

### **23 – Excavation Dewatering**

354th Civil Engineering Squadron

OPR: CES/CEIE

ISSUED: 24 January 2017

#### **Purpose**

These standards will serve as the primary excavation dewatering criteria reference documents for services provided by architectural and engineering (A&E) firms and consultants in the development of both design-bid-build and design-build contracts. This document is not intended to be used in lieu of detailed design documents in the procurement of facility construction. No part of this document should be considered inclusive to all government requirements.

#### **Memorandum for Record, dated 24 January 2017**

The attached memorandum documents an agreement in principle between the US Air Force 354<sup>th</sup> Civil Engineer Squadron (354 CES), the Alaska Department of Environmental Conservation (ADEC) Contaminated Sites and the ADEC Wastewater Discharge Program regarding the conduct of excavation dewatering activities on Eielson Air Force Base (AFB), Alaska.

#### **Eielson AFB Dewatering Specifications**

The Air Force has developed a contract specification for excavation dewatering that will be included in all contracts on Eielson AFB where excavation dewatering may occur (attached). The above referenced memorandum and attached Figure C1 will be included in that specification.



**DEPARTMENT OF THE AIR FORCE  
PACIFIC AIR FORCES**



24 January 2017

**MEMORANDUM FOR RECORD**

**FROM:** 354th Civil Engineer Squadron  
2310 Central Avenue, Suite 100  
Eielson AFB AK 99702

**SUBJECT:** Excavation Dewatering at Eielson Air Force Base, Alaska

1. This memorandum documents an agreement in principle between the US Air Force 354th Civil Engineer Squadron (354 CES), the Alaska Department of Environmental Conservation (ADEC) Contaminated Sites and the ADEC Wastewater Discharge Program regarding the conduct of excavation dewatering activities on Eielson Air Force Base (AFB), Alaska.
2. The State of Alaska Department of Environmental Conservation regulates excavation dewatering under the Alaska Wastewater Disposal Regulations (18 AAC 72) and the Alaska Pollutant Discharge Elimination System (APDES) regulations (18 AAC 83). Sections 2.2.7 and 2.2.8 of the APDES General Permit for Excavation Dewatering (AKG002000) identify the information and authorization requirements for excavation dewatering occurring within 1,500 feet of a known contaminated site or groundwater plume. Contaminated soil and groundwater are regulated by the ADEC Contaminated Sites Program under 18 AAC 75 and 18 AAC 78.
3. Eielson AFB is located in an area with a shallow groundwater aquifer and multiple large construction dewatering requirements. In addition to numerous discrete areas of known contamination, in 2015 the Air Force confirmed the widespread presence of the perfluorinated compounds perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) in groundwater at Eielson AFB. Subsequent investigations in 2015 and 2016 confirmed that most of the groundwater underlying, and for several miles immediately downgradient of, the main installation contains levels of PFOS and/or PFOA above the cleanup levels promulgated by the State of Alaska (0.4 parts per billion) that took effect on 06 November 2016.
4. On 17 November 2016, representatives from the 354 CES, the Air Force Civil Engineer Center (AFCEC), and ADEC Wastewater Discharge and Contaminated Sites Programs met with the goal of developing an approach to excavation dewatering on Eielson AFB that is protective of human health and the environment while allowing construction projects on Eielson AFB to proceed with minimum disruption. Specific elements of the approach include:
  - a. All practicable means shall be taken during the design process to avoid the need for excavation dewatering on a given project where contaminated groundwater is known or suspected to be present.

b. Each project that involves excavation dewatering within 1,500 feet of a known or suspected contaminated site or groundwater plume requires separate authorization under the APDES General Permit for Excavation Dewatering. The construction contractor shall submit a Notice of Intent (NOI), to include a site-specific dewatering work plan prepared in accordance with the most recent ADEC Best Management Practices (BMP) Plan template. Each NOI and associated dewatering work plan will be reviewed to ensure that the plan remains protective of human health and the environment given site-specific contaminants and other site conditions.

c. Groundwater from the excavation will be kept within the overall excavation footprint of the project (see Figure C1, attached). The top of the retention berm must be no less than 2 feet below ground surface (bgs). Site-specific contaminant chemical properties and concentration gradients will be considered, if known, when placing the water discharge point within the excavation footprint. The water discharge point will be positioned to best avoid spreading groundwater contamination from higher concentration areas to lower concentration areas, and will not be placed in areas that will mobilize soil contamination into the groundwater. The placement of the water discharge point within the excavation footprint shall not result in an increase in the lateral extent of contamination.

d. Site-specific worker safety and public safety requirements are to be incorporated into the dewatering work plan if the contaminants present on site pose a direct contact or inhalation hazard.

5. The Air Force has developed a contract specification for excavation dewatering that will be included in all contracts on Eielson AFB where excavation dewatering may occur (attached). This memorandum and Figure C1 will be included in that specification. The intent is to notify the contractor that coverage under the APDES General Permit for Excavation Dewatering is required, and that the general approach described herein has been reviewed in advance by the permitting agency and found acceptable in principle.

6. By signature below, 354 CES acknowledges that each project where excavation dewatering will occur within areas of known or suspected contamination will require separate permit authorization, including a dewatering work plan, and will be evaluated on an individual basis to ensure that the proposed dewatering activities remain protective of human health and the environment given site-specific contaminants or other conditions. ADEC Program Managers concur that an approach incorporating the above elements would generally be eligible for coverage under the APDES General Permit for Excavation Dewatering.

