To: Department of Ecology

Attn: Mr. James Hovis, Permit Writer for the 2021 Draft Boatyard General Permit

Dear Mr. James Hovis,

These comments are shared from the Port of Edmonds, and we appreciate your attention to the issues raised.

The Port of Edmonds is committed to protecting and enhancing the environment and natural resources of the community we serve. To this end, we have developed and follow protocols that meet or exceed requirements for discharge to receiving water, including the Puget Sound waterfront and Edmonds Marsh. The Port recognizes the importance of balancing environmental responsibility and economic goals, as well as integrating community values into operations. Our goal is to achieve long-term environmental, societal and economic benefits through resource conservation, waste reduction and pollution prevention. With that said, we have several serious concerns with the draft permit.

- If the questionably derived 15 µg/L copper benchmark in the draft Permit becomes final, then the Port would need to make expensive modifications to its stormwater infrastructure.
- The Port requests that Ecology carefully reevaluate its basis for the water-quality-based benchmark value for copper.
- With six stormwater sampling events within an 8-month monitoring period, there is inadequate time after receiving the analytical results to complete a Level One response and observe its effects before the next monitoring event.
- Even with the diligent implementation of pollutant source controls, we would exceed the copper benchmark each monitoring period and trigger a Level 3 response the first year of the new Permit.

- Ecology has presented no data or compelling rationale in its Fact Sheet for why a 6th sampling event in March needed to be added.
- The addition of pH, turbidity, and petroleum hydrocarbons, we have no known recollection of any past problem with any of these three parameters at our boatyard.
- In wanting to align the Boatyard Permit with the ISGP, Ecology has incorporated changes to the Boatyard Permit that make it disproportionately more onerous to boatyards than an industrial facility under the ISGP.

In addition to this letter, the Port of Edmonds also supports the comments submitted by the Northwest Marine Trade Association (NMTA) and the Washington Public Ports Alliance (WPPA). The Port also consulted with environmental experts at Landau Associates and NMTA in its review of Ecology's proposed changes to the 2021 draft Boatyard General Permit. Please find our full review comments on the draft Permit and Fact Sheet below.

S2.D Objection to Deviation from AKART and Technology-Based Copper Benchmark Approach; Fact Sheet Pages 19-24; Fact Sheet Economic Impact Analysis Page 38

Ecology appears to have entirely dropped the joint agreement between the Northwest Marine Trade Association (NMTA) and Puget Soundkeeper Alliance from 2007, along with the associated research study that provided a technical assessment of applicable stormwater treatment technologies. The proposed adoption of a questionably derived water quality-based copper benchmark of 15 µg/L versus the current technology-based copper benchmark of 147 µg/L will have substantial impacts on our operation. The Port of Edmonds participated in the 2007 study as one of the host boatyard facilities for the three technologies treatability testing. The technology assessment report "Boatyard Stormwater Treatment Study" issued by Taylor Associates, Inc. in 2008 showed that multimedia filtration was effective in removing copper and zinc from stormwater. As stated by Ecology in the draft Fact Sheet, "In 2010, Ecology deemed the level of performance from multimedia filtration as AKART," with AKART being an acronym for All Known, Available and Reasonable methods of prevention, control, and treatment. In August

2008, following the treatment study report, the NMTA and PSA sent a draft permit to Ecology that they said was mutually acceptable; Ecology agreed to incorporate and adopt it.

It appears that Ecology now wants to align the Boatyard General Permit with the conditions in the Industrial Stormwater General Permit, including the use of the same procedure to derive a copper benchmark. For good reason, the Boatyard Permit is separate and distinct from the ISGP because the pollutant sources, applicable Best Management Practices (BMPs), and stormwater treatment needs are different for a boatyard than a typical ISGP facility. Hence, the reason why Ecology created a separate general permit for boatyards in the first place.

Following the results of the 2008 AKART study report, the Port of Edmonds installed filter media in a stormwater drainage trench and a treatment vault. That treatment approach and diligent implementation of pollutant source control best management practices (BMPs) have allowed the Port to meet benchmarks for copper and zinc. The Port has not needed to employ large-scale modifications to its stormwater conveyance system, such as above-ground treatment system equipment, that take up valuable surface real estate. If the questionably derived 15 µg/L copper benchmark in the draft Permit is allowed to become final, then the Port (and many other boatyards) would need to make expensive modifications to its stormwater infrastructure. Even for the Port's small 1-acre work yard, these installations would carry a massively negative economic impact.

