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DEPARTMENT OF ENVIRONMENTAL PROTECTION
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February 11, 2009

Mark Germanowski, Airport Manager
City of Pittsfield Airport Commission
Pittsfield Municipal Airport
832 Tamarack Road
Pittsfield, Massachusetts 01201

RE: Statement of Technical Deficiency
Request for Variance MA Wetland Protection Act, DEP Wetlands File #263-901;
Water Quality Certification Application for: BRP WW 10; Transmittal Number: W159622

Pittsfield Municipal Airport Improvements Project, 832 Tamarack Road
Pittsfield, Berkshire County, Massachusetts

Dear Mr. Germanowski:

The Massachusetts Department of Environmental Protection (hereinafter the Department) has completed its technical review under 310 CMR 10.00 and 314 CMR 9.00 of the City of Pittsfield Airport Commission's request for a Variance under the Wetlands Protection Act. This review is based upon your application, prior technical deficiency letters issued by our Western Regional Office (WERO) and your responses, the September 15, 2008 on-site meeting, public hearing testimony of 30 individuals and 387 comment letters representing 412 individuals and businesses submitted within the comment period ending on January 9, 2009.

The Department has reviewed the Commission's application and related documentation and determined that the information submitted is deficient in certain aspects, including the discussion of project alternatives, proposed mitigation for site resource areas and justification of overriding public interest (as defined at 310 CMR 10.05 (10)), and adverse impacts to "Waters of the United States within the Commonwealth" (as defined at 314 CMR 9.02). Therefore, please submit the additional information detailed below within 70 days of receipt of this letter, or inform us in writing of an alternate schedule for response.

Issues Pertaining to Overriding Public Interest

1. The Request for Variance states that the runway extension is not mandated to meet FAA standards and that a runway extension will result in 191 operations no longer experiencing runway length limitations. The variance request asserts that the extension will enhance

safety however; documentation within the file is insufficient to substantiate this claim. Please provide information to support the claim that the runway extension will improve safety and include supporting information such as industry design criteria and practices, accident statistics, standard FAA Runway Safety Reports that identify similar issues or other specific runway safety deficiencies particular to Pittsfield Airport.

2. The application, MEPA Certificate and comments provide conflicting estimates on actual airport operations. Please provide documentation of the recent and/or current operations per year, and the projected operations in the future planning year, including the source of the projections.

3. The application states that the project could allow for increased transportation and shipping allowing for the creation of up to 8 light industrial lots sustaining 400 new employees at full build out. Please clarify if this development is part of the airport improvement project and if the runway extension is required for this development to proceed. If so, please describe the impact to wetland resource areas of such development and the expected schedule for the project.

Issues Pertaining to Alternatives

4. The application includes the standard Runway Safety Area (RSA) length of 1000 feet for Runway 26. As you are aware, the FAA considers waivers of standard runway lengths in certain situations (e.g., the 785 ft long northerly edge of the RSA on the runway 8 end and the recently issued variance for Hanscom Airport, where FAA approved an RSA 890' x 500'). Page 3.40 indicates that FAA originally approved a 920' length RSA on the Runway 26 end but then decided that the RSA should be the standard 1000' length. Please provide additional information concerning the basis of this decision. Also, please clarify if a waiver for RSA length was submitted for the Runway 26 end and provide any response from the FAA, or provide an explanation why such a request was not made.

5. Engineered Materials Arresting System: The FAA has issued an advisory circular, AC 5220-22A, that provides for the use of Engineered Materials Arresting Systems (EMAS) where certain constraints, including environmental constraints, make construction of a standard safety area impracticable.

The variance application explains that the Commission considered use of the EMAS system and found such a system infeasible for the Pittsfield Municipal Airport. Please supplement the application by providing a more substantive discussion and/or documentation regarding the viability of standard and non-standard EMAS configurations as an alternative to the proposed 1.6 million cubic yards fill and associated wetland impacts proposed. With this information, please address the following issues:

- The EMAS configuration presented in the Variance application was 150 feet wide by 365 feet long. AC 5220-22A references that the minimum width of EMAS must be width of runway. Explain why the proposal for a 150 foot runway width cannot be reduced to the minimum required 100 foot width to address requirement of the variance to minimize wetland impacts.

