



FAA
Airports Division

Eastern Region

3905 Hartzdale Drive
Suite 508
Camp Hill, PA 17011
(717) 730-2830

March 18, 2009

Mr. Michael McCartney
Philadelphia International Airport
Division of Aviation
Terminal E
Philadelphia, PA 19153

RE: Philadelphia International Airport (PHL)
Terminal F Renovation & Expansion
Federal Environmental Action

Dear Mr. McCartney:

The Harrisburg Airports District Office has completed its review of your submittal of a Categorical Exclusion Form for the proposed project at Philadelphia International Airport, PA.

The proposed project involves Terminal F Renovation & Expansion.

Based on our review of the information provided along with guidance contained in FAA Orders 5050.4B and 1050.1E, we have determined that the subject project does not have the characteristics that require a formal NEPA environmental assessment nor does it contain the potential for causing an environmental impact. We have, therefore, determined that this project qualifies for a "Categorical Exclusion" and have executed this finding accordingly (signed 03/18/09).

Please note that this correspondence represents the formal Federal Environmental Finding; additional coordination with the FAA may be necessary for this project with regard to an Airport Layout Plan Approval and Airspace Review.

Should you have any questions or need additional information, please call me at (717) 730-2802.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles Campbell".

Charles Campbell
Environmental Specialist
Harrisburg Airports District Office

cc: Danielle Bower, CHPlanning, Ltd.



FEDERAL AVIATION ADMINISTRATION
EASTERN REGION AIRPORTS DIVISION

CATEGORICAL EXCLUSION FORM

See Instructions Page Prior to Completing this Form

Airport Name Philadelphia International Airport Airport Identifier PHL

Project Title: Terminal F Renovation & Expansion Date: 02/04/09

APPLICABILITY:

This Environmental Evaluation Form should be used only if the sponsor's proposed project meets the following two (2) criteria:

- 1. The proposed project is a federal action subject to NEPA. List applicable paragraph number from FAA Order 5050.4B, Chapter 1 para. 9g (1) and (3)

And

- 2. The proposed project is identified as one that can be categorically excluded. List applicable category from FAA Order 1050.1E paragraphs 307 through 312. (Review Tables 6-1 and 6-2 in FAA Order 5050.4B) 310v

Note:

If action is listed in Table 6-1 - Complete project description, go to page 4 and sign certification. No further review necessary

If action is listed in Table 6-2 - Complete remainder of form

PROJECT DESCRIPTION - List and clearly describe **ALL** components of project proposal including all connected actions. Include summary of existing conditions at project site. (Attach site map identifying project area)

Philadelphia International Airport (PHL) is situated in southeast Philadelphia and is owned and operated by the City of Philadelphia. The current Terminal F layout includes three concourses, approximately 8 concessionaires/retailers and 38 gate positions primarily used by US Airways and partner airlines. The proposed action would involve renovation and expansion of the existing Terminal F and concourses currently situated on airport property (Figure 1). The proposed site plan is shown in Figure 2. Improvements include an upgrade to passenger service areas, a new baggage claim building, expansion of the central hub area for additional concessions, expansion of the mezzanine area and reconfiguration of busing operations on the airside. Improvements would be contained within existing impervious surface; however, the proposed action would expand interior space by more than 68,000 square feet. The purpose and need for the proposed action is to provide improved security, safety, airline operational capacity, a higher level of service to passengers, improved energy efficiency, and decreased operation and maintenance costs. Current concessions are at or over capacity and cannot meet demands from existing passenger traffic. The proposed action would not result in increased air traffic.

EXTRAORDINARY CIRCUMSTANCES REVIEW: Review the following list. **For each yes response**, provide an attachment describing the impact and documentation of consultation with resource agencies, if required (See FAA Order 5050.4B, Table 6-3 and 1050.1E para.304 for additional information). Categories with an * signifies that there is an associated special purpose law or Executive Order outside of NEPA, and that the appropriate agency or tribal government may need to be consulted. (See 5050.4B para 607(b)(2)) **Note:** if the proposed project impacts one of these categories, the proposed project may not be eligible for a CATEX. Contact the local Airports District Office (ADO) for guidance.

1. AIR QUALITY* (Contact air quality agencies as appropriate)

- (a) Is the proposed project located in a nonattainment or maintenance area for the National Ambient Air Quality Standards (NAAQS) established under the Clean Air Act and does it result in direct emissions? Yes No
If Yes go to (b), No go to (d)
- (b) Is the proposed project an “exempted action,” under the General Conformity Rule? Yes No
If Yes cite exemption _____ go to (d), No go to (c)
or presumed to conform (PTC) under FAA rules? (See FRN vol.72 no. 145 pg 41565)
If Yes cite PTC category 6 and 7 go to (d), No go to (c) Yes No
- (c) Would the proposed project result in a net total of direct and indirect emissions that exceed the threshold levels of the regulated air pollutants for which the project area is in non-attainment or maintenance? (attach emissions inventory) Yes No
If Yes consult ADO, No go to (d)
- (d) Is the airport’s activity levels below FAA thresholds for requiring a NAAQS analysis? Yes No
If Yes go to Item 2, No go to (e)
- (e) Do pollutant concentrations exceed NAAQS thresholds? (attach emissions inventory) Yes No
- (f) Is an air quality analysis needed with regard to state indirect source review? Yes No

2. COASTAL*

- (a) Would the proposed project occur in a coastal zone, or affect the use of a coastal resource, as defined by your state's Coastal Zone Management Plan (CZMP)? Yes No
- (b) If “yes,” is the project consistent with the State's CZMP? Yes No
(If applicable, attach the sponsor's consistency certification and the state's concurrence of that certification)
- (c) Is the location of the proposed project within the Coastal Barrier Resources System Yes No
(If yes, and the project would receive federal funding, coordinate with the FWS and attach FWS exemption).