The draft Permit Fact Sheet refers to the Economic Impact Analysis report commissioned by Ecology, but the report does not adequately identify what infrastructure improvements and treatment technologies were assumed to estimate the range of costs. The report concludes, "it is likely that the costs of compliance with the draft permit are disproportional." Despite that conclusion, Ecology appears to have taken no reasonable effort to closely examine its basis for deriving the proposed water quality-based copper benchmark (as discussed further below) or collecting a genuinely representative set of data for the calculation.

S2.D, Table 2 Stormwater Benchmarks; Fact Sheet Page 24

The main issue with the draft Permit is the dramatic change in the benchmark value for copper from 147 µg/L daily maximum and 50 µg/L seasonal average benchmark decreasing to 15 µg/L. We have a specific concern that Ecology has made invalid assumptions or used invalid data when calculating this proposed water quality-based benchmark. It is understood that Ecology must select the lower of the water quality-based benchmark value and the technology-based benchmark value. Still, Ecology must have a valid scientific basis for its determination of the water-quality-based benchmark value before using that in place of the developed technology-based benchmark value, which was used in the current and prior boatyard permits.

The invalid technical basis for determining the copper benchmark becomes especially dangerous with the NPDES permit development process's anti-backsliding provision. Such that a change to an erroneously low benchmark value for copper would never be allowed to backstep to a properly derived value; even if later there are determined to be flaws or shortcomings with how Ecology calculated the value.

The Port requests that Ecology carefully reevaluate its basis for the water-quality-based benchmark value for copper. We ask that you consider such parameters as the dilution factor of 5, the ratio of dissolved copper to total copper (i.e., translator value), and the overall statistical method used as part of the Industrial Stormwater General Permit (ISGP) benchmark development. For example, considering that the 4.8 µg/L water quality criterion for copper in marine water per WAC 173-201A-240 is based on dissolved copper, and with almost all the boatyards having installed stormwater treatment to meet the current copper benchmarks (147 µg/L daily maximum and 50 µg/L seasonal average), it is expected that virtually all of the truly dissolved (i.e., in ionic form and biologically available) has been removed by the multimedia filtration.

The filtration media has effective bonding sites to remove positively charged copper ions from stormwater. The copper measured in the total copper analytical testing of the discharged stormwater is likely to be in a minimal particulate form or in another non-ionic chemically complexed form that is not biologically available, even if it can pass through a 0.45-micron filter as part of the standard dissolved metal testing protocol. Further, it is likely that the small particulate or chemically complexed copper that less reactive to the adsorptive media and that does pass through the multimedia filter is resistant to leaching or breakdown to ionic form in the receiving water within a short timeframe. This brings into question both Ecology's use of dissolved copper translator value and the use of a low dilution factor of only 5. Rather than use copper translator values that are derived from dissolved to total copper ratio measurements in Washington State receiving water bodies (with that average ratio appearing to be high at approximately 0.82 based on the EIM database), Ecology should perform additional testing and analysis to better determine the actual form of copper and bioavailability/toxicity in treated stormwater from boatyards.

At a minimum, allow the boatyards to conduct such a study before implementing a permit with drastic consequences from assumptions that do not have a proper scientific basis or correspond to actual boatyard treated stormwater characteristics. During the upcoming Boatyard Permit cycle, there would be adequate time to investigate and more properly determine appropriate translator values and use a scientifically valid basis for developing water quality-based copper benchmarks for boatyards that would be lower than the technology-based benchmark value. If there are potential data gaps identified, it is a standard practice in the NPDES permit program to collect valid and applicable data within a 5-year permit cycle **before** establishing effluent limitations for the following Permit.

