MEMORANDUM

To: Liz Fancher, Hearings Officer – T3-2022-16220

Date: *5/5/2025*

From: Ian Courter, Lauren Courter

RE: Response to N.59: *Stormwater Flow Spreader and Vegetated Slope*, prepared by Mark Graham (Stantec), April 15, 2025

SUMMARY OF PWB'S STORMWATER MANAGEMENT APPROACH

Exhibit N.59 describes a stormwater management approach developed by PWB. This includes a flow spreader and vegetated slope located near the riparian area of Johnson Creek, a designated area of Significant Environmental Concern, Water Resources (SEC-wr). These features are designed to control stormwater flow rates to match pre-development conditions, prevent erosion, and protect water quality, in compliance with the standards of the Multnomah County Design and Construction Manual and the City of Portland's 2020 Stormwater Management Manual. Stantec describes the designed flow spreader to use a broad-crested concrete weir to evenly distribute stormwater, while the vegetated slope will slow runoff and stabilize soil through dense plantings of native grasses, shrubs, and trees. The system is engineered to safely manage major storm events while maintaining low flow velocities to prevent erosion.

RESPONSE TO MANAGEMENT APPROACH

Current Conditions

The flow spreader, as relied on in the Stantec Report (N.59), was fully installed by PWB by January 2025. In "functioning" to collect and distribute stormwater over the past four to five months, it is not evenly distributing flow and reducing velocity to prevent erosion and sediment mobilization as Stantec claims. Groundwater pumping is generating a continuous discharge upwards of 1,600 gallons per minute (3.56 cubic feet per second), just under the 3.7 cfs threshold cited in Table 1 of Exhibit N.59 as necessary to meet design performance criteria. Despite this, the actual discharge is causing significant channelization, erosion, and sediment transport into Johnson Creek (see *Natural Resources Remand Report*, Exhibit N.43 and video documentation in Exhibit N.14). Attempts to mitigate these effects using hay bales have proven ineffective. Although flow has been slowed in parts of the SEC area, it becomes concentrated again as it moves through steeper sections of the slope—beyond the uphill grades of 12% and 9%—resulting in renewed channelization and erosion into the riparian corridor and surface waters.

Post-Construction, Final Operation

The proposed flow spreader and vegetated slope design, intended to convey stormwater through a SEC area into Johnson Creek, directly **violates Multnomah County's "no adverse effects to natural resources" standard** for land west of the Sandy River.

Despite PWB's reliance on engineering practices and compliance with general stormwater manuals, the proposed system introduces **engineered infrastructure into an ecologically sensitive area**, alters natural hydrology, and creates permanent modifications to a riparian zone. These impacts, whether mitigated through design features or vegetation, **constitute an adverse effect**.

1. Non-Compliance with "No Adverse Effects to Natural Resources" Standard

Multnomah County land use rules explicitly require that development **result in no adverse effects to natural resources**. This standard is not satisfied by otherwise satisfying minimum design guidelines or mitigating impacts. The introduction of **stormwater runoff into an SEC area via artificial infrastructure**—including a concrete flow spreader, weir, and drain rock bedding—represents a clear and permanent alteration of natural functions.

The assertion that impacts are mitigated by plantings or dispersed flow does not eliminate the fact that these are **constructed systems within a protected riparian corridor**, where such intervention should be categorically avoided.

2. Engineered Infrastructure is Incompatible with SEC Area Intent

Constructed features such as concrete weirs, level spreaders, and graded vegetated slopes undermine the fundamental intent of SEC protections. Engineered elements:

- Disrupt existing soil profiles and native root networks.
- Introduce long-term maintenance needs incompatible with passive natural function.
- Depend on assumptions about flow behavior and climate conditions that may not hold over time.

No matter how well designed, these artificial systems **transform a natural riparian buffer into a managed stormwater utility corridor**, which contradicts current policy framework for the area, including SEC areas.

3. Vegetation Mitigation is Insufficient to Offset Permanent Impacts

The plan includes revegetation with native grasses, shrubs, and willows, and references adaptive management in case of planting failure. However:

- Vegetative cover cannot reverse damage resulting from soil compaction, grading, or infrastructure footprints.
- Restoration is speculative and contingent on uncertain survival rates, irrigation, and funding.
- Adaptive management is **reactive**, whereas county policy requires **impact avoidance from the outset**.

Vegetative buffers as mitigation may be used to protect existing systems, not **as a basis to find no adverse effect**.

4. Climate Risk and Structural Limitations

The design is based on the 25-year storm event, yet **climate science strongly supports increasing storm intensities and irregular weather patterns, which are not being taken into account.** Relying on historical storm profiles does not ensure the system will avoid future erosion, sediment loading, or vegetation failure, especially over the decades-long life of the facility. Any exceedance of flow capacity will adversely affect the SEC area and Johnson Creek.

5. Inadequate Oversight and Enforcement Framework

Monthly inspections and post-storm reviews, as outlined, lack:

- Independent verification or third-party monitoring.
- Public accountability or access to inspection outcomes.
- Long-term funding guarantees for ongoing vegetation success or repair work.

These omissions reduce confidence that the proposed mitigation will be maintained at the level required to ensure **"no adverse effects" in perpetuity**.

Conclusion and Recommendation

The proposed stormwater flow spreader and vegetated slope design **does not comply with Multnomah County's "no adverse effects" policy** for natural resources in SEC-designated areas. The combination of engineered structures, permanent alteration of the riparian corridor, reliance on unproven vegetation mitigation, and vulnerability to changing climate impacts directly conflicts with this policy.

Multnomah County

LUP Hearings <lup-hearings@multco.us>

#T3-2022-16220: Response to N.58, N.59

Cottrell CPO <cottrellcpo@gmail.com> Mon, May 5, 2025 at 10:48 AM
To: LUP Hearings <LUP-hearings@multco.us>

External Sender - Be Suspicious of Attachments, Links, and Requests for Payment or Login Information.

LUP,

With regards to the remand of T3-2022-16220, attached is our response to N.58 and N.59 - Stormwater.

Please acknowledge receipt of this email.

Thank you,
Cottrell CPO

Courter Response to N.58, N.59 - Stormwater.pdf
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