

APPENDIX A
Air Quality Documentation

Schenectady County Airport – Off-Site Tree Obstruction Removal Environmental Assessment Air Quality Documentation

The proposed Project was evaluated under the Aviation Emissions and Air Quality Handbook (Handbook) published by the Federal Aviation Administration (FAA)¹. The air quality assessment process is outlined in Section 4.

The first step of the process is to determine the need for the assessment based on four factors:

1. Project Definition
2. FAA Involvement
3. Emissions Increase
4. Ambient Air Quality

1. Project Definition

The purpose of the project is to remove off-site tree obstructions at the Schenectady County Airport (SCH) in Glenville, NY. Trees will be removed from the western end of Runway 10-28. The project will not cause permanent increases in air or local traffic.

2. FAA Involvement

The project is being partially funded through the FAA's Airport Improvement Program.

3. Emissions Increase

Although the project will not increase the airport capacity, temporary increases in emissions will occur during construction activities.

4. Ambient Air Quality

The airport is located in Schenectady County, NY. Schenectady County is designated by the Environmental Protection Agency (EPA) as being in attainment with all National Ambient Air Quality Standards and a General Conformity analysis under 40 CFR 93, Subpart B is not required.

Using these four factors and the flowchart in Figure 4-3 of the Handbook, the level of assessment required was determined to be an emission inventory.

Emission Inventory Methodology

The project will not cause permanent increases in air or local traffic. Only emissions from construction activities will be caused as a result of the project.

Emissions from construction activities were estimated using the Airport Construction Emissions Inventory Tool (ACEIT) published by the Airport Cooperative Research Program in Report 102².

¹https://www.faa.gov/regulations_policies/policy_guidance/envir_policy/airquality_handbook/media/Air_Quality_Handbook_Appendices.pdf

²<http://www.trb.org/ACRP/Blurbs/170234.aspx>

ACEIT estimates the construction equipment activity that will be required based on the type and amount of construction being performed. This activity is used with emission factors for construction and other mobile vehicles to estimate the emissions that will result during construction of the project.

ACEIT has been configured with default construction equipment assignments based on the type of construction activity being performed. For tree removal, ACEIT assumes the use of an aerial lift, chipper/stump grinder, dump truck, chain saw, and pickup truck. ACEIT assumes that 8 hours of equipment use is required for every 7.7 trees removed. The number of trees removed was conservatively estimated to be 500 trees. The estimated equipment runtime is used with the equipment engine size and EPA emission factors to estimate the emissions.

The estimated equipment types and activities may be edited by the user. For the purposes of this analysis the default options were used, with one exception. ACEIT was not calculating the estimated on-road vehicle miles traveled (VMT) for trucks hauling materials from the project site. The VMT for on-road trucks was conservatively estimated as 2,500 miles.

Emission Inventory Results

The project will not cause permanent increases in air or local traffic. Temporary increases in emissions from construction activities were estimated using the ACEIT application and are shown in the table below. The exemption thresholds from 40 CFR 93, Subpart B are shown for reference.

Contaminants included in the analysis were nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO₂), particulate matter less than 10 microns (PM₁₀), particulate matter less than 2.5 microns (PM_{2.5}), carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O).

Contaminant	NO _x	CO	VOC	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O
Emissions (tons/yr)	0.40	1.55	0.36	0.002	0.07	0.06	255	0.002	0.0003
Exemption Threshold	100	100	50	100	100	100	N/A	N/A	N/A

The estimated emissions from construction activities are not significant and support the determination of a Finding of No Significant Impact (FONSI) for the project.