LAMBERT-ST. LOUIS
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Rhonda Hamm-Niebruegge
Director

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City of St. Louis

November 19, 2014

Mr. Karl Brooks
Regional Administrator
U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, KS 66219

Re: Isolation Barrier Alternatives Analysis, West Lake Landfill Superfund Site

Dear Mr. Brooks:

Thank you for providing The City of St. Louis ("City"), the owner and operator of Lambert-St. Louis International Airport (the "Airport"), the opportunity to comment on the above-referenced Isolation Barrier study, dated October 10, 2014 (the "Study"), which was prepared on behalf of Bridgeton Landfill, LLC ("BL"). The City understands that the U.S. Environmental Protection Agency ("EPA") is dealing with an extremely complicated subsurface smoldering events at the West Lake Landfill Superfund Site ("Site") that may pose a potential impact to the public's health and safety. Clearly, this is an enormously complex project that must also deal with very complex mitigation issues at the Site, and we appreciate the opportunity to be involved.

The City has shared the Study with the Federal Aviation Administration ("FAA") and the U.S. Department of Agriculture, Animal and Plant Health Inspection Services - Wildlife Services ("USDA-APHIS-WS") and has consulted and coordinated with each agency in the course of evaluating the Study. As requested, this letter provides the City's comments on the Study from the Airports perspective in regard to bird and wildlife hazards to aircraft navigation due to the Site's proximity to the Airport.

The City has no expertise in determining whether landfill materials need to be isolated, nor is the City able to comment on the technical effectiveness or feasibility of any of the isolation methods evaluated in the Study. Such matters are not within the expertise of the City, the Airport, FAA or USDS-APHIS-WS. The City's sole purpose in reviewing the Study and the various options evaluated in the Study is to ensure that bird and wildlife hazards to aircraft navigation to and from the Airport will be addressed adequately in whatever action is determined appropriate to address the ongoing subsurface smoldering events at and/or near the Site. In addition, in making comments on this Study, the City is in no way commenting on or evaluating any matters regarding the final or any interim remedy for the Site. The City's comments relate solely to the Study.

General Considerations

As you know, the City holds a negative easement at the Bridgeton Landfill and certain areas in the vicinity of the Bridgeton Landfill to ensure that the landfills in this area will not pose a bird hazard to aircraft. Putrescible waste attracts birds, which create a safety hazard to air navigation. Any new operation that exposes putrescible waste in such close proximity to the Airport could result in a new bird hazard to aircraft, impacting the safety of the 13 million plus passengers who fly in and out of the Airport every year. The City's considerations with the options set forth in the Study focus on the amount putrescible waste that would be exposed under each option, on the length of time such waste would be exposed, and on the manner in which the waste is extracted and exposed. The more putrescible waste is exposed, the longer the term of the exposure, and the larger the area of exposure, the greater the potential for a bird hazard to aircraft. Any option chosen by the EPA that would expose putrescible waste must include a robust wildlife hazard identification, monitoring, mitigation, and elimination plan to identify the potential for bird hazards very early, before any bird activity is established because once a bird hazard to aircraft develops, it is much more difficult to control and eliminate.

As you are aware, the City has reviewed and approved BL's Bird Hazard Monitoring and Mitigation Plan for Ongoing Landfill Work (Revised June 24, 2014), which deals with limited ongoing work as defined and provided for therein and **expressly excludes** more extensive waste disturbance like the construction of an isolation barrier but does include monitoring and mitigation of bird issues regarding the basins at the Site. As the City has articulated in previous correspondence to the EPA, any time putrescible waste is excavated or exposed at the Site, a bird monitoring and mitigation plan containing the elements set forth below must be implemented. The more putrescible waste exposed, the more rigorous and detailed the plan must be. The necessary elements of a bird monitoring and mitigation plan for an isolation barrier plan must include the following:

1) Mitigation measures during work. Mitigation measures during excavation of putrescible waste to minimize bird attractants must be an integral element of any work plan and these measures need to be implemented throughout the time that any putrescible waste is exposed. Depending upon the particular work, the measures may include routine covering of excavated materials, closed containers, rapid off-site waste disposal or other measures to minimize the exposure of putrescible waste to wildlife. In addition, any work that will cause the on-site pooling of storm water runoff or other water must be designed to minimize the time that pooled water accumulates.

2) Appropriately trained personnel. All mitigation and monitoring measures must be developed or approved by and work supervised by professionals trained in wildlife management and control. The professionals must have appropriate experience not only in wildlife management, but also in means to identify and control wildlife hazards. Training comparable to FAA Advisory Circular 150/5200-36A as may be amended, or alternative training and experience reasonably approved by the City is necessary.

3) Daily monitoring. Monitoring for bird hazards by trained personnel on at least a daily basis at all times when putrescible waste is exposed. At a minimum appropriately trained personnel must be on-site on a daily basis to monitor, assess and document bird populations and identify any potential bird hazard during active excavation. It is essential to timely identify the creation or development of a bird hazard so that it may be eliminated quickly before aircraft safety issues develop.

