



# Spokane County WRF NPDES Permit WA0093317 – Public Meeting

Diana Washington

## Limitations/Limits

- Technology Based Effluent Limits (TBEL)
  - Federal Effluent Guidelines
  - Case-by-case determinations
- Water Quality Based Effluent Limits (WQBEL)
  - Evaluate Critical Effluent and Receiving Water Conditions (Reasonable Potential Determination)
  - Water Body Impairments
  - Total Maximum Daily Load (TMDL) Requirements
- Narrative Limits
  - Best Management Practices (BMPs)

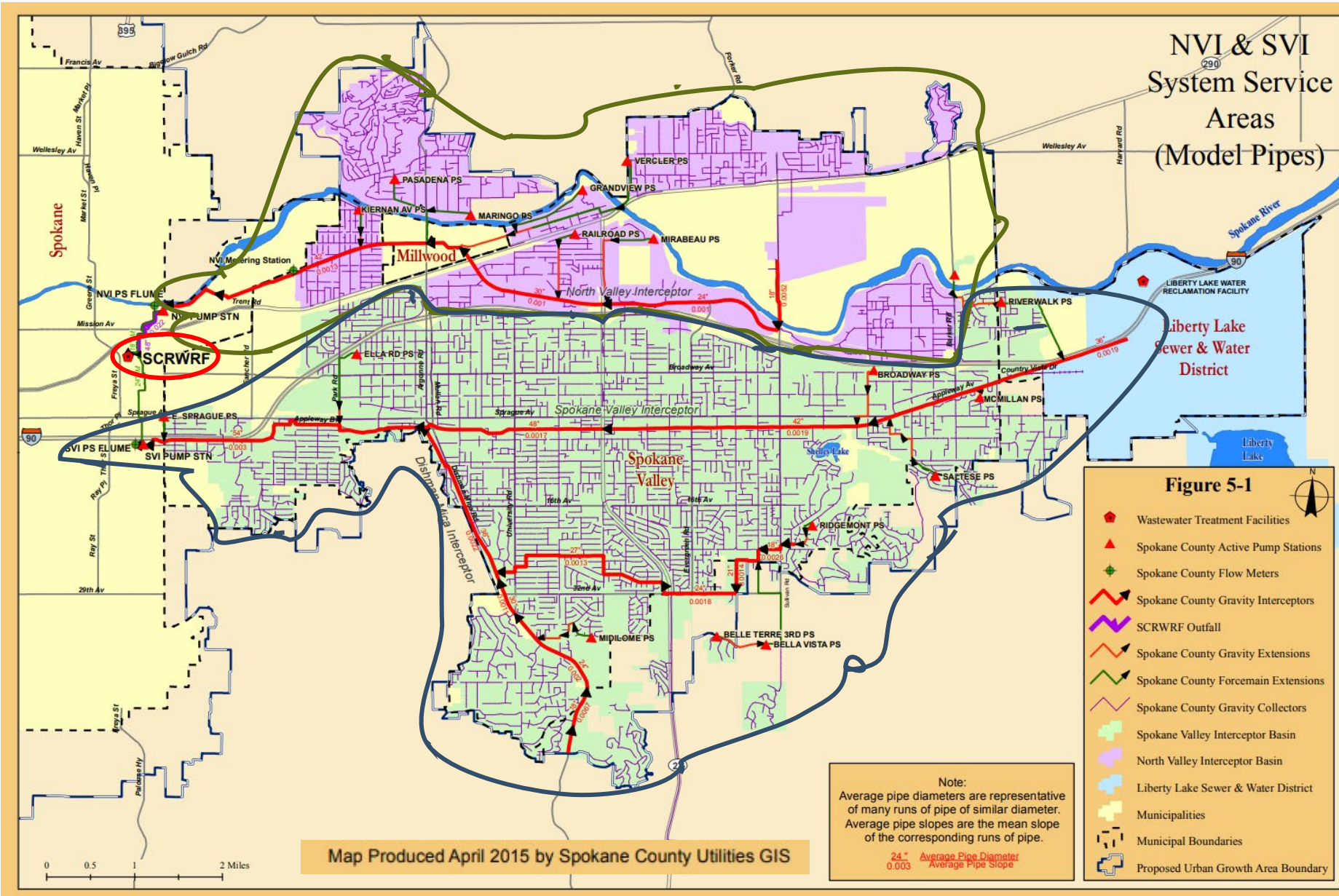
# IMPORTANT TO KNOW

## The County's permit protects water quality

- Ecology
  - Assessed the quality of the receiving water
  - Based limits for pollutants on protecting the receiving water
  