3. COMMUNITY DISRUPTION (Compatible Land Use)

- (a) Is the proposed project inconsistent with plans, goals, policies, or controls that have been adopted for the area in which the airport is located? Yes No
- (b) Would the proposed project lead to disruption or dividing of communities? Yes No
- (c) Would the proposed project cause relocation of any people, homes or businesses? Yes No

4. CUMULATIVE IMPACTS (consider past, present and reasonably foreseeable development on and off airport)

- (a) Is the proposed project likely to cumulatively cause significant impacts? Yes No
- (b) Is the proposed project likely to cause a significant lighting impact on residential areas or commercial use of business properties? Yes No
- (c) Is it likely to cause a significant impact on the visual nature of surrounding land? Yes No

5. ENDANGERED SPECIES* (Fish, Wildlife and Plants)

- (a) Would the proposed project impact any federally or state-listed or proposed endangered or threatened species (ESA) of flora and fauna, or impact critical habitat? Yes No
(Attach record of consultation with federal and state agencies as appropriate)
- (b) Would the proposed project affect species protected under the Migratory Bird Act Yes No
- (c) Would the proposed project affect other biotic communities or habitat not ESA protected Yes No

6. FARMLANDS CONVERSION*

- Does the project involve acquisition of farmland, or use of farmland, that would be converted to non-agricultural use and is protected by the Federal Farmland Protection Policy Act (FPPA)? Yes No
(If yes, attach record of coordination with the Natural Resources Conservation Service (NRCS), including form AD-1006.)

7. FLOODPLAINS*

- Would the proposed project cause an encroachment or impacts to the natural, ecological or scenic resources to the 100-year base floodplain? (If yes, opportunity for public review is required) Yes No

8. HAZARDOUS MATERIALS*

- Would the proposed project involve existing hazardous materials or cause potential contamination hazardous materials?(If yes, attach record of consultation with EPA) Yes No

9. HIGHLY CONTROVERSIAL ACTION

Is the proposed project likely to be highly controversial on environmental grounds? Yes No

10.HISTORIC, ARCHITECTURAL, ARCHEOLOGICAL OR CULTURAL PROPERTY*

Would the proposed project impact any historic or cultural property or resources protected by the National Historic Preservation Act? (Consult with FAA, and contact State and/or Tribal Historic Preservation Officer. Attach record of consultation) Yes No

11. INCONSISTENCY WITH APPLICABLE LAWS

Is the proposed project likely to be inconsistent with any federal, state, local, or tribal law relating to the environmental aspects of project? Yes No

12. NOISE *

(a) Does the proposal have the potential to increase noise (e.g., would the proposed project increase aircraft operations or surface traffic)? Yes No

(b) If "yes," will the proposed project have an impact on noise levels over noise sensitive areas within the DNL 65 dBA noise contour (Attach explanation) Yes No

13. SECTION 4(F)*

Does the proposed project have an impact on any publicly owned land from a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or an historic site of national, state, or local significance? (If yes, contact FAA, contact appropriate agency and attach record of consultation) Yes No

14. TRAFFIC CONGESTION

Would the proposed project cause an alteration in surface traffic patterns, or cause a noticeable increase in surface traffic congestion or decrease Level of Service? Yes No

15. US WATERS/WETLANDS*

(a) Does the proposed project involve federal or state regulated (Contact USFW or state agency if protected resources are affected) or non-jurisdictional wetlands? Yes No

(b) If yes, does the project qualify for an Army Corps of Engineers General permit (If yes, attach record of consultation . If no, project is not eligible for CATEX) Yes No

16. WATER QUALITY*

(a) Does the proposed project have the potential to impact water quality, including ground water, surface water bodies, and public water supply system or federal, state or tribal water quality standards? (If yes, contact appropriate agency) Yes No

(b) Is the project to be located over a designated Sole Source Aquifer (If yes, attach record of consultation with EPA) Yes No

17. WILD AND SCENIC RIVERS*

Would the proposed project affect a river segment that is listed in the Wild and Scenic River System or National Rivers Inventory? (If yes, coordinate with the jurisdictional agency and attach record of consultation) Yes No

18. ENERGY, NATURAL RESOURCES AND SOLID WASTE

(a) Would the project have a significant impact on energy or other natural resource consumption? Yes No

(b) Would the operation and/or construction of the project generate significant amounts of solid waste? Yes No

19. Other Categories

(a) Would the proposed project be located near or create a wildlife hazard as defined in FAA Advisory Circular 150/5200-33, "Wildlife Hazards on and Near Airports"? Yes No

(b) Reviewing the above categories, would the project affect:
Environmental Justice * Yes No
Children's Health and Safety * Yes No

Project Title/Airport Identifier

Terminal F Expansion and Renovation / PHL

PREPARER CERTIFICATION

I certify that the information I have provided above is, to the best of my knowledge, correct.


Signature

2/4/09
Date

Danielle Bower
Print Name

215-751-1400
Phone

CHPlanning, Ltd. / PHL
Company/Airport

1429 Walnut St, Ste 1601, Philadelphia, PA 19102
Address

Email address to receive notice of FAA decision danielle.bower@chplanning.com

AIRPORT SPONSOR CERTIFICATION

I certify that the information I have provided above is, to the best of my knowledge, correct. I also recognize and agree that no construction activity, including but not limited to site preparation, demolition, or land disturbance, shall proceed for the above proposed project(s) until FAA issues a final environmental decision for the proposed project(s), and until compliance with all other applicable FAA approval actions (e.g., ALP approval, airspace approval, grant approval) has occurred.


Signature

2/13/09
Date

Mr. Michael McCartney
Print Name

215-937-6727
Phone

Email address to receive notice of FAA decision mike.mccartney@phl.org

If no email available, provide mailing address _____

For FAA Use Only

FAA DECISION:

Having reviewed the above information, certified by the responsible airport official, it is the FAA's decision that the proposed development project has been found to qualify for a Categorical Exclusion from preparation of a formal environmental assessment.

Project Reviewed by:

(Signature of Responsible FAA Official)

3.18.09
Date

INSTRUCTIONS

NOTE: This form was prepared by FAA Eastern Region Airports Division and is intended for use with proposed projects in this region only.