4) Control measures. If monitoring indicates a bird population increase or a potential bird hazard, the plan must call for additional measures to control and eliminate birds. These control measures must be directed and implemented by appropriately trained individuals. A robust and flexible bird repellant program must be implemented including escalating measures such as an intensive harassment program including the use of pyrotechnics, propane cannons, trapping and, where necessary, lethal control to ensure birds do not congregate at the Site. Appropriate equipment for dispersing birds must be on-site at all time and staff must be properly trained in the equipment use and application.

5) Reporting. The City will need weekly reports of bird populations and immediate reports of any bird hazard identified during any time periods when putrescible waste is exposed.

6) Reimbursement agreement. Before construction starts, the City will need to have in place an agreement with BL to reimburse the Airport for expenses associated with monitoring and, if necessary, responding to any bird hazards at the landfill during the project due to BL's refusal or failure to timely respond.

Isolation barrier plans that require excavation of large quantities of putrescible materials will necessarily require a much more detailed bird management and control plan, especially in terms of mitigation measures, than barrier plans with minimal or no waste excavation.

Comments on Individual Options

We reviewed the Study including Mr. Rolph A. Davis, Ph.D. report dated October 7, 2014, attached as Exhibit D to the Study and entitled "Isolation Barrier Alternative Analysis - Bird Control Issues". The City concurs in general with Dr. Davis's evaluation of the various options and agrees that the final details of the bird management and control plan will need to be determined in coordination with the City during the engineering phase of the project once the barrier option has been selected. Listed below are the City's comments on the individual options.

No Action. The Study indicates that the No Action alternative would not create additional bird attractions. The City will point out that even under the No Action alternative, measures that are currently being implemented would be continued and such measures do have the potential to attract birds since additional storm water detention is occurring and some excavation is necessary to maintain wells and perform other activities associated with the landfill cap. The City acknowledges, however, that if landfill personnel are appropriately trained and the

current Bird Hazard Monitoring and Mitigation Plan is implemented, unmanageable bird hazards are not anticipated.

Option 1: Inert Barrier Along Alignment 1. The Study indicates this option involves the excavation of 52,000 bank cubic yards ("bcy") of putrescible waste and the redeposition of this waste on-site. Approximately seven acres of disturbed putrescible waste would be involved and waste would be exposed for 40 weeks. The City agrees that this option poses a strong potential for the exposure of waste that will attract wildlife to the excavation and redeposition areas. A rigorous bird hazard and mitigation plan would need to be implemented and the project itself will need to be designed to minimize exposing putrescible waste. In addition, since the potential for a bird hazard cannot be known completely until the work is in progress, the project plan will need to include the ability to halt construction, eliminate hazards and design additional bird hazard mitigation measures during construction, if a bird hazard develops.

Option 2: Air Gap Barrier. This Option 2 **was not proposed** for additional detailed evaluation due to the significant disadvantages associated with this approach as set out in the Study. The Study does indicate that at least 540,000 bcy of waste would need to be excavated to implement this option and the option would involve 400 days of excavation. It appears that the areas of waste exposed could exceed the areas found in typical operating landfills, which pose a bird hazard to aircraft operations when located in close proximity to airports. Since such hazards generally cannot be mitigated successfully, operating landfills are prohibited in proximity to an airport (*see Hazardous Wildlife Attractants On or Near Airport – Advisory Circular 2150/5200 – 33B*). It is very doubtful that any excavation under this option could be successfully implemented without creating substantial risk hazards to air navigation.

Option 3: Inert Barrier Along Alignment 3. The Study indicates this option involves the excavation of 63,500 bcy of waste and redeposition of waste on-site. Approximately seven acres of disturbed putrescible waste would be involved and waste would be exposed for 48 weeks, including newer waste that may be more attractive to birds. Similar to Option 1, the City agrees that this option poses a strong potential for the exposure of waste that will attract wildlife to the excavation and redeposition areas. A rigorous bird hazard and mitigation plan would need to be implemented for this project and the project itself would need to be designed to minimize exposing putrescible waste. In addition, since the potential for a bird hazard cannot be known completely until the work is in progress, the project plan will need to include the ability to halt construction, eliminate hazards and design additional bird hazard mitigation measures during construction, if a bird hazard develops.

Option 4: Heat Extraction Barrier. The Study indicates that no or only minimal waste excavation/relocation is anticipated to be necessary to implement the heat extraction barrier so that no bird mitigation/management measures are necessary. The City is skeptical that no waste will be excavated to implement this remedy; however, this option appears to pose a very low chance of developing a bird hazard to aircraft. Given that work would be conducted within the waste material, the City would expect a bird hazard monitoring and mitigation plan to be developed for the work. However, unmanageable bird hazards are not anticipated under this option.

The City will continue to coordinate its efforts with the FAA and the USDA-APHIS-WS and will continue to work with EPA as it evaluates options for isolating waste at the Site. We appreciate the opportunity to comment on the Study and we are available to discuss our concerns and comments, at your convenience.

Very truly yours,

Rhonda Hamm-Niebruegge
Director of Airports

cc: The Honorable Chris Koster
Aaron Schmidt, MDNR
Jessica E. Merrigan, Lathrop & Gage
Mario Pandolfo, Associate City Counselor
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