- Biological nutrient removal membrane filtration meets AKART and removes approximately:
  - 98.5% of total Phosphorous
  - 99.2% of CBOD<sub>5</sub> and NH<sub>3</sub>
  - 99.3% of PCBs
  - 99.7% of PBDEs

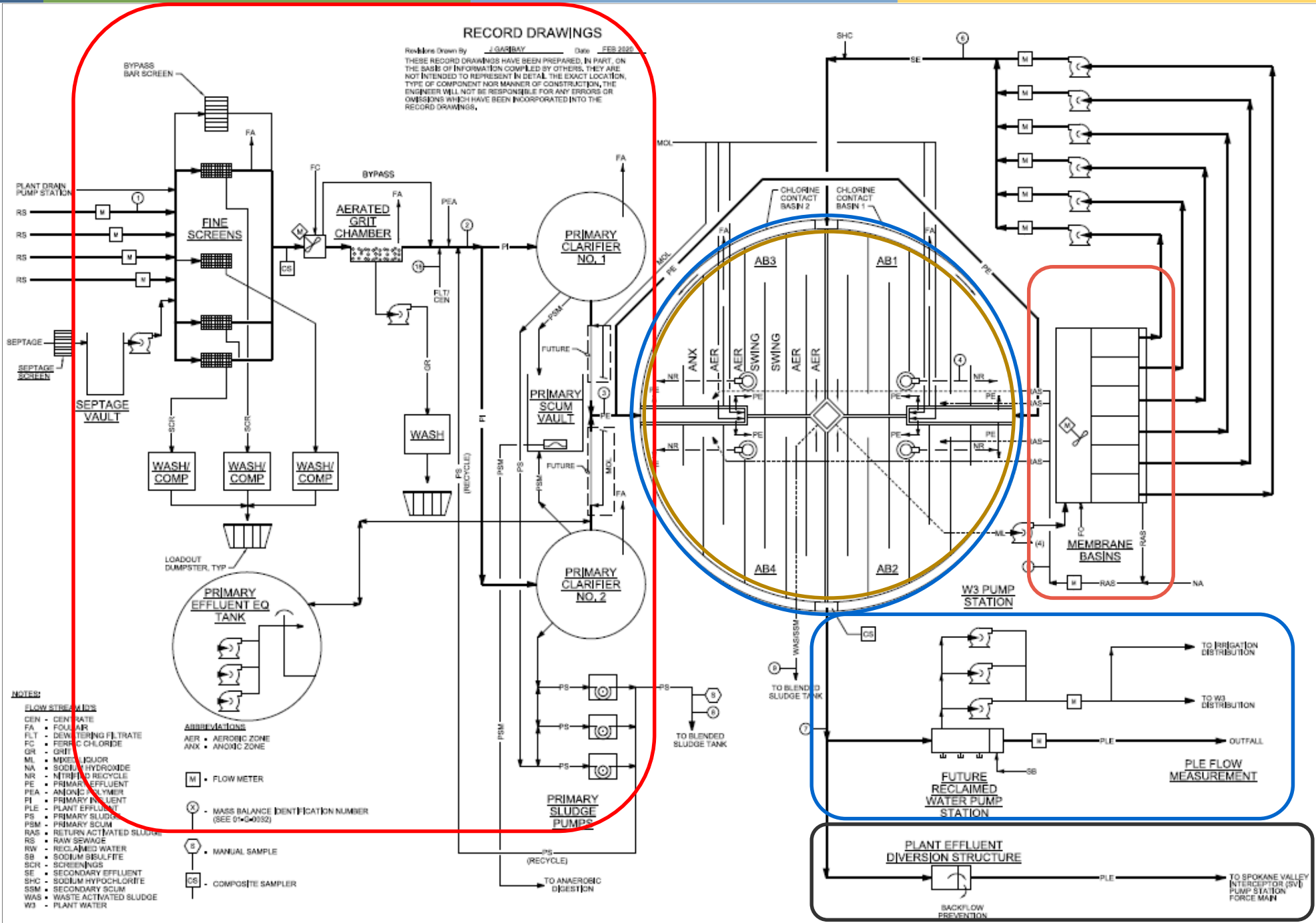


# SCRWRF Sewage Collection Area



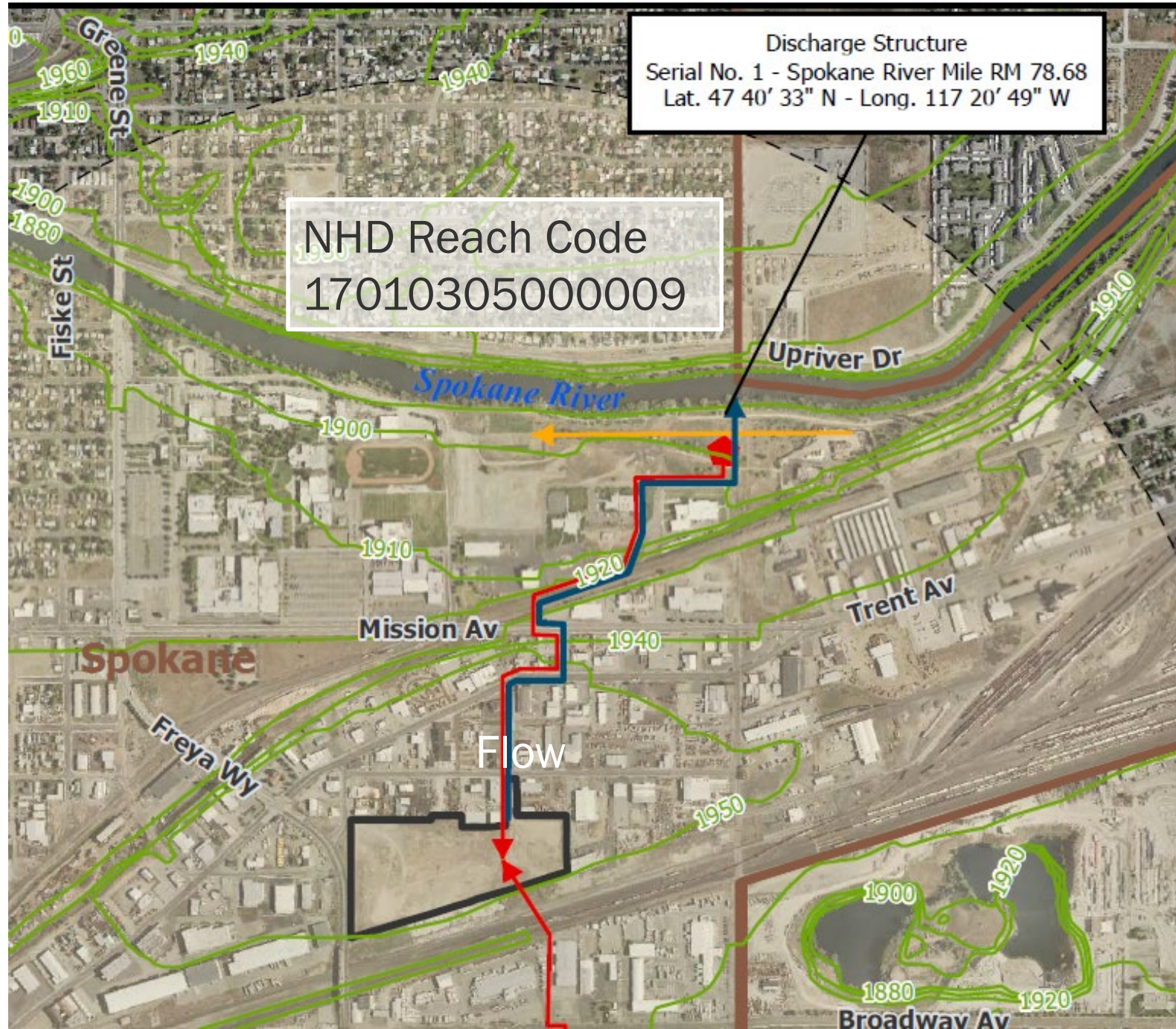
# Facility Flow Diagram

Approximately 8 million gallons of wastewater treated per day



# Spokane River and Location of Discharge

- Characteristics of the discharge and river are unique
- WRF discharges in WRIA 57 at Spokane River Mile (RM) 78.7



