

STATE OF ALASKA

TONY KNOWLES, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

DIVISION OF SPILL PREVENTION AND RESPONSE CONTAMINATED SITES REMEDIATION PROGRAM

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File: AIA GW USE
Determination

March 27, 2001

Maryellen Tuttel
Anchorage International Airport
State of Alaska DOT&PF
PO Box 196960
Anchorage, Alaska 99519-6960

Re: Anchorage International Airport Groundwater Use Determination Request

Dear Ms. Tuttel:

The Alaska Department of Environmental Conservation, Contaminated Sites Remediation Program (ADEC) reviewed the June 2000 Groundwater Use Determination Request (request) for the Anchorage International Airport (AIA). In that document, AIA requested the shallow perched aquifer and the lower unconfined aquifer be declared non-drinking water aquifers and that current and/or future risk assessments conducted at the AIA not consider them as possible exposure pathways for the ingestion of water. Since this request is associated with the Airport-Wide Remediation Management Plan being developed at AIA and ADEC has conceptually approved of the "remediation management zones" approach, the following information is presented to you regarding our determination about groundwater at AIA:

Aquifer Information

The AIA groundwater information presented to date indicates there is a discontinuous upper aquifer, described as a shallow perched aquifer, at a depth of 6 to 20 feet below ground surface (bgs). There is a deeper continuous aquifer between 65 to 80 feet bgs. Both of these aquifers are considered "unconfined" and located above an aquitard, known as the Bootlegger Cove Formation. There is a third aquifer that is confined below the Bootlegger Cove Formation that serves as a source of drinking water in the Anchorage area. The 18 AAC 75.350 determination presented in this correspondence applies only to the upper, unconfined aquifer(s) and does not address the lower confined aquifer that has been (or is) used as a drinking water source.

Current and Future Groundwater Use

AIA has provided hydrogeologic information to support the conclusion that the unconfined aquifer(s) at AIA are not used as a source for public or private drinking water wells. There is also information from the ADEC Drinking Water Program that there are three public drinking water wells in the deeper confined aquifer whose wellhead protection areas are on AIA property.

Two of the wells, ERA Aviation Center, Inc. and Lynden Inc. are located in South Airpark on AIA property. The request indicated AIA's intent is to have these two wells abandoned since the airport is served by the municipality's public water utility and they plan to request funding to abandon these wells in the FY 2003 budget cycle. A time schedule and decommission plan to abandon the wells must be provided to ADEC in accordance with State of Alaska Drinking Water Regulations, 18 AAC 80.015.

There is a third well located outside the boundaries of AIA on Municipality of Anchorage property. It currently serves the Clitheroe Detox Center and is expected to remain a drinking water well. The well data indicates it was drilled to 198 feet bgs with the screen placed at 170 feet. The static water level was measured at 66.9 feet. This information indicates that the well is within the confined aquifer system and should be protected from any contaminants that might be present above the aquitard. However, in order to verify the assumptions made in this determination and to ensure 18 AAC 75 Table C values are achieved within the wellhead protection area, AIA will be required to either install a sentinel well and conduct periodic monitoring or conduct periodic sampling of the Clithroe well for petroleum hydrocarbons. This task should be included in the AIA facility groundwater monitoring plan required as part of this groundwater use determination.

Another major ADEC consideration in making this groundwater use determination is the nature of land use associated with the property. The AIA is owned and managed by the Department of Transportation & Public Facilities (DOTPF) for airport purposes. Furthermore, the facility is currently developing an Airport-Wide Remediation Management Plan to address hazardous substance contamination that might be present. The facility is currently served by the municipality's public utility service and potable water is available to all AIA lease areas. Title 17 AAC 42.410 (b) (27) became effective on January 14, 2001 and prohibits the installation of drinking water wells on Airport property where local water utility service is available.

Airport-Wide Remediation Management Plan

The AIA is developing an airport-wide approach to assess, manage and cleanup hazardous substance contamination. A plan (Airport-Wide Remediation Management Plan) has been prepared and reviewed by ADEC that establishes remediation management zones (RMZ's) based on site specific conditions and land use plans. The general concept has been approved by ADEC in that it will hopefully allow ADEC and AIA to facilitate construction projects and ensure consistency in making cleanup decisions at the airport facility.

The RMZ's proposed in the plan are:

1. Air Side;
2. Commercial; and
3. Ecological.

Refer to Figure 2 of Airport-Wide Remediation Management Plan for the boundaries of the RMZ's.

The Airside RMZ includes airfields and terminal complex areas with extreme security and physical control measures to restrict both human and ecological receptors.

The Commercial RMZ includes those airport lands subject to commercial development (as identified in the AIA comprehensive land use plan) outside of the Airside RMZ.

The Ecological RMZ is the outermost zone and overlaps portions of the other two zones. It is subdivided into a freshwater and marine water aquatic protection areas. This zone is along the outer perimeter of the AIA and, for purposes of the groundwater use determination, it will be referred to as the buffer zone.

For the purposes of this groundwater use determination, ADEC recognizes the need to protect surface water quality standards and unknown factors regarding possible private drinking water wells that may have wellhead protection areas within AIA property. Therefore, ADEC's determination regarding the unconfined aquifer(s) only applies to the Airside and Commercial RMZ's and **not** the Ecological RMZ. The groundwater (both confined and unconfined) within the Ecological RMZ buffer zone must meet the 18 AAC 75.345 Table C values, unless otherwise approved by ADEC.

Conclusions

In accordance with 18 AAC 75.350, ADEC has determined that the unconfined groundwater (above the Bootlegger Cove Formation) at the AIA is not a current or future drinking water source. This determination is subject to the following conditions:

1. It applies only within the Airside and Commercial RMZ's, as described in the Airport-Wide Remediation Management Plan. It does not apply within the Ecological RMZ;
2. It does not establish alternative cleanup levels within those zones but allows ADEC to use the determination in making decisions in accordance with 18 AAC 75.345(b)(2) - (3);
3. AIA shall establish a facility-wide groundwater monitoring plan in accordance with 18 AAC 75.345(h), (i), and (j). The plan shall ensure that applicable cleanup levels are monitored in the RMZ's and that the Ecological RMZ maintains groundwater cleanup levels at or below 18 AAC 75.345 Table C values, unless otherwise approved by ADEC;
4. Any drinking water wells located on AIA property must be properly abandoned in accordance with ADEC decommissioning procedures within two years of this decision;
5. AIA shall prohibit the installation of any water wells, used for drinking, cooling, washdown, or any other purposes, on the AIA either through 17 AAC 42.410 (b) (27) of the airport leasing regulations or in their individual lease agreement documents;
6. The existing AIA water well used to maintain the water level in Lake Hood is not considered a drinking water well. However, AIA is responsible for determining its wellhead protection area and ensuring that it maintains levels at or below 18 AAC 75.345 Table C values, unless otherwise approved by ADEC;

7. This determination was based on information provided by AIA in the Groundwater Use Determination Request and the Airport-Wide Remediation Management Plan. If future information identifies site conditions that pose a risk to human health or the environment, ADEC reserves the right to reconsider the groundwater use determination and make any changes or amendments to it, including the requirement for additional investigative and/or cleanup action.

If you have any questions regarding this approval please contact Renee Evans at 269-7530 or me at 269-7658.

Sincerely,



Jim Frechione
CSRP Section Manager

cc: Robert Soptei, AIA
Jim Hayden, ADEC, Juneau
Steve Bainbridge, ADEC, Fairbanks
Renee Evans, ADEC, Anchorage
Scott Rose, IT Alaska, Inc.
Tom Mushovic, AFSC