Introduction: This form replaces previous versions of Environmental Forms A and B. It is intended to be used for those airport projects to evaluate the appropriateness of using a Categorical Exclusion (CATEX) to comply with the National Environmental Protection Act (NEPA). The form is based upon the guidance in Federal Aviation Administration (FAA) Orders 5050.4B, and 1050.1E, which incorporate the Council on Environmental Quality's (CEQ) regulations for implementing NEPA, as well as US Department of Transportation environmental regulations, and many other federal statutes and regulations designed to protect the Nation's natural, historic, cultural, and archeological resources, etc. The information provided by sponsors and their consultants through the use of this form enables the FAA ADO offices to evaluate compliance with NEPA and the applicable special purpose laws.

Use: To use this form, sponsors of airport development projects must demonstrate that the proposed project is specifically listed in FAA Order 1050.1E, Chapter 3, and that no extraordinary circumstances exist that warrant preparation of an EA or EIS. *Sufficient documentation is to be provided with this form so that the FAA can make that determination.* If you have any questions on what information is necessary, FAA recommends that you contact the environmental specialist (or other FAA staff responsible for processing CATEX submissions) in your local ADO. Those responses requiring further explanation, or any separate project plans or maps, should be attached at the end of this Form.

This Form is to be used in conjunction with applicable Orders, laws, and guidance documents, and in consultation with the appropriate resource agencies. Sponsors and their consultants should review the requirements of special purpose laws (See 5050.4B, Table 1-1 for a summary of applicable laws). Sufficient documentation is necessary to enable the FAA to assure compliance with all applicable environmental requirements. Accordingly, any required consultations, findings or determinations by federal and state agencies, or tribal governments, are to be coordinated, and completed if necessary, prior to submitting this form to FAA for review. Coordination with Tribal governments must be conducted through the FAA. We encourage sponsors to begin coordination with these entities as early as possible to provide for sufficient review time. Complete information will help FAA expedite its review. **Please note: When requesting discretionary funding for an action that is normally categorically excluded, this information should be submitted to the appropriate Airports District Office by April 30th of the year preceding the year funding is requested.**

Availability: *An electronic version of this Evaluation Form is available on-line at http://www.faa.gov/airports_airtraffic/airports/regional_guidance/eastern/environmental/media/catexform.DOC. Other sources of environmental information including guidance and regulatory documents are available on-line at http://www.faa.gov/airports_airtraffic/airports/environmental. We encourage sponsors to submit all information supporting a CATEX determination electronically. A copy of the completed signature page can be scanned or sent by fax or mail.*

Notification: FAA'S decision will be transmitted electronically to airport sponsors and consultants. Please provide an email address for the person who will receive notification on page 4. If you do not have an email address, please notify the FAA Airports District Staff reviewing this submittal and a letter will be prepared.

ATTACHMENT 1

DESCRIBE IMPACT AND RESULTS OF CONSULTATION IF REQUIRED

1. AIR QUALITY

- a. The proposed action would occur within Philadelphia County, which is a moderate non-attainment area in violation of the National Ambient Air Quality Standards (NAAQS) for 8-hour ozone and PM_{2.5} (particulate matter less than 2.5 microns in diameter). The proposed action would result in minor air emissions during the construction period from use of heavy equipment (see Attachment 3).
- b. The proposed action falls under two categories listed in the FAA's Presumed to Conform Actions under General Conformity:

Category 6 – Terminal and Concourse Upgrades

Category 7 – New HVAC Systems, Upgrades, and Expansions

- c. Not applicable.
- d. No, the airport's activity levels are above FAA thresholds for requiring a NAAQS analysis; however, the proposed action is minor and would not result in air emissions exceeding *de minimis* threshold levels.
- e. An air emissions analysis was completed for the proposed action and is included as Attachment 3. Minor quantities of air pollutants would be emitted in the short-term during construction activities, which is expected to last approximately two years. According to the air emissions analysis, the construction-related emissions for the proposed Terminal F renovation and expansion will produce a combined total of 10.4 tons of NO_x and VOCs, and 0.39 tons of PM₁₀. These emissions would be below the 50 tons per year for VOCs and 100 tons per year for NO_x and particulate matter *de minimis* NAAQS thresholds.

In the long-term, emissions from the expanded/renovated Terminal F are not anticipated to exceed NAAQS. The existing Satellite Thermal Plant that provides heating and cooling loads for Terminals D, E, and F will need to be upgraded to provide approximately 300 tons of additional cooling load, and 1,500 MBH of additional heating load. The existing chiller may also need to be replaced with a larger chiller to meet the energy demands for the proposed Terminal F expansion. Specific energy loads for the proposed action have not been calculated; however, upgrades and new equipment will conform with local, state, and federal requirements. New HVAC systems, in addition to upgrades to existing systems, are "Presumed to Conform" actions listed under the FAA's *Presumed to Conform Actions Under General Conformity Rule* enacted July 2007.

2. COASTAL

- a. The proposed action would occur within the designated Delaware River coastal zone and therefore needs to be in compliance with the Federal Coastal Zone Management Act.
- b. PA Department of Environmental Protection's (DEP) Coastal Zone Management Program staff has been consulted on the proposed action and a review will be completed. A

Conditional Consistency determination was completed by Mr. Lawrence Toth at DEP CZMP, dated March 25, 2008 (see Attachment 2).

7. FLOODPLAINS

Based on FEMA Flood Insurance Rate Map (FIRM) Community Panel Number 4207570188G (dated January 17, 2007), the proposed action would be located in Zone AE (EL10), areas with the flood base determined, which corresponds to the 100-year floodplain (Figure 3). The area is controlled by tidal flooding and no floodway has been established. Under the PA Floodplain Management Act (P.L. 851, No. 166), the proposed action would not qualify as an obstruction that would impede or alter flood flows in any manner. Improvements to the Terminal and apron area would not create an obstruction within the floodplain or alter the hydrology of the site from current conditions; therefore, no impacts to the floodplain's drainage or flow patterns are anticipated.