# Spokane River 303(d) listings at the point of discharge

Current Category	Current 303(d) listings	Draft Category	Draft 303(d) listings
5	Polychlorinated Biphenyls (PCBs) (Fish Tissue)	5	<b>PCBs</b> (Fish Tissue)
		5	<b>Methylmercury</b> (Fish Tissue)
		5	<b>Polybrominated Diphenyl Ethers (PBDEs)</b> (Fish Tissue)
		5	<b>Bacteria- Fecal Coliform</b>

# Spokane River

## Total Maximum Daily Loads (TMDLs)

305(b) listings Category 4	Water Quality Improvement Plans
Dissolved Oxygen	<u><a href="#">Spokane River DO TMDL</a></u>
Lead	<u><a href="#">Spokane River Cadmium, Lead, and Zinc TMDL</a></u>
Zinc	<u><a href="#">Spokane River Cadmium, Lead, and Zinc TMDL</a></u>



# Spokane River DO TMDL Wasteload Allocations (March – October)

		Alternative Static Equivalency WLA
Parameter	Basis for Limit	Seasonal Average
Total Phosphorus	TMDL	3.34 lbs/day
CBOD <sub>5</sub>	TMDL	133.4 lbs/day
Total Ammonia	TMDL	March: 129.7 lbs/day previously 1067.5 lbs/day April – May: 66.7 lbs/day June – September: 16.7 lbs/day October: 66.7 lbs/day

# Spokane County NPDES Permit Reissuance

- Updated permit application submitted Jan 2021
- Reasonable potential analysis (RPA) used:
  - DMR data October 2016 – September 2021
  - Additional data request by Ecology: metals, temperature, and hardness
  - Toxics data submitted for PCBs, PBDEs, and Dioxin
  - Receiving water data collected by the County
  - Environmental Information Management Database (EIM)

# Toxics Limits

Parameter	Basis for Limit	Proposed Average Monthly	Proposed Maximum Daily
Total Residual Chlorine	WQBEL	16.8 µg/L	33.6 µg/L
Ammonia	WQBEL	1.83 mg/L	8.65 mg/L
Cadmium (Total)	TMDL	0.057 µg/L	0.126 µg/L
Lead (Total)	TMDL	0.202 µg/L	0.409 µg/L
Zinc (Total)	TMDL	38.5 µg/L	61.3 µg/L
PCBs	WQBEL	170 pg/L + Narrative Limits	414 pg/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
  - Continue public outreach and education

SRRTTF Comp Plan Link:  
[http://srrttf.org/wp-content/uploads/2016/04/2016\\_Comp\\_Plan\\_Final\\_Approved.pdf](http://srrttf.org/wp-content/uploads/2016/04/2016_Comp_Plan_Final_Approved.pdf)

