



City of Spokane NPDES Permit WA0024473–Public Meeting

Diana Washington

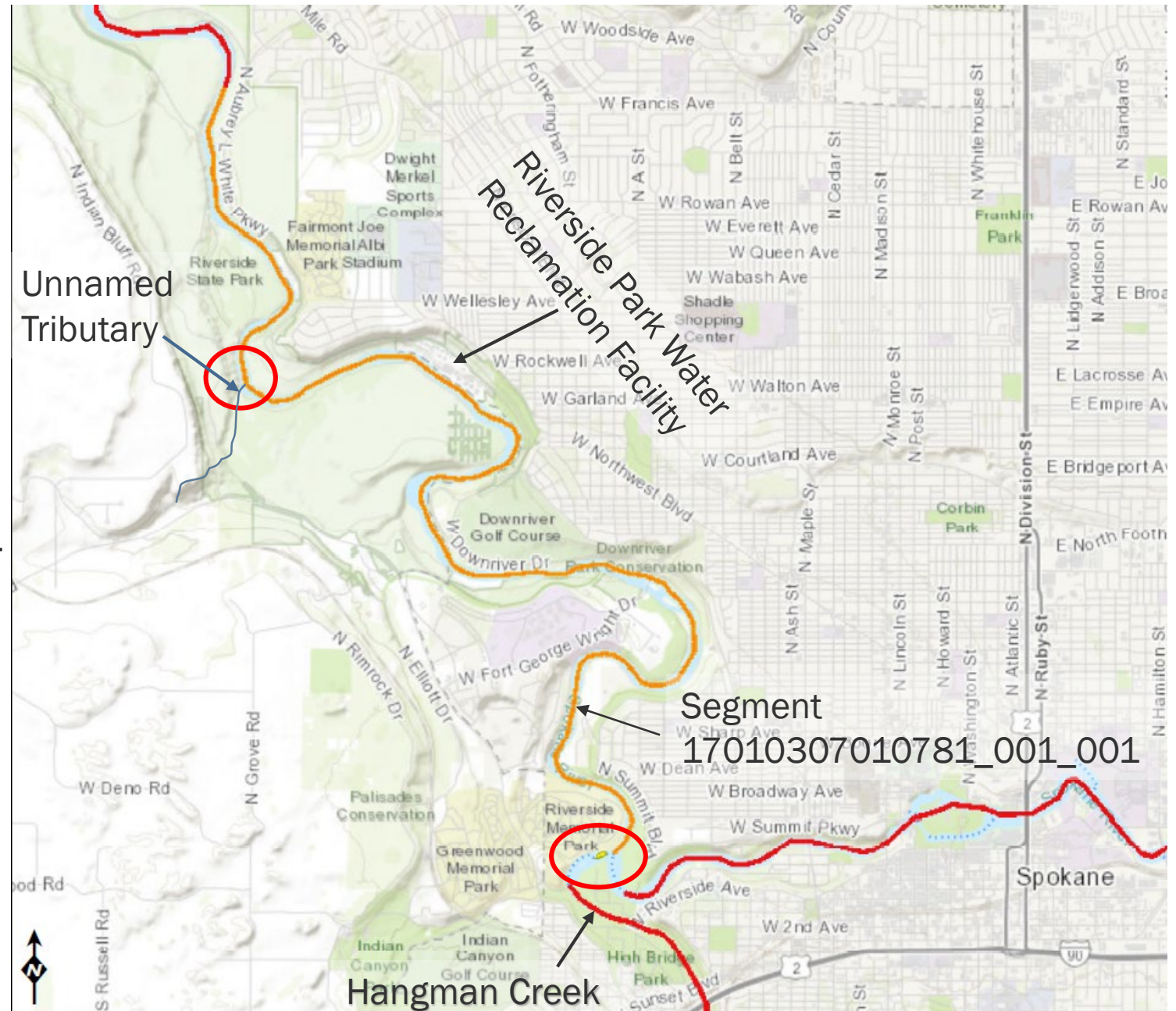
IMPORTANT TO KNOW

- Ecology will update natural conditions language before issuance
- Assessment of Spokane River quality varies by segment
- City of Spokane upgraded facility to meet AKART*
- The proposed permit provides a mixing zone
 - Facility meets AKART
 - No 303(d) category 5 listings
- 2014 approved engineering report updated maximum month design flow
 - This affects the calculation of permit limits and dilution factors