15. US WATERS/WETLANDS

The proposed action is being constructed on lands that have previously been disturbed and all surrounding lands consist of impervious paved areas. According to the most recent Jurisdictional Determination completed for PHL and approved by the US Army Corps of Engineers, no wetlands are located within or adjacent to the existing footprint of Terminal F (Figure 4); therefore, no existing wetlands would be affected by the proposed action.

16. WATER QUALITY

The proposed action would not cause impacts to water quality during construction or in the long-term. The Terminal F expansion will occur on existing impervious surface such as apron areas and taxi lanes. Impacts to water quality during construction will be avoided by using Best Management Practices (BMPs) relating to stormwater management. If the proposed action will disturb more than 15,000 sf of earth, compliance with Chapter 14-1600 of Philadelphia's Code and Chapter 6 of Philadelphia Water Department (PWD) Regulations is required. Best practices outlined in the *PA Stormwater Best Management Practices Manual* and *Philadelphia Stormwater Management Guidance Manual* will be used during and post-construction to the greatest extent practicable. Development plans and building permit applications will be submitted to comply with the City of Philadelphia's Development Plan Review process and will be reviewed by PWD for consistency with the City's stormwater regulations.

PHL has an NPDES permit for construction activities (PAI 015106002) that expires in 2012; however, each individual project needs to be reviewed by PA Department of Environmental Protection (PADEP) under the conditions of this permit. If earth disturbance activities are anticipated to exceed one acre of land, PADEP reviews the project for permitting needs. A Post-Construction Stormwater Management Plan and an Erosion and Sediment Control Plan also must be prepared and approved by PADEP and PWD prior to the start of construction.

Philadelphia's sanitary sewer system is categorized as a Phase I MS4 (Municipal Separate Storm Sewer System) and is therefore required to meet US EPA's NPDES permitting regulations pertaining to this classification. Following construction, stormwater and wastewater released from the Terminal F facilities would enter the City of Philadelphia's MS4 and would require permitting and approval from the municipality.

- a. PHL is located within the review area for the New Jersey Coastal Plain Aquifer, which is designated as a Sole Source Aquifer (SSA) by the US Environmental Protection Agency (EPA). PHL is not directly over the SSA, but it is within the review area, which includes streams within two miles of the Delaware River. SSAs are designated when an area is dependent upon groundwater for drinking water supplies and which, if contaminated, would create a significant hazard to public health. The New Jersey Coastal Plain SSA is jointly managed by EPA Regions II and III. The Delaware River in the vicinity of PHL is not considered to be a significant source of water to the distant pumping wells in New Jersey. The proposed action would not discharge contaminants to groundwater contributing to the Sole Source Aquifer.

18. ENERGY, NATURAL RESOURCES AND SOLID WASTE

- a. The proposed action would increase energy use but the increase would not be considered significant. Measures would be taken to reduce energy consumption to the greatest extent possible. In addition, any building renovation greater than 10,000 square feet located within the City of Philadelphia (this applies to the Terminal F expansion) is required to achieve a LEED silver certification and a minimum of 20% energy use reduction under a City of Philadelphia Executive Order passed in 2007. Pending feasibility, the proposed action will strive for LEED silver certification. Tenants occupying the building space will be required to follow DOA's Tenant Design and Construction Manual, which includes Sustainable Design Guidelines.
- b. Solid waste generation may increase slightly due to the increase in concessions; however, this will be minimized as PHL increases its public area recycling and waste management initiatives.



Source: PA City Planning Commission, 2004

0 1,100 2,200 4,400 6,600 8,800 Feet



Figure 1. Project Location Map
Philadelphia International Airport
Terminal F Renovation and Expansion

