



2021-  
**2025**

# CASE STUDY

**CUSTOM  
TANK**



Vancouver Washington

## Multi-Tenant Industrial Park

### PROBLEM:

Multi-Use, Multi-Leased Industrial Park Exceeding Benchmark of both Zinc & Copper being taken over by the Industrial Park and combining all the individual industrial permits. Industries adding to the levels included a metal recycler shredding facility, multiple steel fabricators, a steel retail storage location and a public truck/vehicle roadway. Site is located in the NW near a major river.

### SOLUTION:

After evaluating proposals from three companies to treat the combined stormwater, the choice was to utilize **BiocharPEAT™** in a 350 GPM pump station with a 12' x 22' x 8' tall **CUSTOM TANK** built locally. The **CUSTOM TANK** includes 25 cubic yards of **BiocharPEAT™** treatment.

### FLOW DESIGN:

An existing catch basin had a weir added to it with a pipe on the influent side put into it to gravity feed the water to a new vault. In the vault, two 350 GPM pumps were installed to pump the water to the **CUSTOM TANK**. The stormwater then gravity flows through the **CUSTOM TANK** and back to the discharge side of the catch basin with the weir and leaves the site to the river.



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Quarter	Date	Turbidity (NTU)	Zinc (ug/L)	Copper (ug/L)	NWTPH - Dx (mg/L)	pH (SU)	Oil Sheen
		25	117	14	10	5.0 - 9.0	Yes/No
Q2	04/25/17	5.2	1140	5.07		5.94	No
Q3	09/18/17	48.8	395	31.4		5.63	No
Q3	09/18/17	22.0	--	--	--	6.56	--
Q3	09/18/17 AVG	35.4	--	--	--	--	--
Q3	09/20/17	15.8	--	--	--	--	--
Q3	AVERAGE	25.6	--	--	--	--	--
Q4	10/12/17	6.0	289	6.17	0.27	5.88	No
Q4	10/12/17	5.1	--	--	--	--	--
Q4	10/12/17 AVG	5.5	--	--	--	--	--
Q1	02/28/18	11.53	608	12	0.14	7.28	
Q1	02/28/18	9.0	--	--	--	--	--
Q1	2/28/18 AVG	10.27	--	--	--	--	--
Q2	06/09/18	4.6	149	11.9	0.489	7.03	
Q4	10/05/18	7.9	312	34.7	1.19	7.93	
Q1	02/11/19	10.3	524	6.36	0.0982	7.27	
Q2	04/05/19	22.7	561	9.68	0.139	7.78	
Q3	09/09/19	7.7	193	9.54	0.189	7.51	
Q4	11/18/19	8.63	431	18.6	0.351	7.25	
Q1	01/23/20	74.57	694	27.4	0.277	7.31	
Q1	02/05/20	23.6	--	--	--	--	--
Q1	03/06/20	8.32	--	--	--	--	--
Q1	AVERAGE	35.50	--	--	--	--	--
Q2	05/12/20	15.8	645	27.4	1.14	7.52	No
Q3	09/23/20	14.5	276	8.83	0.33	7.43	No
Q4	10/13/20	6.1	477	9.23	0.15	7.87	No
Q1	01/12/21	12.8	29.6	<2.0	BA	BA	No

Products used in this Box:



"We wanted to share some good news following sampling this month! (Q1 2021) The analytical results were under all the benchmarks for the first time and non-detect for copper!"  
...project engineer

First Quarter Test after Treatment tank Installed.

## Second Quarter Test Results - Pre & Post Treatment

Date of Test	Pollutant Tested	% Change	PRE Treatment	Unit of Measure	POST Treatment	Unit of Measure	Amount of Media	Rain Event	Other Info about Site
5/25/21	<b>Turbidity</b>	<b>59.7%</b>	<b>14.5</b>	NTU	<b>5.84</b>	NTU	25 CY	.33"	12' x 22' Box
5/25/21	<b>pH</b>	<b>0%</b>	<b>8.14</b>	SU	<b>8.15</b>	SU	25 CY	.33"	12' x 22' Box
5/25/21	<b>Copper</b>	<b>71.4%</b>	<b>16.2</b>	µg/L	<b>4.63</b>	µg/L	25 CY	.33"	12' x 22' Box
5/25/21	<b>Zinc</b>	<b>94.5%</b>	<b>744</b>	µg/L	<b>40.6</b>	µg/L	25 CY	.33"	12' x 22' Box

**2025  
UPDATE**

## Four Years after Treatment tank Installed.

Media was changed out after three quarters of not hitting benchmark.

Date of Test	Pollutant Tested	% Change	PRE Treatment	Unit of Measure	POST Treatment	Unit of Measure
9/25/24	<b>Zinc</b>	<b>76%</b>	<b>664</b>	µg/L	<b>161</b>	µg/L
9/25/24	<b>Copper</b>	<b>61%</b>	<b>17</b>	µg/L	<b>6.65</b>	µg/L
10/16/24	<b>Zinc</b>	<b>37%</b>	<b>399</b>	µg/L	<b>250</b>	µg/L
10/16/24	<b>Copper</b>	<b>70%</b>	<b>25.5</b>	µg/L	<b>7.7</b>	µg/L
1/10/25	<b>Zinc</b>	<b>14%</b>	<b>1120</b>	µg/L	<b>962</b>	µg/L
1/10/25	<b>Copper</b>	<b>34%</b>	<b>22.7</b>	µg/L	<b>15</b>	µg/L



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