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U.S. Army Corps of Engineers
Regulatory Branch
Post Office Box 3755
Seattle, Washington 98124-2255
ATTN: Jonathan Freedman, Project Manager

Washington State Department of Ecology
Shorelands and Environmental Assistance Program
3190 – 160th Avenue Southeast
Bellevue, Washington 98008-5452
ATTN: Ann Kenny, Environmental Specialist

Dear Mr. Freedman and Ms. Kenny:

I am writing to summarize the findings and qualifications of a panel of independent experts, convened by the Port of Seattle to review the technical aspects of the embankment fill and mechanically stabilized earth (MSE) walls proposed for construction of the third runway at Seattle-Tacoma International Airport. I am providing this letter because it was not possible for all the members of the Review Board to be at the public meeting scheduled for January 26 and 27, 2001.

The Board is in general agreement with the design approaches and methodologies employed by the design team on the third runway project. The Board further concludes that the embankment and MSE wall investigations and technical analyses being conducted on the project are at an appropriate level of detail and thoroughness deemed necessary for a project of this complexity and are in compliance with current engineering and construction industry practice.

Based on their review, the Board identified questions and/or provided suggestions for further study. The Board recommended that additional subsurface explorations be accomplished in one area of the site in order to verify the nature and extent of the different soil units and to develop site specific correlations between different exploration methods. These additional explorations have since been accomplished and the suggested correlations developed with results that confirm the original design assumptions. Other Board suggestions were directed at providing further confirmation of the appropriateness of specific design assumptions and methods of analysis, as well as suggestions regarding construction methods and contract specifications.

Each of the Board's suggestions has been, or is being, investigated and results to date support the original design. The Review Board will continue to review the design and construction approaches to the project and will provide further suggestions, as warranted, based on their in-depth experience. New data and the results of additional analyses will be reviewed with the Board at its next meeting.

The remainder of this letter provides a brief background for the individual Board members and the process of the work. The Review Board was established in the fall of 2000 and is comprised of three internationally recognized and respected experts in key design areas of this project. Each Member was selected for the breadth of his knowledge of geotechnical engineering and depth of knowledge and experience in specific special aspects of this project.

Dr. J.K. Mitchell, P.E. was on the faculty of the University of California, Berkeley from 1958 to 1993 and served as Chairman of the Civil Engineering Department from 1979 through 1984. In 1994 he joined the faculty of Virginia Polytechnic Institute and State University and was appointed University Distinguished Professor in 1996 and University Distinguished Professor, Emeritus in 1999. He has authored over 300 publications including several state-of-the-art papers and guidance documents on soil stabilization, ground improvement, and earth reinforcement. Dr. Mitchell serves as a consultant on earthworks projects of many types for numerous governmental and private organizations, both nationally and internationally. While he is very knowledgeable in all of the geotechnical aspects of the third runway project, his particular expertise in soil stabilization, ground improvement for seismic risk mitigation and embankment reinforcement are key elements he brings to this Board.

Dr. I.M. Idriss, P.E. is a nationally and internationally recognized expert in geotechnical earthquake engineering who was a senior prinicpal with Woodward-Clyde Consultants for 20 years before joining the faculty of the University of California, Davis, in 1989 as Professor of Civil Engineering, where he continues to teach. He has authored over 150 technical papers related to the geotechnical aspects of earthquake engineering and has served on many state, national and international advisory panels and steering committees on earthquake engineering research and design practice. As a recognized authority in earthquake engineering he brings a wealth of knowledge and experience to the Board on seismic design and performance of the embankments and the MSE walls.

Dr. B.R. Christopher, P.E. is an independent geo-engineering consultant specializing in mechanically stabilized earth with over 23 years of experience. He has authored over 60 technical papers and has served as principal investigator for the Federal Highway Administration research study on "Behavior of Reinforced Soil" and is currently a co-principal in the FHWA workshop on "Mechanically Stabilized Earth Walls and Reinforced Soil Slopes" and the HITEC Earth Retaining Structures evaluation program. His experience in the design,

construction and evaluation of reinforced earth structures provides the Board with special expertise in design and construction of the project's MSE walls.

Each of the Board members has served in a similar capacity on other major projects, directed at confirming the suitability of the design approaches, the adequacy of investigations and appropriateness of the design criteria and methodologies employed by the design team. In addition, the Board serves to identify design or construction issues that may warrant further attention and to provide suggestions on alternative design or construction approaches warranting consideration.

The Board was initially provided with reports and other information on site investigations and subsurface conditions, project constraints and design approaches, methodology and typical analyses for their review. The Board then met on November 16, 17 and 18, 2000, with the design team and visited the project site to gain further familiarity with the project. The investigations and design work accomplished to date were discussed during this meeting leading to the Board's input on the adequacy and appropriateness of the design approaches and methodology, as well as suggestions for the additional investigations and analyses described above.

I hope this letter provides added assurance that the third runway project is being designed and will be constructed in accordance with recommended procedures and practices currently employed in the industry.

Sincerely,

Peter M Douglass

Peter M. Douglass, P.E.
Technical Review Board Facilitator

For the Technical Review Board:
Dr. J.K. Mitchell
Dr. I.M. Idriss
Dr. B.R. Christopher