Prepared by EarthTech & CHPlanning

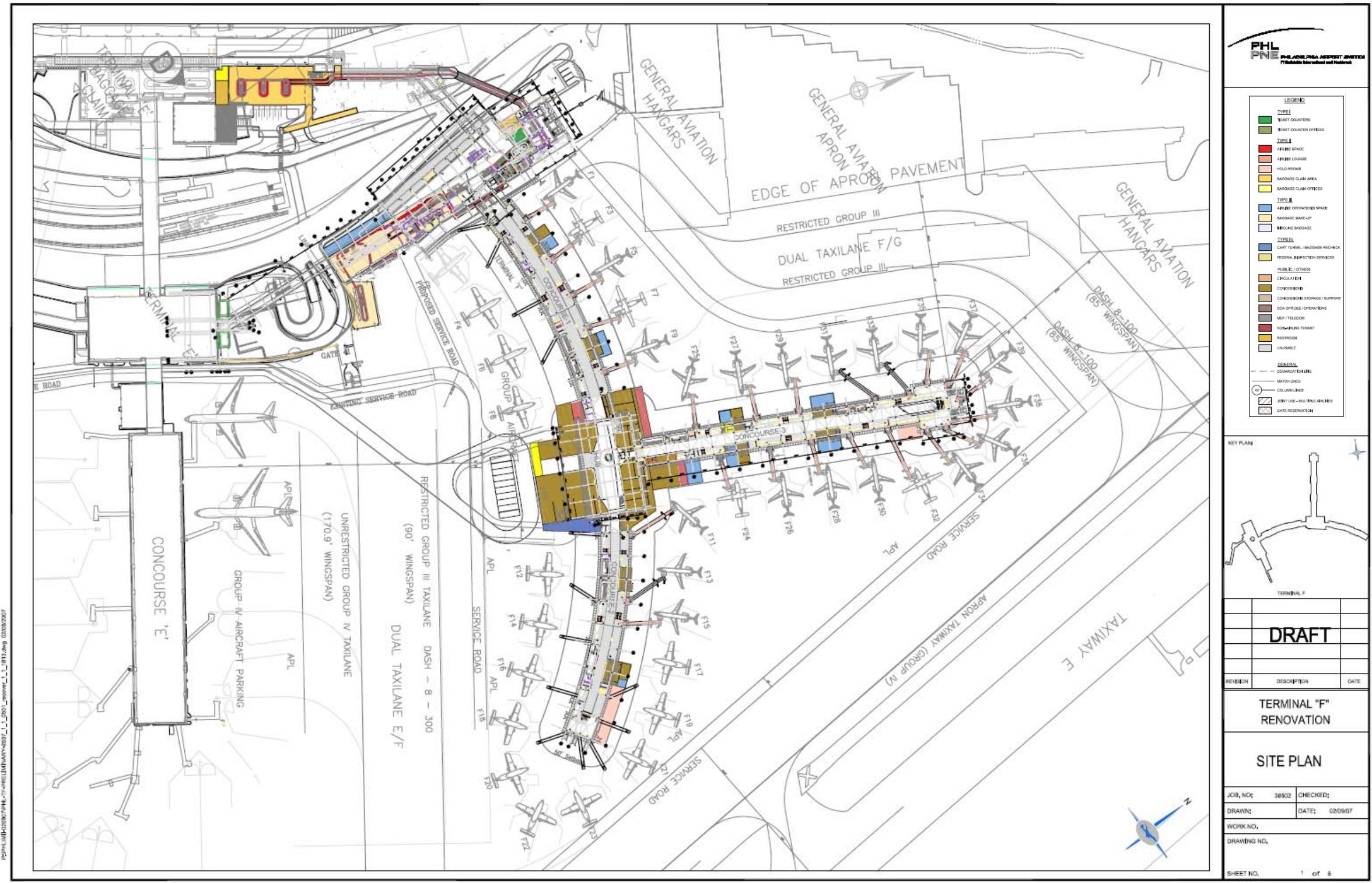


FIGURE 2. SITE PLAN (Source: Philadelphia Division of Aviation)

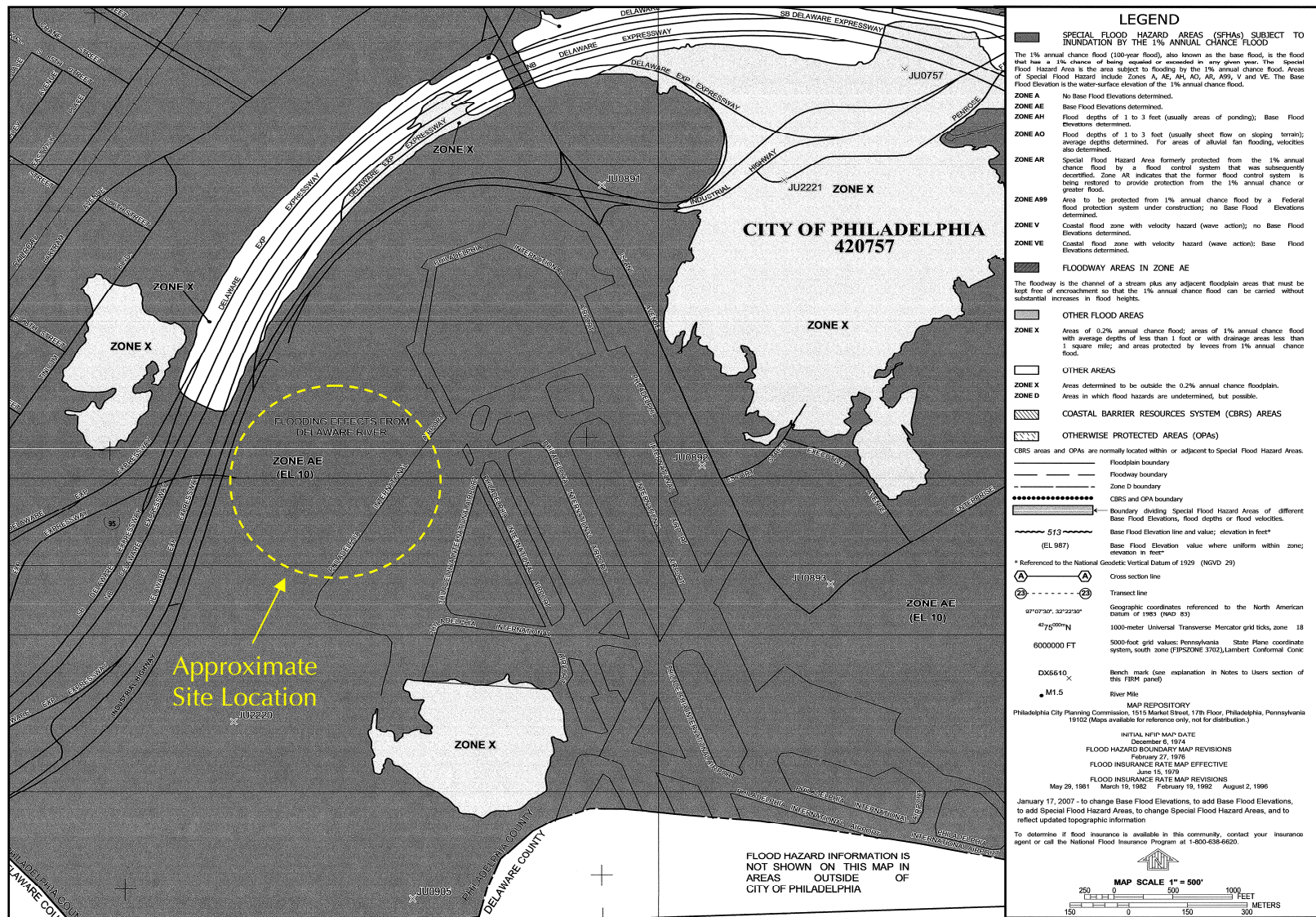


FIGURE 3. FLOOD INSURANCE RATE MAP, Panel Number 4207570188G (Source: FEMA, 2007)