## Community Based Toxics Reduction

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

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

## pH Limits

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

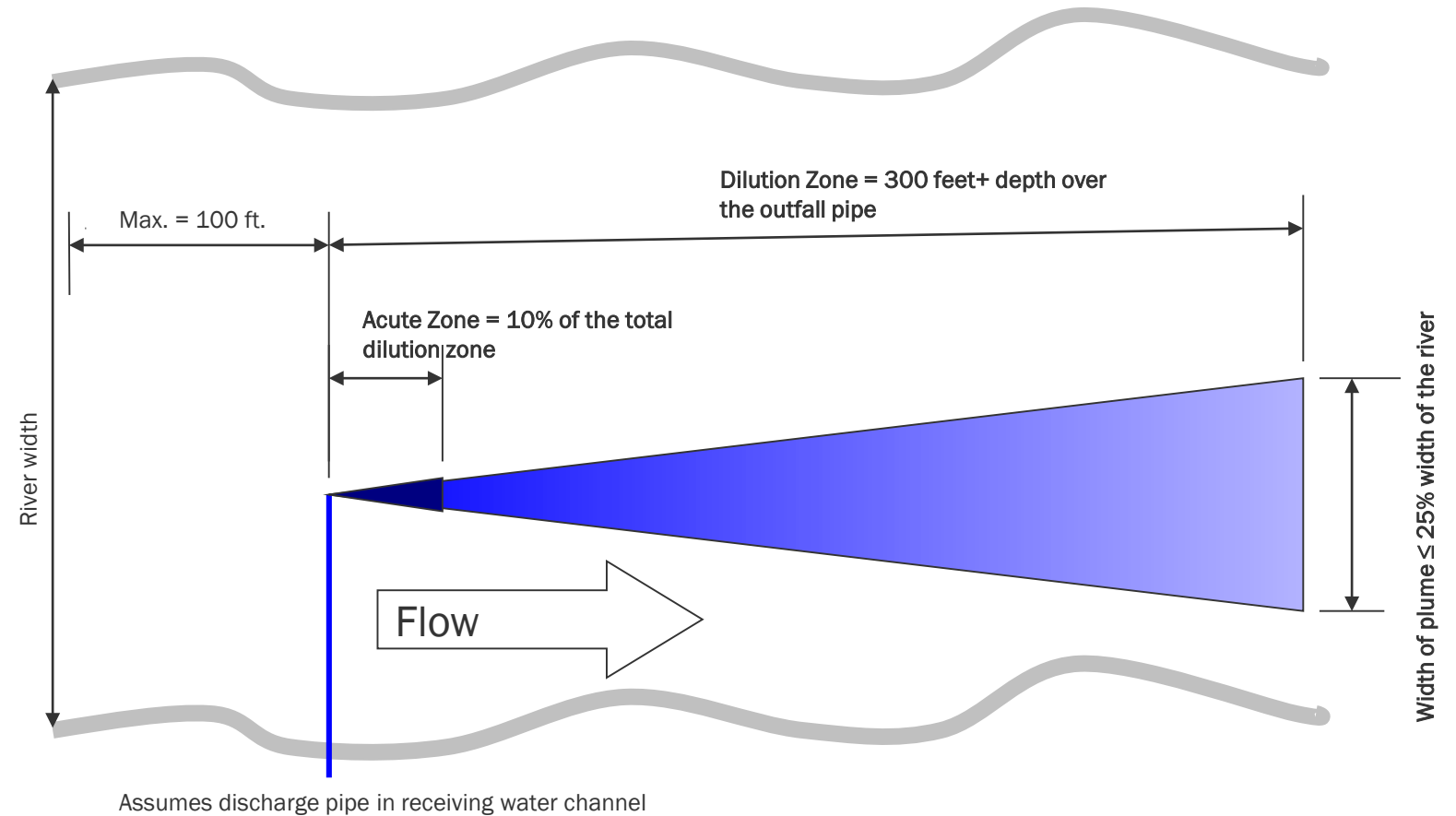
## Bacteria Limits

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

# Mixing Zone WAC 173-201A-400

## Evaluation parameters:

- 300 feet downstream + depth over the outfall
- 100 feet upstream
- < 25% of river flow
- $\leq 25\%$  of river width
- Overlapping mixing zones defined in WAC 173-201A-400(9)



Plan View – not to scale

# Mixing Zone Evaluation / Dye Study Required

- Previous study (2002)
  - Study did not include an evaluation of outfall location
  - Did not evaluate the City of Spokane CSO overlap with County Mixing Zone
  - Use Dye test to verify assumptions
- Flows in the river have changed
  - FERC relicensing in June 2009
- Facility is now established
  - Effluent discharge data now available



# Sediment Study Required



## Sediments

- No previous evaluation
- Toxics in the discharge have a reasonable potential to cause or contribute (RPA)
- Permitting guidance recommends sediment evaluation



# Receiving Water Studies

Temp, DO, pH, Alkalinity, Hardness, Metals

- Temperature data needed for shoulder seasons
- Limited data upstream of the discharge
- Upstream data is several miles upstream
- Data is old – not reflective of FERC required flow changes
- River Water Dissolved Oxygen data needed for RPA



## What is important to remember

### The proposed permit:

- Requires BMP actions to eliminate toxic pollutants before they get to the treatment plant
- Requires additional studies to better characterize the receiving water
  - Verify that the mixing zone is meeting WAC 173-201A-400
  - Verify permit limits protect the river
- Includes limits that protect the water quality and identified uses of the Spokane River



# Thank You!



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Spokane River Watershed Webpage:

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