Iron					2.40				2.40000
7439-92-1	Lead	0.0007	J, B	< 0.0100		0.00400	J	0.00150	J	0.01618
7439-98-7	Molybdenum	0.0220		0.0044	J	0.00210	J, B	0.0042	J	0.03270
7440-02-0	Nickel	0.0015	J	0.0042	J	0.00550	J	0.0033	J	0.01450
7782-49-2	Selenium	0.0005		0.00140	J	0.00070	J	0.001500	J	0.00411
7440-22-4	Silver	0.00008		0.00049	J	0.00054	J	0.00120	J	0.00231
7440-28-0	Thallium	<0.0005		< 0.0100		< 0.0010		< 0.00250		0.01400
7440-66-6	Zinc	0.05		0.200		0.21		0.17		0.63300
	DATE:	3/5/14		6/4/14		9/10/14		12/11/14		AVE INF
7439-97-6	Mercury (EPA 1631E)			0.00019				< 2.5E-07		0.0000000

1/2 of the detection limit was used for all non-detectable data in percent removal calculations

B - The compound was found in the blank and sample

J - Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

SALMON CREEK WASTEWATER TREATMENT PLANT SAMPLING

	Parameter	Effluent								Average Effluent	Percent Removal
	Sample date	3/6/14		6/5/14		9/11/14		10/9/14			
	Results in mg/L										
CAS ID#	*Total Metals per EPA 200 series*		Qualifiers		Qualifiers		Qualifiers		Qualifiers		(%)
7440-36-0	Antimony	0.00019	J	0.00020	J	0.00044	J	0.00022	J	0.00105	**93%**
7440-38-2	Arsenic	0.0014		0.0015		0.00110		0.00140		0.00540	**24%**
7440-41-7	Beryllium	< 0.0010		< 0.0010		< 0.00100		< 0.00100		0.00400	**82%**
7440-43-9	Cadmium	< 0.0005		< 0.0005		< 0.00050		< 0.00050		0.00200	**81%**
7440-47-3	Chromium	0.0005	J	0.0004	J	0.00050	J	0.00056	J	0.00195	**94%**
7440-50-8	Copper	0.0059		0.013	J	0.00960		0.00630		0.03480	**87%**
7439-89-6	Iron					0.058				0.05800	**98%**
7439-92-1	Lead	0.00023	J,B	0.00027	J	0.00029	J	0.00022	J	0.00101	**94%**
7439-98-7	Molybdenum	0.02300		0.0005	J	0.00016	J, B	0.000810	J	0.02447	**25%**
7440-02-0	Nickel	0.0008	J	0.0013	J	0.00140	J	0.001	J	0.00484	**67%**
7782-49-2	Selenium	0.00020	J	0.00019	J	0.00017	J	0.000230	J	0.00079	**81%**
7440-22-4	Silver	0.000036	J	0.000300	J	< 0.000500		0.000023	J	0.00086	**63%**
7440-28-0	Thallium	< 0.0005		< 0.00050		< 0.0005		0.00050		0.00200	**86%**
7440-66-6	Zinc	0.035		0.047		0.049		0.047		0.17800	**72%**
	DATE:	**3/6/14**		**6/5/14**		**9/11/14**		**12/11/14**		**AVE EFF**	**% Removal**
7439-97-6	Mercury (EPA 1631E)			0.0000024				< 0.000000250		0.00000000	**100%**

1/2 of the detection limit was used for all non-detectable data in percent removal calculations