Note: AKART is defined in WAC 173-201A-020

Spokane River and Location of the Discharge

- Characteristics of the discharge and river are unique
- City discharges to Spokane River in WRIA 54 at RM 67.4
- Limited EIM data available immediately upstream of the discharge in the same segment



Spokane River listings at point of discharge

Current Category	Current 303(d) listings	Draft Category	Draft 303(d) listings
5		5	Bacteria
4A	Zinc	4A	Zinc
4A	Lead	4A	Lead



Spokane River listings downstream of discharge

Current Category	Current 303(d) listings	Draft Category	Draft 303(d) listings
5	Polychlorinated Biphenyls PCBs (Fish Tissue)	5	PCBs (Fish Tissue)
5	2,3,7,8-TCDD Dioxin (Fish Tissue)	5	2,3,7,8-TCDD Dioxin (Fish Tissue)
4A	Lead	5	Methylmercury
4A	Zinc	5	Polybrominated Diphenyl Ethers (PBDEs)
		4A	Lead
		4A	Zinc

Spokane River

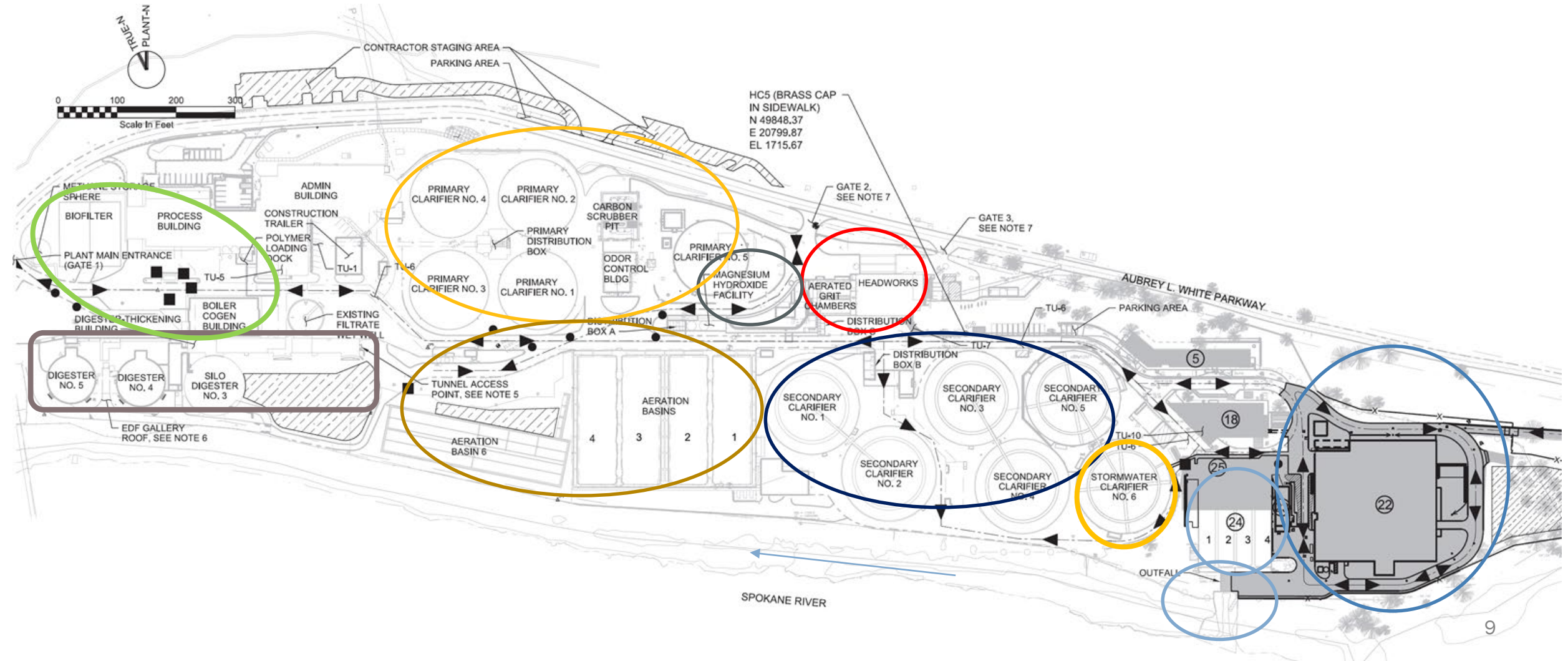
Total Maximum Daily Loads (TMDLs)