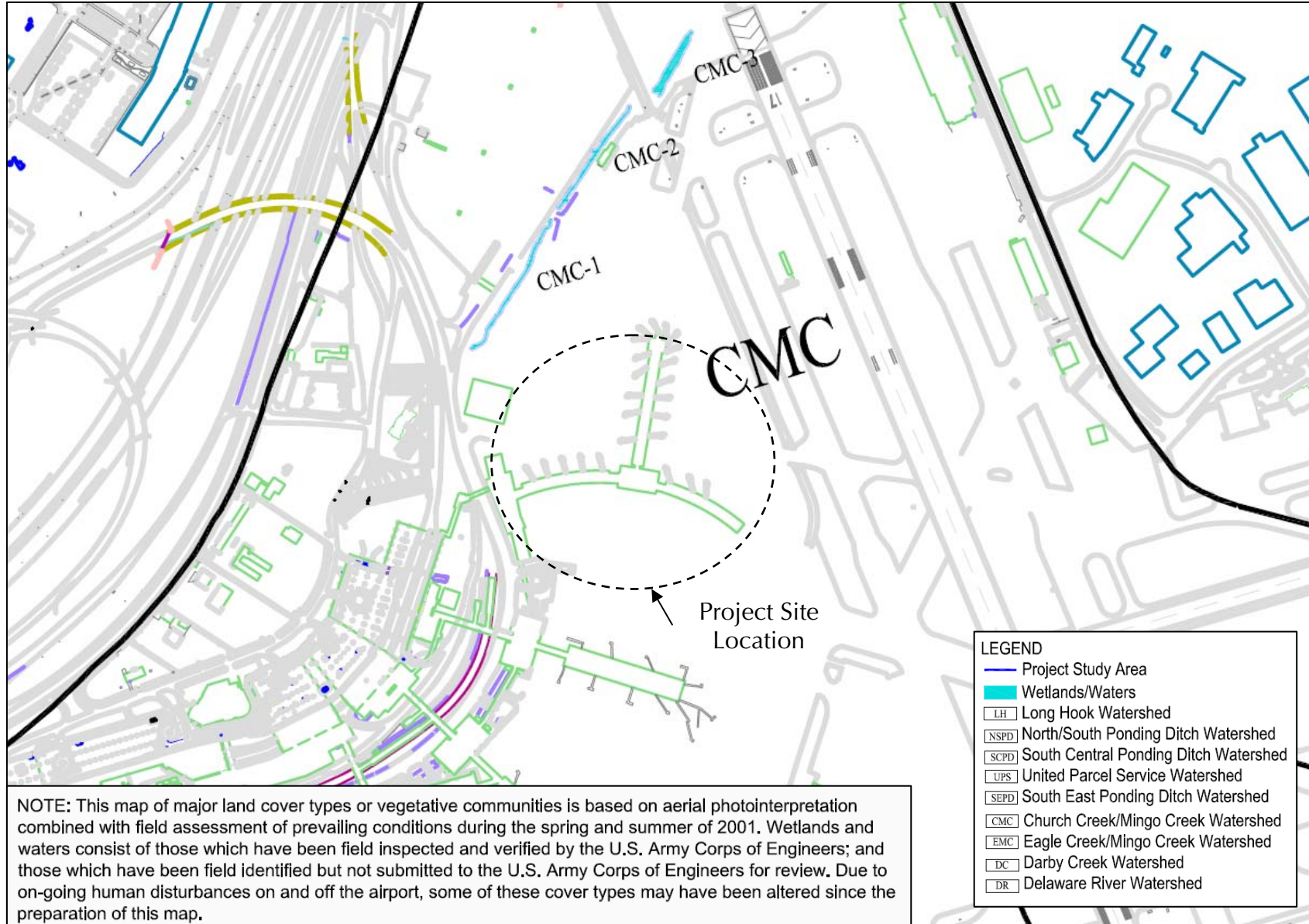


FIGURE 4. JURISDICTIONAL WETLANDS MAP (Source: Roy F. Weston, Inc., 2000)

ATTACHMENT 2

Agency Correspondence



Pennsylvania Department of Environmental Protection

Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, PA 17105-2063
March 25, 2008

Water Planning Office

717-772-5622

Danielle Bower, AICP
CHPlanning, Ltd.
1429 Walnut Street, Suite 1601
Philadelphia, PA 19102

Re: CZM File No. CZ7:FPL

Dear Ms. Bower:

On February 27, 2008, the Pennsylvania Coastal Resources Management (CRM) Program received information in this office concerning the Philadelphia International Airport's (PHL) proposed project titled **Terminal F Renovation and Expansion**, located in the City and County of Philadelphia, Pennsylvania. The project involves an upgrade to passenger service areas, a new baggage claim building, expansion of the central hub area for additional concessions, expansion of the mezzanine area, and reconfiguration of busing operations. Improvements would be limited to the existing building area and existing paved / disturbed areas.

The **Terminal F Renovation and Expansion** will require a revision to PHL's Airport Layout Plan, and this revision must be approved by the Federal Aviation Administration (FAA). Under the Federal Coastal Zone Management Act of 1972, as amended (Act), and Federal regulations at 15 CFR Subpart D - Consistency for Activities Requiring a Federal License or Permit, the FAA's approval is considered a federal permit or license, and subject to CRM's federal consistency review.

We have determined that this aforementioned project is consistent with Pennsylvania's CRM Program under the following condition:

That PHL or its contractors will not commence construction of this project until this Department's Southeast Regional Office (SERO) reviews and approves an Erosion and Sedimentation Control Plan and a Post-Construction Stormwater Management Plan, provided to document this phase of PHL's National Pollution Discharge Elimination System (NPDES) Permit for Storm Water Discharges Associated with Construction Activities. The reviews and approvals pursuant to this permit are required under the Commonwealth's Clean Streams Law, Act of June 22, 1937, (P.L. 1987, No. 394), as amended, 35 P.S. Section 691.1 *et seq.*

This condition is necessary in order to ensure that the construction of this building will not adversely affect the water quality of the Delaware River, and will be undertaken in a manner consistent with CRM's enforceable policies *3.1: Fisheries Management* and *9.2: Intergovernmental Coordination / Water Quality*. These two policies ensure that coastal waters shall not contain



substances attributable to point and nonpoint source discharges in concentrations to be harmful to the water uses to be protected, or to human, animal, plant, or aquatic life, including warm water or migratory fish.