- Identify the size aircraft that was used in the design of the EMAS alternative that was submitted in the Request for Variance (was the design based on the critical aircraft designated for this airport)?
- Explain the extent to which the use of a “non-standard” EMAS was considered and the basis for determining such a configuration was determined to be impracticable, or provide an evaluation of the potential for a non-standard EMAS RSA.
- As advised by AC 5220-22A, please provide documentation as to which EMAS manufacturer was consulted as part of the project’s design, location, and selection and the manufacturer’s response.
- The variance application states on p 3.34 that EMAS, to be effective, must be kept clear of snow and ice build up. Please provide additional supporting information regarding EMAS maintenance requirements regarding snow and ice, such as FAA requirements, EMAS manufacturer recommendations, or experience from airports utilizing EMAS in similar climates.
- Please provide additional explanation of the statement that it now appears that replacement of EMAS “may” be the burden of the sponsor.
- Provide a comparison of Financial Feasibility of standard RSA, standard EMASS, and non-standard EMASS alternatives that incorporates cost of land acquisition, mitigation, excavation, transportation, and placement of fill required in the preferred alternative.

Issues Pertaining to Mitigation

6. The January 9, 2009 letter from the Massachusetts Natural Heritage and Endangered Species Program (MNHESP) provided under separate cover makes recommendations that will serve to reduce impacts to rare and endangered species, including endangered wetland plants and rare wetlands wildlife. Please provide a response explaining how you will address these concerns, and include any commitment that can be made to incorporate these recommendations or any alternative project designs.

7. MNHESP has commented that impacts to Wetland F between Tamarack Road and Runway 8 are not desirable due to presence of endangered species. Please provide information on alternative locations that have been considered for Replication Area F, and any information on why they were rejected and whether they remain viable alternatives to Replication Area F.

8. The Riverfront regulations at 310 CMR 10.58(2) (a) 1 states in part that “Downstream of the first point of perennial flow, a stream normally remains a river except where interrupted by a lake or pond.” Please provide a summary of the impacts to the segment of Wild Acres Brook that was determined to be intermittent

9. The variance application proposes Wetland Replication Area A within the mature forested habitat within the Wetland E buffer zone. We recommend consideration of relocating Wetland Replication Area A to the field to the north and beyond the Watroba Life Estate portion of the parcel. As indicated during the on-site meeting, this new site may be conducive to creation of wetland hydrology and thus, design of an intermittent stream

connecting the lowest elevation of the field to a nearby lobe of “Wetland E” to the west should be considered. Any necessary reduction in the size of Replication Area A might be compensated for by expanding Wetland Replacement Area E to the north and northwest, expanding Wetland Replication Area B, or by adding replication on the lawns at the Jones Property west of Mud Pond Lateral. Note that this is also recommended by MNHESP for protection of habitat that is in the historic range of endangered species. Please provide an analysis of this proposal.

10. Please submit a revised set of planting plans for each proposed replacement area that is reflective of the calcareous nature of on-site soils and water chemistry, and the presence of nonindigenous, invasive plants. Calcicolous species selection should be assessed for practicability, and a greater diversity of species should be proposed. Denser plantings of larger specimens, such as one-inch caliper saplings five feet or higher should be evaluated. Increases in surface inundation should be evaluated if they could reduce the likelihood of invasive species establishment. Provide research on other projects where successful replacement of calcareous wetlands has been successfully performed

11. A revised assessment of downstream mitigation on Mud Pond Lateral should include a hydrologic analysis of the present culvert underneath Barker Road. Correction of channel restriction, invert scouring, flow redirection, blockages, invert perching and solid waste removal may be considered as mitigation for proposed adverse impacts to the Mud Pond Lateral aquatic habitat. Also consider removal and restoration of the area identified as an historic agricultural ford; control or elimination of non-indigenous invasive plant species from below the Ordinary High Water (OHW) of Mud Pond Lateral, or other measures.