For further reference, in the Ecology study Puget Sound Boatyards – Zinc, Copper, Lead, and Hardness Concentrations in Receiving Water (October 2009, Publication No. 09-03-051) it is stated that "*One objective of this study was to measure the ratio of dissolved to total metals, particularly for copper. By federal regulation, effluent limits must be expressed as the total*

amount. A "translator" must therefore be used to convert dissolved metals criteria into an effluent limitation (EPA, 1996a). Because Ecology had no boatyard data, a copper translator of 0.30 (30% dissolved) was used in the Boatyard General Permit, derived from data on shipyard discharges. This 30% dissolved copper translator value would be more applicable than the apparent 0.82 value used from the receiving waters but is likely still high compared to stormwater discharge from Washington State boatyards given the near-universal use of media filtration. Therefore, a specific study on dissolved/total copper ratio in boatyard treated stormwater and bioassay toxicity testing of treated effluent would be appropriate to collect the applicable data for boatyards. That point is emphasized in the June 1996 EPA document The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit From a Dissolved Criterion (EPA 823-B-96-007). In that document, it is stated: *As the effluent mixes with the receiving water, the chemical properties of the mixture will determine the fraction of the metal that is dissolved and the fraction of the metal that is in particulate form (typically adsorbed to surfaces of other compounds). Many different properties influence this dissolved to total recoverable metal ratio. Important factors include water temperature, pH, hardness, concentrations of metal-binding sites such as concentrations of total suspended solids (TSS), particulate organic carbon (POC), and dissolved organic carbon (DOC), as well as concentrations of other metals and organic compounds that compete with the metal ions for the binding sites. It is difficult to predict the result of such complex chemistry. The most straightforward approach is to analyze the mixture to determine the dissolved and total recoverable metal fractions. This ratio of dissolved to total recoverable metal concentrations can then be used to translate from a dissolved concentration in the water column downstream of the effluent discharge (the criterion concentration) to the total recoverable metal concentration in the effluent that will not exceed that dissolved concentration in the water column.*

Beyond potential errors in the dissolved copper translator value used, there are concerns about the copper benchmark calculation elements. In its method for determining the copper benchmark value, Ecology relies upon and repeats the calculation method from a 2009 report titled Water Quality Risk Evaluation for Proposed Benchmarks/Action Levels in the Industrial

Stormwater General Permit (Herrera, February 9, 2009). In this report, it is noted that "The actual risk level that is deemed acceptable for exceeding water quality standards is a policy issue that must be resolved by Ecology with input from other stakeholders associated with the ISWGP. In connection with ongoing discussions between Ecology and the external stakeholder workgroup, proposed benchmarks and action levels are being considered based on a dilution factor of 5, and a 10 percent risk threshold for exceeding the applicable water quality standard for each metal." Given the enormous logistical and financial impact to boatyards from this proposed copper benchmark change, it is incumbent on Ecology to avoid using arbitrary and excessively conservative criteria that have no apparent basis in federal or state laws or regulations.

To penalize boatyards with carrying out onerous response actions based on a stormwater copper discharge concentration that, even by Ecology's conservative and likely inappropriate calculation, has little more than a 10 percent chance of temporarily exceeding state water quality criterion is excessive.

Copper Mass Comparison

The Port's treated stormwater generally meets the current seasonal average benchmark value for copper (50 µg/L). The calculated amount of copper that would be reduced in all the average annual stormwater runoff from the Port's 1-acre boatyard from Ecology's proposed adoption of a 15 µg/L versus 50 µg/L copper benchmark was calculated to be only approximately 120 grams.

By relative comparison, this is roughly the same mass of copper in the current stock of just one commercially available fungicide product at Home Depot in the greater Seattle area. Additionally, the form of copper present in the fungicide product (copper octanoate) is most likely in a more leachable and bioavailable form than what is present in filtered boatyard stormwater runoff.

Copper is also present in large quantities in many commercial products such as vehicle brake pads, architectural elements, treated lumber, etc.

The more significant point is that if copper is truly such a chemical of concern, then there would be less expensive ways to reduce the source without placing what is likely millions of dollars of burden solely upon the backs of the state boatyards.

S7. Inadequacy of Adaptive Management Provisions

With conducting a proposed six stormwater sampling events within an 8-month monitoring period, there is inadequate time after receiving the analytical results to complete a Level One response and then observe its effects before the next monitoring event. Even with the diligent implementation of pollutant source controls at our boatyard and focused attention to operating, maintaining, and optimizing our stormwater media filtration, we would exceed the copper benchmark each monitoring period and trigger a Level 3 response the first year of the new Permit. The adaptive management strategies that are in the Permit would be of no use to avoid a high cost to the Port for needing to install new infrastructure and a new treatment system within the first year of the Permit.