As you may be aware, PHL currently has an NPDES permit (permit number PAI 015106002) that covers the entire Airport. This permit was issued in June 2007 and expires in June 2012. Under the terms of this current permit, each separate earthmoving project undertaken at PHL must be reviewed by the SERO. A Post Construction Stormwater Management Plan and an Erosion and Sedimentation Control Plan must be submitted to SERO for each new project. The required review and approval of these submissions for the particular project is considered a "phase" of the NPDES permit. The **Terminal F Renovation and Expansion** project needs to go through the process described above. These plans need to be approved by SERO prior to the work beginning.

If this condition is not met, then the FAA and the Pennsylvania CRM Program will treat this conditional concurrence as an objection pursuant to 15 CFR Part 930 Subpart D. Furthermore, if you believe that this condition cannot be met, PHL has the opportunity to appeal the CRM Program's objection to the Secretary of Commerce **within 30 days after receipt of this concurrence / objection letter.**

Please note that this response pertains only to the federal consistency review requirements of the Act, and does not constitute a waiver from further Department of Environmental Protection's review or other Departmental permits.

If you have any questions concerning this conditional consistency determination or require information on the federal CZM Act's appeals process, please contact me at 717-772-5622.

For information on submitting "plan revisions" to PHL's NPDES permit, contact Anna Damerau, SERO, Watershed Management Program at 484-250-5159.

In conclusion, this project may require additional Departmental permits issued by SERO. We encourage you to contact SERO to discuss this project and possibly schedule a pre-application conference. For assistance in determining what additional state permits may be required, or for arranging pre-application conferences, please contact John Kennedy, SERO's Assistant Regional Director at 484-250-5940.

Sincerely,



Lawrence J. Toth
Environmental Planner
Coastal Resources Management Program

ATTACHMENT 3

Air Emissions Quantification for Terminal F Expansion

January 22, 2009

MEMORANDUM

To: Mr. Michael McCartney, City of Philadelphia – Division of Aviation

From: Darcy Zarubiak/Robert Hoxie, Jacobs Consultancy

Cc: Mr. Elliott Lindgren, DMJM Aviation AECOM
Mr. Victor Velez, Earth Tech AECOM

Subject: Air Emissions Quantification—Terminal F Expansion, Philadelphia International Airport

The Philadelphia International Airport (the Airport) is expanding Terminal F to enhance customer service levels through a series of improvement projects, including: (1) expansion of passenger holdrooms and concessions areas throughout the terminal's concourses; (2) relocation of baggage claim areas to a new building on the opposite side of the departures roadway; and (3) installation of an in-line explosives detection system baggage handling system. The project will result in a net addition of approximately 70,000 square feet of building space that will be spread throughout the terminal complex. The project will not result in an increase in air traffic, as the expansions are being implemented to improve passenger conveniences of the building at current passenger levels.

This memorandum presents the methodology, assumptions, and results of air emissions quantifications that Jacobs Consultancy has prepared to evaluate air quality impacts that could result from construction of the project. The findings of this analysis will be used to support environmental determinations required under the National Environmental Policy Act (NEPA) and General Conformity provisions of the Clean Air Act.

INTRODUCTION

The Philadelphia area is classified by the U.S. EPA as a nonattainment area under the PM_{2.5} standard for air quality, a moderate nonattainment area under the 8 hour standard for air quality, and is part of the ozone transport region. The General Conformity regulations specify that the *de minimis* threshold for volatile organic compounds (VOCs) is 50 tons per year, while the threshold for nitrogen oxides (NOx) and particulate matter with a diameter less than 2.5 micrometers (PM_{2.5}) is 100 tons per year.¹ As such, the analysis focused on impacts resulting from all emission-generating activities associated

¹ Title 40 Code of Federal Regulations, Section 93, part 153

Mr. Michael McCartney
January 22, 2009

with construction of the terminal expansion. The purpose of the study is to demonstrate that the quantity of NO_x, VOCs, and PM_{2.5} will be less than the allowable *de minimis* threshold. This analysis used particulate matter with a diameter less than 10 micrometers (PM₁₀) as a surrogate for PM_{2.5}. This difference results in an overly-conservative estimate of particulate matter emissions, as it is a less-discriminating metric.

The emissions expected to result from implementation of the Terminal F expansion will occur during the construction phase. Because the project is not expected to result in additional air traffic capacity, there will not be ongoing emissions associated with the operation of the terminal after construction is complete. Construction of the expansion of Terminal F will require the demolition of existing apron areas and select building facades, removal of debris, site preparation, and building construction. The following discussion describes the procedures used to calculate the emissions that will be generated during the construction process.

METHODOLOGY AND ASSUMPTIONS

This analysis quantifies the amount of NO_x, VOC, and PM₁₀ emissions that would be produced by construction equipment operating on the Airport's property over the full duration of the Terminal F Expansion project, which is estimated to be two full years. An estimate of construction equipment activity was prepared in order to quantify the resultant emissions. The inventory assumes that each piece of equipment required to construct the building expansions would operate for the full workday during the first year of the project, a very conservative estimate of likely operating times. Because the *de minimis* emissions thresholds are expressed in terms of mass of pollutant per year, assuming that all of the construction activity will occur in a single year in the emissions quantification, even though construction is anticipated to take two full years, represents a more than "worst-case" scenario. The estimates of construction activity are presented in Table 1. At the time the inventory was prepared, construction was estimated to begin on January 1, 2011, with project design and contractor bid solicitation to occur between mid-2008 and the end of 2010.

Construction related emission sources, as presented in Table 1, are classified in two different categories based on whether or not the equipment would be certified to operate on typical public roadways. Equipment eligible to operate on public roads is labeled "on-road" equipment, while those that can only be used at the construction site is labeled "non-road." The methodology for quantifying emissions varies between the two categories and is discussed in specifics below.