12. **Bordering Land Subject to Flooding (BLSF):** The Variance Application delineates the extent of BLSF for locations where detailed FEMA Flood Profile data is not available by using the HEC-2 model. MassDEP regulations require the use of U.S. NRCS Technical Release 55 (TR 55) pursuant to 310 CMR 10.57(2) (a) (3). To accurately determine compensatory flood storage, please re-delineate the extent of the BLSF for Wild Acres Brook south of South Mountain Road, Mud Pond Brook south of Lebanon Road, and Wampenum Brook (South Mountain Road relocation) where detailed FEMA flood profile data is not available. To assist with the analysis, the Department notes the following:

- **Watershed Areas:** The watershed areas to be used in the analyses are the Wild Acres Brook to South Mountain Road (~0.92 square miles) and the Mud Pond Brook south of Lebanon Road (~ 1.0 square miles).
- HEC-RAS or WSPRO may be used to determine the water surface elevations associated with the hydrology developed using TR-55 or other method found acceptable by the MassDEP.
- **Cross Section Geometry:** Use cross section geometry of the stream channels and overbank areas, including **Bordering Vegetated Wetlands** located adjacent to the brooks, as part of the analyses.
- After delineation of the vertical and horizontal extent of the 100-year flood, calculate the amount of fill proposed within the 100-year floodplain in both BVW and BLSF, on a

foot-by-foot elevation basis. Provide a table summarizing the proposed fill on a foot-by-foot basis, by stream reach.

- Provide compensatory storage on a foot-by-foot elevation basis within the same reach, for the fill proposed in the 100-year floodplain. The location of the proposed compensatory storage areas shall not be hydraulically restricted from the streams.
- Alternatively, if it is believed that the proposed fill to the 100-year floodplain will not result in an increase in the horizontal or vertical extent of flooding, you may submit an analysis prepared by a Registered Professional Engineer.
- If compensatory storage cannot be provided in accordance with 310 CMR 10.57 or there is an increase to the vertical or horizontal extent of flooding, provide an explanation as to why compensatory storage cannot be provided, and the measures proposed to avoid, minimize, and mitigate flooding. Confining any 100-year flood increases entirely on the airport property (without causing alteration of other Wetland Resource Areas), or obtaining flood easements for any flood increases off-site would be viewed as mitigation.

Bank and Riverfront Area

13. Groundwater is currently observed recharging and discharging to the Wild Acres Brook. Please describe how the stability and integrity of the proposed culvert can be assured given these groundwater conditions, and any potential design changes to address any such concerns.

14. The project will segment the riparian corridor associated with the Wild Acres Brook wetland system. The variance application proposes an 8 ft. by 8 ft. culvert, embedded 2 feet, with the embedded depth filled with a shaped mix of rocks, cobbles, stones and clean gravel. The Department requests an analysis of how to better meet performance standards for Bank, Land Under Water and BLSF and also enhance habitat connectivity between the two wetland segments resulting from the project. This analysis should include further information on any evaluation already undertaken and consideration of alternative designs for the proposed Wild Acres Brook culvert that would comply with the Optimal Stream Crossing Standards to a greater extent including increasing the culvert opening and designing a span, single culvert or multi-barreled culvert design. The applicant should also consider opportunities to enhance habitat connectivity along other stream channel segments.

15. The project does not meet the performance standards for Bank, LUW, BLSF and Riverfront Area as they pertain to wildlife habitat. In general, mitigation proposed does not address the findings of the wildlife habitat evaluation and specifically, Replication Area A will not provide stream channel habitat similar to the 2014 liner feet of bank being lost in Wild Acres Brook. A wildlife habitat mitigation plan will be required that addresses the specific observations of the wildlife habitat evaluation for each resource area not meeting performance standards.