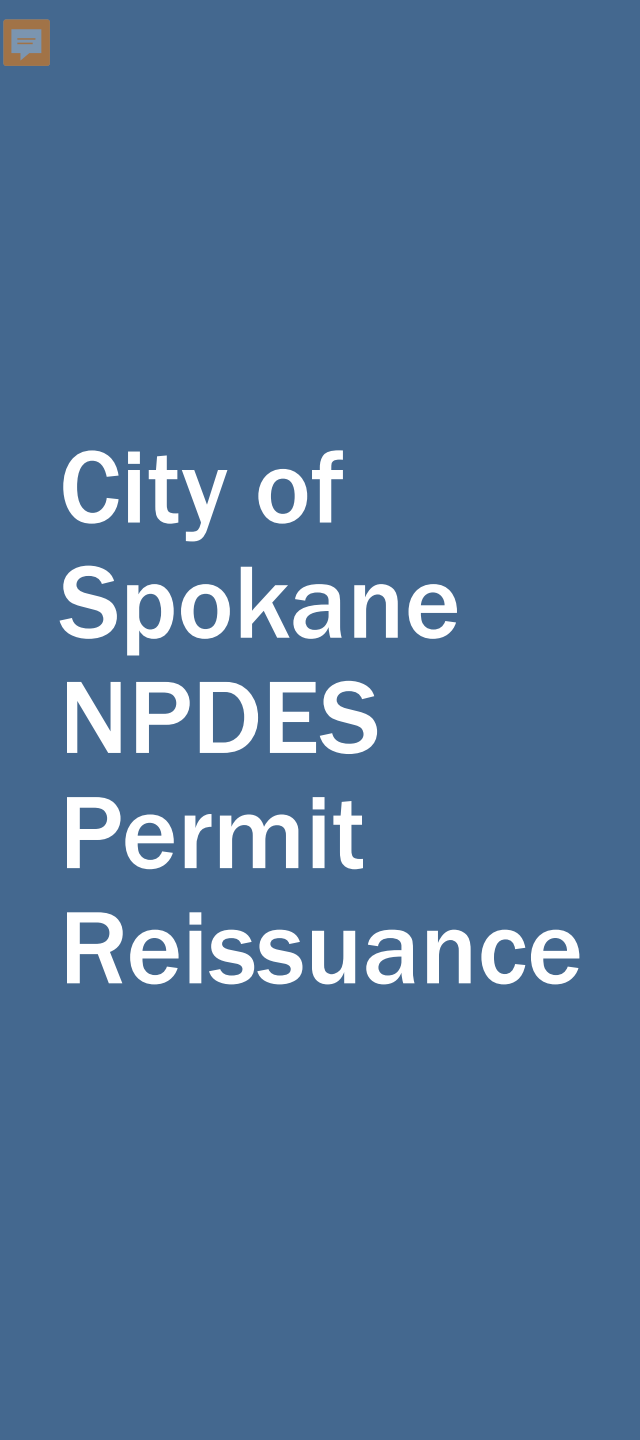
Current 303(d) listings Category 4	Water Quality Improvement Plans
Total Phosphorus	<u>Spokane River DO TMDL</u>
Dissolved Oxygen	<u>Spokane River DO TMDL</u>
Lead	<u>Spokane River Cadmium, Lead, and zinc TMDL</u>
Zinc	<u>Spokane River Cadmium, Lead, and zinc TMDL</u>

Spokane River DO TMDL Wasteload Allocations (March – October)

		Proposed Effluent Limits: Outfall # 005
Parameter	Basis for Limit	Seasonal Average
Total Phosphorus	TMDL	17.81 Lbs/day
CBOD ₅	TMDL	1,780.6 Lbs/day
Total Ammonia	TMDL	March-May: 299 Lbs/day June-September: 75.6 Lbs/day October: 299 Lbs/day

Next Level of Treatment (NLT) Facility Process Diagram





City of Spokane NPDES Permit Reissuance

- Updated Engineering Report Approved 2014
- Updated permit application submitted Jan 2021
- Reasonable potential analysis (RPA) used:
 - DMR data submitted from Sept 2016-August 2021
 - Additional data submitted for metals and hardness
 - Toxics data submitted for PCBs, PBDEs, and Dioxin

Technology Based Limits for TSS (year round) and CBOD₅ (November – February)

Parameter	Proposed Average Monthly	Proposed Average Weekly
Total Suspended Solids (TSS)	30 mg/L 10,660 Lbs/day 85% removal	45 mg/L 15,990 Lbs/day
CBOD ₅	25 mg/L 14,199 Lbs/day 85% removal	40 mg/L 22,718 Lbs/day