S2.D. Monitoring Requirements; Fact Sheet Pages 20, 23-24, 32

Ecology has presented no data or compelling rationale in its Fact Sheet for why a 6th sampling event in March needed to be added. On-Page 20 of the draft Fact states that *Ecology has determined that the additional month of sampling in March is needed to necessary to verify the effectiveness of best management practices during a month that typically sees high boatyard activity and rainfall*. However, it seems that could be more appropriately addressed by simply moving one of the other five monitoring months to March, without increasing the burden of permit compliance above and beyond that of other industries in the state under the ISGP (which only requires sampling four times per year). On-Page 32 of the draft Fact Sheet stated that *the new Permit has replaced the "seasonal average" measurement and benchmark and replaced it with an additional sampling month of March*. However, that is not at all an equivalent

replacement, with an additional sampling event having added sampling labor, DMR reporting requirement, as well as the non-insignificant external lab costs associated with the proposed expanded six benchmark parameters.

Regarding the addition of pH, turbidity, and petroleum hydrocarbons, we have no known recollection of any past problem with any of these three parameters at our boatyard. Suspended solids and turbidity obviously must be controlled effectively. Otherwise, there is no chance to meet the copper and zinc benchmarks. Therefore, copper and zinc benchmarks have been an appropriate indicator parameter for other pollutants under the current and prior Boatyard Permits. Beyond there not being any significant handling of acids, caustics, oils, and fuels at our boatyard, our stormwater treatment media filter would buffer pH and absorb fuel or oil from the stormwater. The Port requests that Ecology not include these proposed additional monitoring requirements for these added parameters in the final Permit. If Ecology does unexpectedly have evidence that these added parameters are a threat to the environment from boatyards, the Port requests that the Permit also include a "consistent attainment" provision - like the ISGP where sampling for a parameter can be discontinued if there eight consecutive samples that meet benchmarks.

Onerous Conditions that are Disproportionate to Boatyards Versus Other Industries

In wanting to align the Boatyard Permit with the ISGP, Ecology has incorporated changes to the Boatyard Permit that make it disproportionately more onerous to boatyards than an industrial facility under the ISGP. Examples of this disproportionate impact are listed in the following table:

Permit Condition	ISGP	Draft Boatyard Permit
S2.D Sampling frequency	4 times per year, flexible selection of sampling months in the 4 quarters (other than the first fall sample)	6 times per year, specific sampling months dictated
S7.A Benchmark exceedances that count toward Level 2 or Level 3 response actions	Reset to zero each calendar year	"…are counted during the effective term of the permit and do not reset annually."
S2.D Benchmark value for zinc	117 µg/L	90 µg/L
S2.D Benchmark value for pH	5-9	6-9
S2.D Sampling requirements for stormwater discharge to ground	None	6 samples per year, in selected months
S2.D Maximum concentration limits for infiltration to ground	None	Concentration limits for both copper and zinc
S2.D Pretreatment requirement for infiltration basin/trench	None	Absorptive media required
S2.D Ability to discontinue sampling for a parameter	"Consistent attainment" achieved after 8 consecutive samples meeting benchmark	No established path to discontinue sampling through "consistent attainment"

Given the above comparison of the draft permit compared to the ISGP - how can Ecology justify the statement from its Economic Impact Analysis that "Ecology has determined there is no opportunity to significantly reduce the costs of this permit…"? Rather, it seems that Ecology has many reasonable opportunities to reduce the costs of complying with this permit. That is especially true when considering the potentially inappropriate data and assumptions that

Ecology used when determining the water quality-based benchmark value for copper, as discussed earlier in this comment letter.

Overall Adequacy of the Permit Fact Sheet

According to the U.S.E.P.A., the public is entitled to "a clear and transparent record of the permit decision-making process." In Washington, a Permit Fact Sheet must include, among other things, "[t]he legal and technical grounds for the draft permit determination." WAC 173-220-060(1). According to Washington's Pollution Control Hearings Board that oversees Ecology's permit development, Fact Sheets are provided to enable the public to actively participate in permit development. The draft Fact Sheet lacks the details necessary to understand the methodology, assumptions, and the data that went into the copper water quality-based benchmark calculation.

Again, thank you for taking the time to review and consider the issues raised in not only this specific letter, but all comments received throughout the process. Our hope is that Ecology can integrate the feedback received from boatyards to create an equitable permit to operate under.

Thank you,
Port of Edmonds
425-775-4588