16. The project will result in loss of 289,785 square feet of Riverfront Area and proposes 136, 247 square feet of restoration and mitigation. Additional mitigation is needed to meet the intent of the Riverfront Area redevelopment provisions at 310 CMR 10.58(5) (f) and/or (g). Per these provisions of the regulations, either 1:1 on-site restoration, 2:1 mitigation (i.e.

total 579,570 s.f.) on-site or within the same general area of the river basin, or an equivalent level of environmental protection where square footage is not a relevant measure are required. Please address. Also, planting plans for riverfront and bank restoration areas proposed should be revised to include greater species diversity in the Riverfront Area and along Bank Please explain how invasive species, especially Purple Loosestrife (*Lythrum salicaria*) will be controlled in Replication Area B.

17. Stormwater: The project plans were revised in July 2008 and August 2008 to address prior comments made by MassDEP. However, issues remain that need to be addressed further. Please see attachment.


18. We are reviewing information on the wetland delineation information provided with the variance request and will contact you if we require any additional information.

19. Public Comments: The Department is in receipt of public comments which have been transmitted to you under separate cover. Please respond to these public comments in detail as part of your response to the Department's Technical Deficiency letter.

20. MEPA: The Secretary's Certificate, dated July 1, 2005 contains additional requirements related to the variance process, compliance with the Planning for Growth Executive Order 385, and compliance with the Stormwater Policy requirements. Please provide documentation of your compliance with each of the Secretary's requirements of the Final Certificate.

Please contact us to schedule a meeting so we can discuss these matters in more detail. Please be advised that no work may proceed until the Department issues a final decision on this matter. Correspondence to the Department should be sent to the attention of Lisa Rhodes of the Wetlands Program. All correspondence must be copied to all parties in this matter. If you have any questions regarding this Statement of Technical Deficiency, please feel free to contact Lisa Rhodes at 1-617-292-5512.

Sincerely,



Lealdon Langley, Director
Wetlands and Waterways Program

cc Pittsfield Conservation Commission
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70 Allen Street
Pittsfield MA 01201

Massachusetts Department of Environmental Protection
Wetlands Program-WERO

United States Department of the Army
New England District, Corps of Engineers

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Attachment: Stormwater

A-1: Standard #1: Provide computations of the projected stormwater discharge from the Extended Detention Basins # 1 and # 2 emergency spillways for the 2-year, 10-year & 100-year 24-hour storms. If the computations indicate that the discharge will cause scour, erosion, and deposition to the receiving wetlands, propose measures to prevent such impacts.

A-2: Standard #2: Revise the computations for peak rate attenuation to reflect the Runoff Curve Numbers of the actual soils that will be present at grade level after excavation, addition of fill, or soil compaction. As such, a soil evaluation must be completed for this project based on field analysis (rather than the NRCS soil survey) and a Hydrologic Soil Group Map based on that field analysis prepared to provide a basis for calculation for both Stormwater Standards 2 and 3. Depth to seasonal high groundwater or bedrock must be described in the geotechnical report.

A-3. Standard #3:

- The August 2008 plan revision removed the Environmentally Sensitive Site Design (ESSD) and Low Impact Design (LID) measures that had been incorporated into the July 2008 plan. Submit an alternatives analysis documenting the feasibility of implementing Environmentally Sensitive Site Design (ESSD) and Low Impact Design (LID) measures, including use of porous pavements for the South Mountain Road relocation and runway surface (that meet FAA criteria).
- Revise the computations for the Required Recharge Volume and demonstrate that the Required Recharge Volume will be infiltrated. The computations must be revised to reflect the actual Hydrologic Soil Group conditions that will exist after excavation, fill, and compaction. The recharge calculations must identify which of the three methods (static, dynamic field, and simple dynamic) are used to determine the size of the infiltration BMPs. Computations must be provided to demonstrate the proposed recharge practices will infiltrate within 72-hours. Develop an acceptable geotechnical engineering solution to characterize the expected infiltration rate through the compacted fill beneath the proposed infiltration trenches.