B - The compound was found in the blank and sample

J - Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

SALMON CREEK WASTEWATER TREATMENT PLANT SAMPLING - FINAL DIGESTER SLUDGE

	Parameter		mg/kg dry	mg/kg dry	mg/kg dry	mg/kg dry
	Biosolids	EPA Method	1st QTR	2nd QTR	3rd QTR	4th QTR
CAS ID#						
7429-90-5	Aluminum	6010B	5180			
7440-36-0	Antimony	6020(A)	<2	<2	<2	<1
7440-38-2	Arsenic	6020(A)	4	4	4	5
7440-39-3	Barium	6020	174			
7440-41-7	Beryllium	6020(A)	<2	<2	<2	<1
7440-42-8	Boron	6010B	30			
7440-43-9	Cadmium	6020(A)	1.2	1.1	1.6	1.1
7440-47-3	Chromium	6020(A)	20	20	20	20
7440-47-3	Chromium VI	SM3500Cr-D	6.32	<3.27	<3.26	<2.95
7440-48-4	Cobalt	6020	3			
7440-50-8	Copper	6020(A)	423	395	383	431
7439-89-6	Iron	6010B	5990			
7439-92-1	Lead	6020(A)	10.3	9.9	10	10
7439-95-4	Magnesium	6010B	148			
7439-96-5	Manganese	6020	8800			
7439-97-6	Mercury	7471A	0.600	1.1	0.8	1.4
7439-98-7	Molybdenum	6020(A)	42	37.0	34.0	19.0
7440-02-0	Nickel	6020(A)	14.0	15.0	15.0	19.0
7782-49-2	Selenium	6020(A)	7	8.0	7.0	7.0
7440-22-4	Silver	6020(A)	4	4.00	4.00	4.00
7440-28-0	Thallium	6020(A)	<2	<2	<2	<1
7440-31-5	Tin	6020(A)	20			
7440-32-6	Titanium	6020(A)	223			
7440-66-6	Zinc	6020(A)	660	650	640	740
Conventional						
		mg/kg dry				
57-12-5	Cyanide	9010B	0.98			
7723-14-0	Phosphorus	6010B	31400	31900	39100	34800
7664-36-0	Ammonia-N	350.1	17600	15600	16700	11700
	Total Kjeldahl Nitrogen	351.2	79600	76000	81600	72900
	Total Solids	160.3m	12500	12100	11930	13420
	Total Volatile Solids	160.4	9598	9165	9051	10332
14797-65-0	Nitrite-Nitrogen	300.0	<6.96	5.95	6.64	6.56
14797-55-8	Nitrate-Nitrogen	300.0	<6.96	<0.03	<0.03	<0.75
	pH (SU)	150.1	7.68	7.78	7.77	7.86
14808-79-8	Sulfate	300.0	62.1			
16984-48-8	Fluoride	300.0	<3.48			
24687-31-8	Bromide	300.0	<3.48			
18496-25-8	Sulfide	9030B	2610			
64743-03-9	Phenolics	420.1	18.2			
68153-81-1	Oil and Grease (T)	1664	<1895			
68153-81-1	Oil and Grease (P)	1664	<1895			
	Fecal Coliform (Geomean)	SM 9221	4,653	6258	5,035	51258
Polybrominated Diphenyl Ethers						
		ug/kg dry				
97038-97-6	PBDE 100	8270C SIM	73			
81397-99-1	PBDE 99	8270C SIM	430			
56-307-79-0	PBDE 85	8270C SIM	13			
	PBDE (Total)	8270C SIM	516			
Biosolids Production						
		Dry Tons	% Moisture	% Solids		
	SCWWTP	968.07	88	12		
	Ridgefield	87.02	88	12		
	Total	1,055.09				

APPENDIX E: SIGNATORY AUTHORITY LETTER

PUBLIC WORKS

proud past, promising future

CLARK COUNTY
WASHINGTON

1300 Franklin Street • P.O. Box 9810 • Vancouver, WA 98666-9810 • tel: [360] 397-6118 • fax: [360] 397-6051 • www.clark.wa.gov

February 3, 2015

David Knight, P.E.
Environmental Engineer
State of Washington
Department of Ecology
PO Box 47775
Olympia, WA 98504-7775

Dear Mr. Knight:

RE: Signatory Authority – Industrial Pretreatment Reports
Salmon Creek Wastewater Treatment Plant (SCWWTP)

The Clark Regional Wastewater District is under contract with Clark County Public Works to provide industrial pretreatment services for flows entering the Salmon Creek Wastewater Treatment Plant. As such, I am giving signatory authority to CRWD's representative, Andria Swann, to sign the required industrial pretreatment reports for the SCWWTP.

If you have any questions or concerns regarding this, please contact me at (360) 397-6118, extension 4358.

Sincerely,

Heath H. Henderson, P.E.
Public Works Director/County Engineer

C: Kay Hust, Salmon Creek Wastewater Treatment Plant
Andria Swann, CRWD