



September 21, 2000

Mr. Gordon White
Program Director
Shorelands and Environmental Assistance Program
Washington State Department of Ecology
300 Desmond Drive SE
Lacey, WA 98503

Subject: Preliminary Comments (Set 1) on August 2000 Stormwater Management Plan for Seattle-Tacoma International Airport Master Plan Update Improvements.

Northwest Hydraulic Consultants (nhc) has been retained on behalf of the Airport Communities Coalition to provide a technical review of stormwater facilities and related streamflow impacts from the proposed 3rd runway development at SeaTac airport. By a letter dated November 24, 1999, we provided our initial comments from our technical review of the November 1999 version of the Stormwater Management Plan (SMP) for Master Plan Update Improvements at Seattle-Tacoma International Airport. Substantive follow-up concerns were presented in our email of 4/4/2000 and letters of 5/3/2000, 7/31/2000, and 9/7/2000. Our technical comments and concerns have been consistently corroborated by King County and Pacific Groundwater Group under separate contracts to Ecology.

The purpose of this letter is to provide our first set of preliminary comments on the August 2000 version of the project Stormwater Management Plan (SMP). Our comments are being provided on an incremental basis because of delays in our being provided the SMP and the lack of adequate time to provide comprehensive review comments. We were advised by Ray Hellwig during a meeting on September 6, 2000 that a decision on the Port's 401 Certification application might be made by Ecology at any time after September 15, 2000. Please take the time to consider this letter and the subsequent letters which will follow in this series.

The August 2000 SMP is a half-foot thick, 17-pound document. An incomplete version of the August 2000 SMP was first released to the ACC for public review on August 29, 2000. Color copies of SMP color-coded figures were released to the ACC for public review on September 7, 2000, and SMP errata pages and supplemental analyses were released to the ACC for public review on September 13, 2000. King County final review comments on the August 2000 SMP were submitted to Ecology and simultaneously released to the ACC on September 15, 2000.

The time frame between our receipt of the August 2000 SMP document and the deadline for a decision by Ecology on 401 Certification is not sufficient for a thorough or complete review of

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the latest SMP materials. Our initial observation of the August 2000 SMP is that it is substantially revised from the previous SMP released for public review in November 1999. The King County review was also conducted under significant time constraints which "did not afford detailed review of every aspect of this conceptual plan¹."

Our review comments are intended to supplement, rather than echo, the numerous concerns raised by the King County SMP review. However, it is worth repeating that the King County review found numerous inconsistencies which generally "err on the side of under mitigating impacts." And, more significantly, the King County review found that the performance and/or feasibility of many of the proposed mitigations has not been established. The following excerpts (and page number references) are from the 27-page King County "Specific Review Comments" enclosure to the Pam Bissonnette's September 15 letter.

- Page 4, airport fill - "It is inconsistent for the SMP to claim that the fill will provide increased groundwater recharge when modeling work has shown otherwise."
- Page 5, Basin SDN1 - "No verification of facility performance was provided using the calibrated HSPF model."
- Page 6, Basin SDN-6 - "No documentation of facility performance using KCRTS regional parameters" and "No documentation of facility performance using calibrated Miller Creek HSPF model."
- Page 7, Basin NEPL - "Performance not verified using calibrated HSPF Miller Creek Model."
- Page 8, Basin SDN2X/SDN4X - The facility "may not achieve the intended flow performance goal."
- Page 10, Basin SDN3X - ". . .the facility is not capable of meeting the Level 2 performance standard."
- Page 11, Basin SDN3A - "Facility performance not verified using calibrated HSPF model" and ". . .facility is not capable of meeting the stated flow control performance standard."
- Page 12, Basin SDW1A - "Facility performance not verified using the calibrated HSPF model."
- Page 15, Basin SDW2 - "This facility does not meet the KCSWDM requirement that existing landuse be 1979 conditions or better."

¹King County Review Comments, Letter dated September 15, 2000 by Pam Bissonnette to Tom Luster, Enclosure 1, Page 1, Paragraph 1.