Toxics Limits

Parameter	Basis for Limit	Proposed Average Monthly	Proposed Maximum Daily
Total Residual Chlorine	WQBEL	8.5 µg/L	22.2 µg/L
Ammonia (Nov 1 - Feb 29)	WQBEL	3.1 mg/L	5.9 mg/L
Cadmium (Total)	TMDL	0.068 µg/L	0.10 µg/L
Lead (Total)	TMDL	0.51 µg/L	0.66 µg/L
Zinc (Total)	TMDL	50.9 µg/L	64.1 µg/L
PCBs	WQBEL	1.8 ng/L	2.63 ng/L

Toxics Reduction Strategy

Develop and Implement BMPs

- Identified actions from Spokane River Regional Toxic Task Force (SRRTTF) [2016 Comp Plan](#) and other resources
 - Source identification
 - Removal actions
 - Year round operation NLT facility
 - Continue public outreach and education

SRRTTF Comp Plan Link:
http://srrttf.org/wp-content/uploads/2016/04/2016_Comp_Plan_Final_Approved.pdf

Community Based Toxics Reduction

- Continue work with [SRRTTF](#)
 - PCBs
 - PBDEs
 - Methylmercury

SRRTTF Website Link:
<https://srrttf.org/>

pH Limits

Parameter	Basis for Limit	Proposed Limit
pH	WQBEL	$6.5 \leq x \leq 8.5$

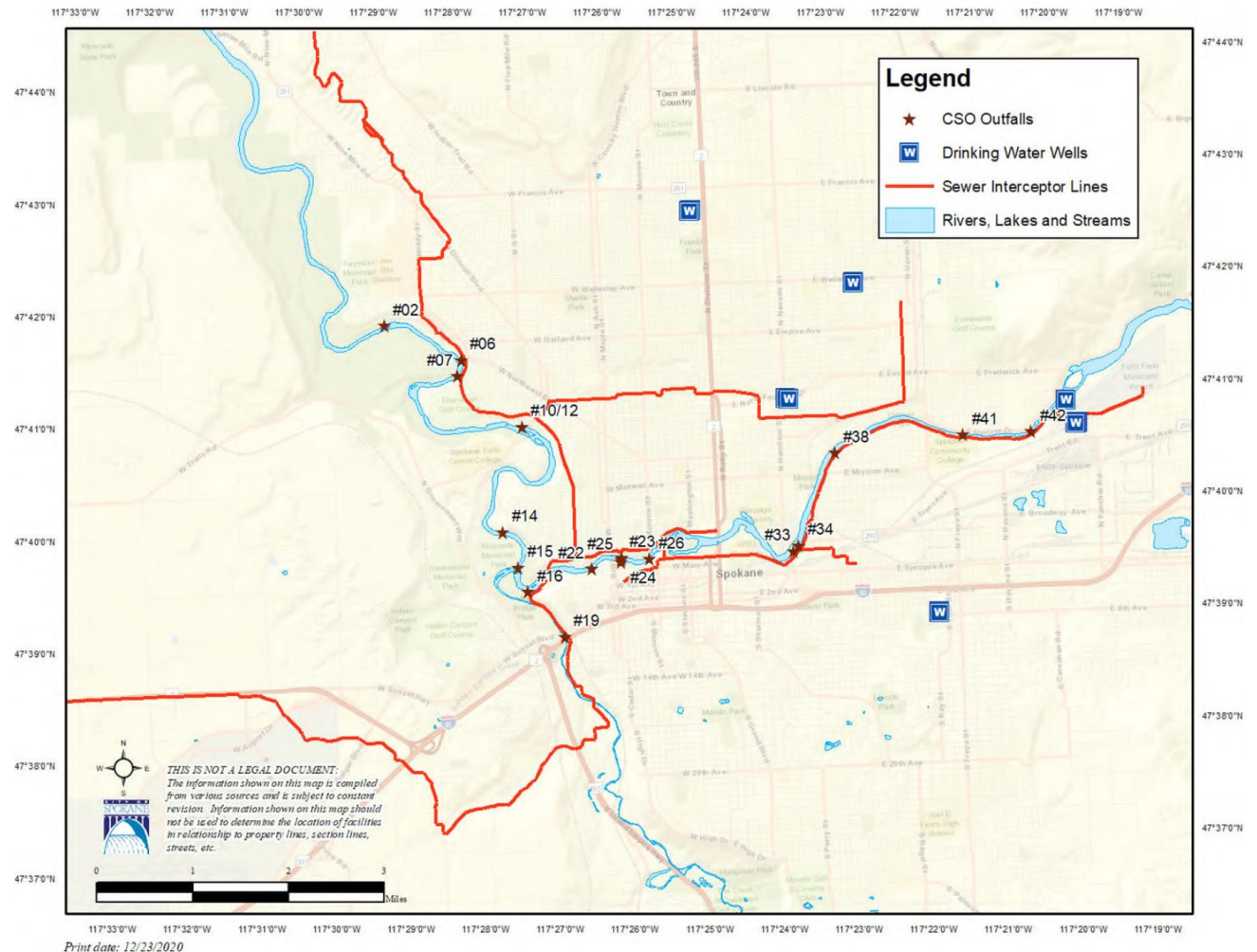
Bacteria Limits

Parameter	Basis for Limit	Proposed Monthly Geometric Mean Limit	Proposed Weekly Geometric Mean Limit
Fecal Coliform Bacteria (Interim)	WQBEL	100CFU/100mL	150CFU/100mL
E.coli (Final)	WQBEL	100CFU/100mL	150CFU/100mL

Combined sewer overflow (CSO) Critical Season Limits (March – October, Total for all outfalls)

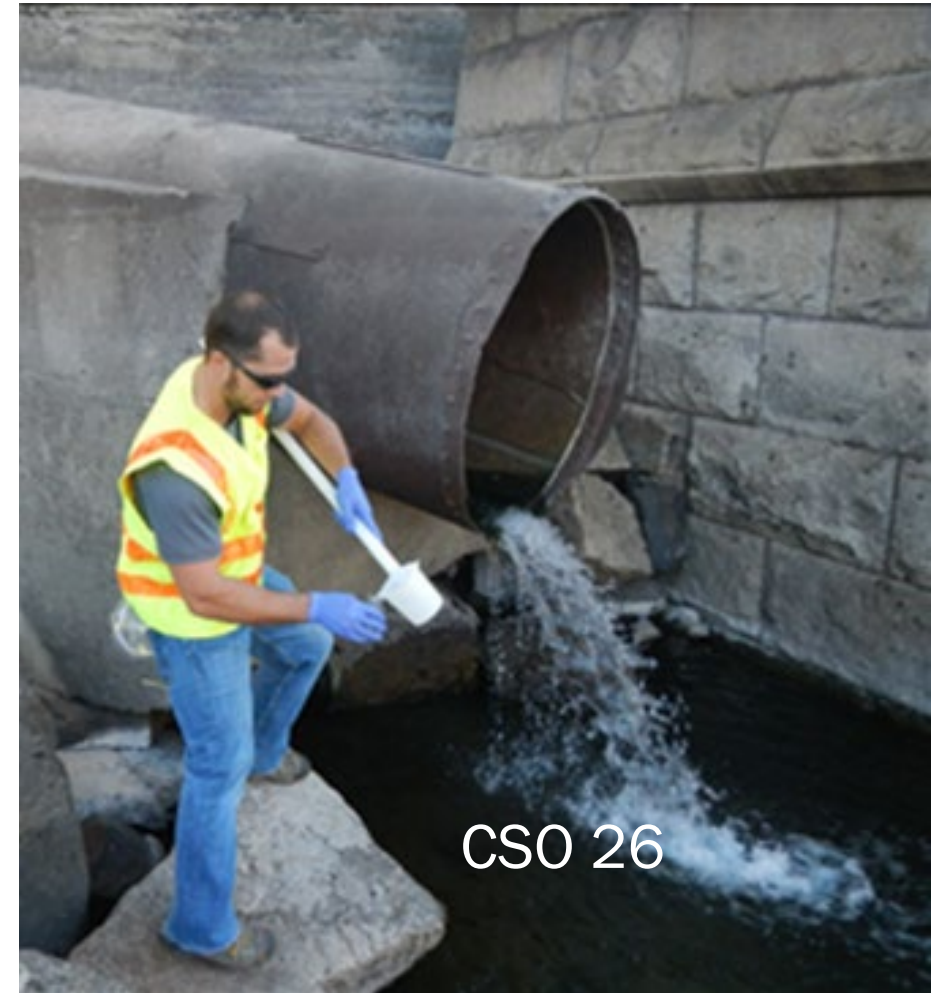
Proposed Effluent Limits

Parameter	Seasonal Average
Total Phosphorus	0.95 Lbs/day
CBOD ₅	30 Lbs/day
Total Ammonia	1 Lbs/day