A-4: Standard #4: The discussion that was put forth that although the Airport is a Land Use with Higher Potential Pollutant Loads (LUHPPL) that the proposed project does not constitute such a land use because the stormwater runoff would not come into contact with the terminal apron where fueling and maintenance occur is incorrect. Please address the following:

- The stormwater collection and treatment system must be redesigned to treat the 1-inch Water Quality Volume.
- Revise the TSS calculation sheets for Treatment Trains # 1 to # 5. It is not permissible to take credit twice for the vegetated filter strips in each BMP train.
- For the proposed street sweeping, either remove the sweeping from the TSS removal calculations or revise the street sweeping schedule to qualify for the discretionary 10% TSS

removal credit (see schedule in Stormwater Handbook specified in Volume II, Chapter 1, pages 7 to 11).

- The proposed grassed channel and small basin are not BMP treatment structures for which a TSS removal rate is available and thus the calculations must be revised.
- The information submitted for treatment train #4 indicates that a TSS removal rate of 50% was selected for the proposed use of grassed channels for subcatchments 30S & 38S tributary to Point of Interest #3. The handbook, Volume II, Chapter 2 only allows a 50% TSS removal rate if the grassed channel has pretreatment such as a sediment forebay. The proposed use of the check dams does not qualify as a BMP pre-treatment measure.
- Information contained in the revised stormwater report provides calculations for the three proposed sediment forebays which will be constructed at Extended Dry Detention Basin #1 and #2. This information provides a volume in cubic feet of storage and a proposed depth for each basin, yet does not show any aerial dimension for the structure to enable construction crews in the field to understand how large to construct each forebay. In addition, the construction specification depicted on Plan Sheet 5 for this structure specifies that 3,600 cubic feet of storage needs to be provided in each structure per acre of area drained. The plan and calculations should be clarified to allow for clear understanding as to the size, dimensions, and depth, volume for each structure in conformance with the removal rate required in the Handbook, Volume II, for sediment forebays.

A-5: Standard #5: Please address the following:

- The vegetated filter strips, water quality swales, and Extended Detention Basins must be lined and sealed unless at least 44% TSS removal has been accommodated. 44% TSS removal pretreatment is required prior to directing runoff to the proposed infiltration trenches.
- Submit a revised version of the Long Term Pollution Prevention Plan to address use of de-icer and anti-icing agents on aircraft, and measures proposed to be adopted to prevent or minimize those agents from coming into contact with stormwater runoff.
- The airport is subject to the EPA NPDES requirements coverage under the Multi-Sector General Permit (MSGP). Please submit a copy of the EPA NOI requesting coverage under the 2008 MSGP and required Stormwater Pollution Prevention Plan (SWPPP).

A-6. Standard #7: Please address the following:

- Computations must be provided to demonstrate that the Stormwater Standards are met for the proposed stormwater discharge from Drainage Manhole #11 and new storm drain system proposed to be outleted to the Wild Acres Brook through the proposed 8 x 8 foot RCP Box Culvert. The MassDEP recognizes that some if not all of this runoff may be from previously developed portions of the site. If so, please confirm that, and demonstrate that the Stormwater Standards will be met to the Maximum Extent Practicable for the new storm drain outlet proposed.
- Provide information and computations demonstrating that the Stormwater Standards will be met for the relocated South Mountain Road. The proposed relocated South Mountain Road is in an entirely new location, so MassDEP anticipates that the Stormwater Standards should be fully met.

A-7: Standard #8: The Erosion & Sedimentation Control Plan (E&S Plan) must be revised to reflect site specific soils and groundwater conditions and also include construction period pollution prevention measures to prevent runoff from contaminating wetlands. The present E&S Plan does not describe how the large amount of fine sediment will be controlled and the Geotechnical Report does not address the expected groundwater conditions in the soil/rock borrow area. During construction, emergent groundwater springs, or artesian conditions in combination with the large volume of fines soil material can create unworkable field conditions. A contingency plan will be required for construction de-watering and an evaluation of future groundwater elevations in wetland replication areas is required.

A-8. Standard #10: The revised information does not contain any information documenting that the project as complied with Standard #10. Please submit the required "Illicit Discharge Compliance Statement" and accompanying map for the site.