- Page 17, Des Moines Creek Overview - "The HSPF INP model has significantly more storage than proposed to be constructed" and "The feasibility of the proposed storage transfers has not been demonstrated."
- Page 18, Basin SDS-7 - ". . .it is unlikely that the performance standard can be met with the facility volume proposed" and "SMP has not demonstrated feasibility of meeting flow control performance standard with smaller facility nor that it is feasible to collect and detain flows from the SDS2 subbasin."
- Page 20, Basin SDS3-A - "SMP has not demonstrated feasibility of meeting flow control performance standard."
- Page 20, Basin SDS-3 - "SMP has not shown it feasible to collect runoff from adjacent subbasins and convey them to this facility" and (Page 21) "SMP has not demonstrated feasibility of meeting flow control performance standard."
- Page 23, Basin SASA - ". . .the 1998 KCSWDM sets a limit on the amount of offsite flows which can flow through the facility. This facility likely exceeds this threshold."
- Page 24, Basin SDS 2,5,6 - "SMP has not demonstrated feasibility of meeting flow control performance standard."
- Page 25, points of compliance - ". . .this does not appear to indicate that flow control has been met with the STIA basins tributary to west branch of Des Moines Creek" and, regarding plot of flows at South 200th Street, "the performance shown in this graph is not representative of the expected performance of the actual proposed mitigations."

From the above King County comments, it is apparent that the current SMP provides no assurance that the presently-proposed facilities are feasible or will meet the King County expectations of flow control performance standards.

It is worth recalling that this project has a history of hedging on "promised" flow control mitigations. The most current Natural Resources Mitigation Plan², as most recently amended³ still states (1999, pg 6-1) that the Port is "negotiating with Ecology on which standards will apply for stormwater detention and treatment, and the accepted methodologies for applying those standards." This statement is not revised or modified by the August 2000 addendum which begins with an introduction that "Specifically, the addendum describes changes to the Mitigation Plan that have occurred since the 1999 report was prepared." The August 2000 addendum also states that, "Taken together, this Implementation Addendum and the Mitigation Plan constitute

²Parametrix, Inc. 1999. Natural resource mitigation plan - Master Plan Update Improvements Seattle-Tacoma International Airport - revised draft. Parametrix, Inc. Prepared for Port of Seattle.

³Parametrix, Inc. August 2000. Seattle-Tacoma International Airport Master Plan Update Natural Resource Mitigation Plan. Parametrix, Inc. Prepared for Port of Seattle.

the final Mitigation Plan for the MPU." It is of concern that the final Mitigation Plan provides no acknowledgment that significantly revised stormwater performance standards and stormwater facilities have been identified in the August 2000 SMP.

NHC Comments on HSPF Model Development

While it appears that many of the gross inconsistencies in previous HSPF models have been resolved, we are surprised by the lack of real world checks on the hydrologic simulation results. The model calibration effort is based on data from six streamflow gages (Miller Creek downstream of the Regional detention Facility, Miller Creek at the mouth, Walker Creek at the mouth, SDS3, Tyee Pond inflow, and Des Moines Creek at the mouth). There are additional data which could and should have been relied on to check modeling results.

For example, the HSPF model for Walker Creek assumes that there is no outlet from the Walker Creek wetland and that "stormwater exits the wetland only when it flows over the roadway" (SMP page B2-52). The roadway in question is Des Moines Memorial Drive. Given the size of this wetland and its critical location in the Walker Creek headwaters, this seems to be an extraordinary assumption which casts serious doubt on the validity of the Walker Creek model. Not only can a culvert be readily located (close to 17050 Des Moines Memorial Drive), but King County stream gage 42C measures flows in Tributary 0371A (a.k.a. Walker Creek) near 281 S 171st Place, a short distance downstream from the Walker Creek wetland. There is no reference to these streamflow data in the SMP, but examination of these data over the period 1991-1994 shows flows in excess of 5 cfs several times a year. According to the HSPF model presented in the SMP, such flows could only occur through overtopping of Des Moines Memorial Drive (and flooding of several homes east of the highway). Local homeowners report no such flooding. The model results for Walker Creek at the mouth show consistent undersimulation of peak flows. The SMP casually claims that this is a reflection of unreliable observed flow data at the mouth of Walker Creek. In fact, it seems much more likely that the problem is largely caused by the assumption that the Walker Creek wetland has "no known outlet". This lack of reliable characterization of a major hydraulic feature of the Walker Creek drainage system casts doubt on the entire HSPF model calibration effort for Walker Creek. This is a fundamental flaw and it concerns us that this and similar serious flaws are likely to be overlooked because of the extreme constraints under which the SMP was prepared and under which our and King County's review was done.

Thank you for your consideration of this first set of comments. Our subsequent comments will deal with significant issues which were overlooked by King County due to time pressures, and with sensitive area (wetland & stream hydrology) and other issues which were beyond the scope of the King County review. We will continue to submit comments to your office on an incremental basis as our review progresses, and will strive to have all comments conveyed to Ecology not later than September 27, 2000.

Sincerely,

NORTHWEST HYDRAULIC CONSULTANTS, INC.

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