Table 1
ESTIMATES OF CONSTRUCTION ACTIVITY

Type of equipment	Model	Horsepower	Quantity*months	Operating hours per day	Workdays per month	Total operating hours
Non-road equipment						
Generator / light plant	Kohler light tower	15	30	5	21	3,150
Roller	Bomag BW120AD-3	35	3	10	21	630
Concrete saw	Clipper 61hp turbo diesel	61	2	10	21	420
Backhoe	JCB 214E	86	10	10	21	2,100
Air compressor	Diesel 375CFM	110	15	10	21	3,150
Loader	John Deere 544J	130	10	10	21	2,100
Excavator	JCB JS260	154	6	10	21	1,260
Dozer	Heavy-duty crawler	180	8	10	21	1,680
Hydraulic crane	Truck-mounted hydraulic	450	10	10	21	2,100
On-road equipment						
Employee vehicles and autos	Light duty vehicle	--	100	2	21	4,200
Contractor vehicles and trucks	Light duty truck II	--	8	10	21	1,680
Dumpster truck	Class 7 heavy duty vehicle	--	20	8	21	3,360
Water truck	Class 7 heavy duty vehicle	--	5	4	21	420
Concrete truck	Class 8b heavy duty vehicle	--	8	4	21	672
Delivery / haul truck	Class 8b heavy duty vehicle	--	39	8	21	

Source: Construction activity estimates based on interviews with City of Philadelphia Division of Aviation staff and Jacobs Consultancy professional judgment, November 2008.

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Non-Road Equipment

NO_x, VOC, and PM₁₀ emission rates for non-road equipment are based on the following characteristics:

- Fuel type, model, and approximate size
- Horsepower and average load factor
- Approximate hours of operation per type
- Approximate age

The horsepower and model type are identified in the equipment inventory in Table 1. Because the age of the equipment is entirely dependent on the preferences of the contractor, an average equipment age of eight years was used in this analysis, which corresponds to a manufacture date of 2003. The load factor, a ratio of the actual operating horsepower of an engine relative to its maximum available horsepower, was obtained from the *Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling*, published by the Environmental Protection Agency (EPA).²

The regulatory standard for emission rates for non-road equipment varies based on whether equipment is diesel or gasoline powered. Standards for diesel engines are published in *Control of Emissions from New and In-use Nonroad Compression Ignition Engines*³ while gasoline engines are regulated per the terms of *Control of Emissions from New, Large Nonroad Spark-ignition Engines*⁴. While emission rates could be lower depending on the age, horsepower, and exact model of equipment, this standard represents the worst-case scenario from an emissions standpoint and provides a conservative result. This rate is described in terms of pollutant per horsepower hour, requiring the horsepower, load factor, and total operational time to be available in order to calculate the total quantity of emission.

On-road Equipment

Emissions from on-road sources, which include all types of vehicles ranging from employee automobiles to heavy duty haul trucks, were calculated using a similar approach. The NO_x, VOC, and PM₁₀ emission rates, in the form of pollutant per unit of distance traveled, are dependent on the vehicle's age, fuel type, classification (e.g. passenger auto or heavy truck), and average speed of operation. These rates were

² *Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling*, U.S. EPA, EPA420-P-04-005, April 2004.

<http://www.epa.gov/OMS/models/nonrdmdl/nonrdmdl2004/420p04005.pdf>

³ *Control of Emissions from New and in-use Nonroad Compression Ignition Engines*, Title 40 Code of Federal Regulations, Chapter 1, Subchapter C, Part 89.

⁴ *Control of Emissions From New, Large Nonroad Spark-ignition Engines*, Title 40 Code of Federal Regulations, Chapter 1, Subchapter U, Part 1048.

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obtained from the EPA's *Mobile 6.2* analysis tool, contained within the Federal Aviation Administration's *Emissions and Dispersion Modeling System, Version 5.1* (EDMS), for computing emissions from roadway sources.

Hours of operation for on-road sources of emissions are also presented in Table 1. An average speed of 20 miles per hour was assumed for on-road construction vehicles operating at the Airport. The only exception was construction employee automobiles, which were assumed to travel at an average speed of 45 miles per hour. Like the non-road equipment, these vehicles were assumed to be manufactured in 2003.

RESULTS

The results of the construction emissions quantification are summarized in Table 2 by equipment category. The construction-related emissions for the proposed expansion to Terminal F will produce a combined total of 10.40 tons of NO_x and VOCs and 0.39 tons of PM₁₀. As previously mentioned, the resultant PM_{2.5} emissions would be less than the PM₁₀ emissions presented here. Both of these quantities are far below the 50 tons per year for VOCs and 100 tons per year for NO_x and particulate matter *de minimis* thresholds.

It should be noted that the assumptions that in this evaluation are not intended to establish precedence for a "best practices" methodology on future air quality analyses. Instead, overly conservative assumptions have been used in order to generate emissions estimates before architectural and engineering design of the facility is completed. The construction-related emissions likely to occur from implementation of the Terminal F expansion project do not come close to crossing the Federal threshold of significance.

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Table 2
RESULTS OF EMISSIONS QUANTIFICATION

Type of equipment	Horsepower	Operating hours	Total emissions (a)	
			NOx and VOC	PM ₁₀
Non-road equipment				
Generator / light plant	16	3,150	0.24	0.02
Roller	35	630	0.08	0.01
Concrete saw	61	420	0.16	0.01
Backhoe	86	2,100	0.83	0.03
Air compressor	110	3,150	0.90	0.04
Loader	130	2,100	1.47	0.07
Excavator	154	1,260	1.05	0.05
Dozer	180	1,680	1.63	0.05
Hydraulic crane	450	2,100	2.15	0.07
Sub-total			8.51	0.34
On-road equipment				
Employee vehicles and autos	--	4,200	0.10	0.005
Contractor vehicles and trucks	--	1,680	0.07	0.001
Dumpster truck	--	3,360	0.41	0.006
Water truck	--	420	0.05	0.001
Concrete truck	--	672	0.12	0.004
Delivery / haul truck	--	6,552	1.15	0.036
Sub-total			1.89	0.05
Grand Total			10.40	0.39

Note: Emissions totals may not add due to rounding.

(a) Units are short tons.

Source: Jacobs Consultancy, November 2008.