CSO Sampling Plan

- All CSOs are controlled
 - Control in effect more than a year
- New process for calculating compliance
 - Less than one discharge per outfall per year (20 year rolling average)
- Compliance with DO TMDL wasteload allocation



Studies Required

Mixing Zone / Dye Tracer

- Flows in the river have changed
 - FERC relicensing in June 2009
- Previous study 1992
 - Study did not determine compliance with WAC 173-201A-400
 - Models upgraded to better predict compliance of side bank discharge
 - Study did not provide the dilution factors
 - Study did not include reasonable potential evaluation

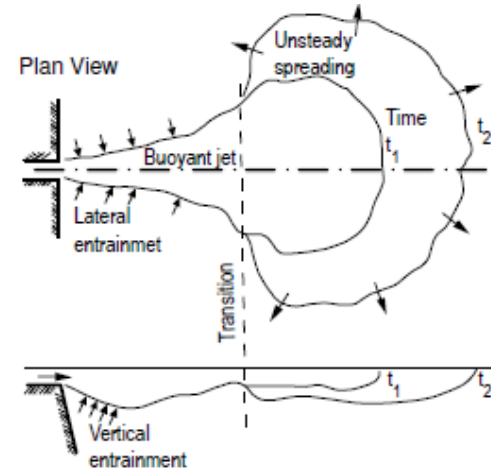


Figure. A In stagnant conditions, thin surface layer forms, transient spreading motions occur

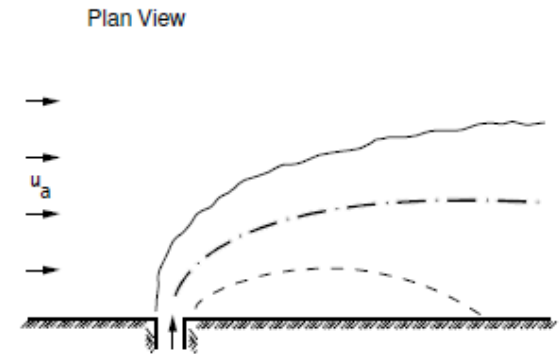


Figure. C If crossflow is present & initial lateral momentum is weak, shoreline contact can occur

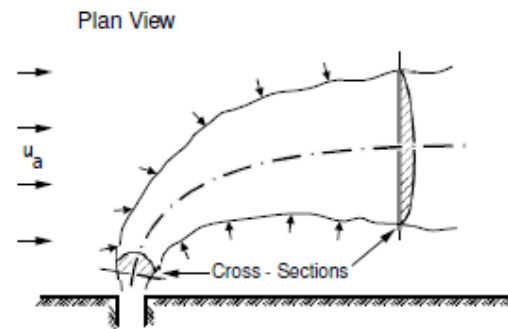


Figure. B If crossflow is present & initial lateral momentum is strong, no shoreline contact occurs

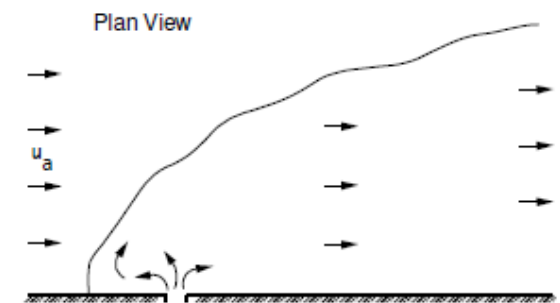


Figure D. If crossflow is present & initial lateral momentum is weak & buoyancy is strong, shoreline contact & upstream buoyant intrusion can occur

Studies Required Cont.

Sediments

- No previous evaluation
- Toxics in the discharge have a reasonable potential to cause or contribute (RPA)
- At permitted flow recommend sediment evaluation every 10 years



Studies Required Cont.

Temperature, pH, and metals

- Limited data upstream of the discharge
- Upstream data is several miles upstream
- Data is old – not reflective of FERC required flow changes





What is important to remember

- Update temperature calculations
- Proposed actions eliminate toxic pollutants before they get to the treatment plant
- Proposed studies better characterize the receiving water
 - Verify that the discharge is meeting WAC 173-201A
- Proposed limits in the permit are protective of water quality.



Thank You!



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Spokane River Watershed Webpage:

<https://ecology.wa.gov/Issues-and-local-projects/Environmental-projects/Improving-Spokane-Watershed>