7. The Point of Contact for this memorandum is Mr. Lonnie Britton, 354th CES Water Resources Program Manager, at 907-377-3313 or lonnie.britton@us.af.mil.

MICHAEL E. LEE, P.E., GS-14, DAF  
Deputy Base Civil Engineer

Concur:

JAMES RYPKEMA  
Environmental Program Manager  
ADEC Wastewater Discharge Program

KIMBERLY DERUYTER  
Environmental Program Manager  
ADEC Contaminated Sites Program

2 Attachments:

1. Eielson AFB Dewatering Specification (UFGS Format), version 1.2, 19 JAN 17
2. Excavation Dewatering Concept Section, Figure C1.0, 19 JAN 17

cc:

Lonnie Britton, 354 CES/CEIE  
Teresa Jordan, 354 CES/CEIE  
Steven Becker, AFCEC/CZOP

# Eielson AFB Dewatering Specifications

## (UFGS Format)

*Incorporate the language below into the following sections.*

### SECTION 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS

#### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submittals with an "S" are for inclusion in the Sustainability Notebook, in conformance with Section 01 33 29 SUSTAINABILITY REPORTING. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

##### SD-01 Preconstruction Submittals

Dewatering Work Plan; G, CEIE

Notice of Intent for coverage under Alaska Department of Environmental Conservation (ADEC) Alaska Pollutant Discharge Elimination System (APDES) General Permit AKG002000 for Excavation Dewatering

ADEC Discharge Authorization

##### SD-11 Closeout Submittals

Notice of Termination for coverage under APDES General Permit AKG002000 for Excavation Dewatering

#### 1.5 SPECIAL ENVIRONMENTAL REQUIREMENTS

Comply with the special environmental requirements listed in Section 3.3.1 DEWATERING and attached at the end of this section.

#### 1.6.2 REGULATORY NOTIFICATIONS

Provide Notice of Intent and final dewatering work plan in accordance with APDES General Permit AKG002000 for Excavation Dewatering. Submit copies of regulatory notifications to the Contracting Officer at least 14 [ ] days prior to commencement of work activities.

#### 1.7.8 REGULATORY NOTIFICATION AND PERMITS

Obtain coverage under APDES General Permit AKG002000 for Excavation Dewatering. Groundwater in this area is [known] [suspected] to have the following contaminants in concentrations exceeding ADEC cleanup levels: [list COCs]. Permit coverage shall be obtained at no additional cost to the Government.

#### 1.7.9 MONITORING [INCLUDE ONLY IF VAPOR CONCERNS ARE PRESENT]

For the protection of worker safety and public health, monitor and control contaminant emissions to the air from groundwater contaminants to minimize short-term risks that might be posed to workers and the community during excavation dewatering. Contaminants of Concern include: [ ]. Emission monitoring requirements shall be detailed in the Dewatering Work Plan prepared in accordance with part 3.3.1 of this Section.

### 3.3.1 DEWATERING

Dewatering shall be limited to that necessary to assure adequate access, a safe excavation, prevent the spread of contamination, and to ensure that compaction requirements can be met. No dewatering shall be performed without prior approval of the Contracting Officer.

Construction operations for dewatering must be constantly controlled to comply with the State of Alaska water quality anti-degradation provisions. Use erosion prevention and sediment control Best Management Practices (BMPs) to prevent construction site runoff from entering the excavation. Do not discharge excavation ground water to the sanitary sewer, storm drains, or to lands or surface waters without prior specific authorization in writing from the Installation Environmental Office.

#### 3.3.1.1 DEWATERING WORK PLAN

Submit a Dewatering Work Plan within [30] [ ] calendar days after notice to proceed. No work at the site, with the exception of site inspections and surveys, shall be performed until the Work Plan is approved. Allow [30] [ ] calendar days in the schedule for the Government's review. No adjustment for time or money will be made if resubmittals of the Work Plan are required due to deficiencies in the plan. The Dewatering Work Plan shall be prepared in accordance with the most recent version of the BMP Plan Template issued by the Alaska Department of Environmental Conservation (ADEC) Division of Water Quality, located at

[http://dec.alaska.gov/water/wnpspc/stormwater/docs/BMP\\_Plan\\_Template.docx](http://dec.alaska.gov/water/wnpspc/stormwater/docs/BMP_Plan_Template.docx)

The State of Alaska has agreed to a generally acceptable approach to excavation dewatering activities on Eielson AFB. This approach includes:

- Keeping groundwater from the excavation within the overall excavation footprint of the project;

- Constructing a retention berm of sufficient size and dimension to contain sufficient water and provide adequate retention time for dewatering activities. The top of the retention berm must be no less than 2 feet below ground surface;

- Locating the water discharge point within the excavation footprint in consideration of site-specific contaminant concentration gradients, if known, to best avoid spreading contamination from higher concentration areas to lower concentration areas. By no means can the placement of the water discharge point result in an increase in the lateral extent of contamination; and

- Incorporating site-specific requirements into the dewatering work plan to address potential hazards based on contaminants present on site (e.g., liberation of volatile compounds, direct contact hazards, etc).

Information regarding this approach and a typical cross section are provided at the end of this Section.

#### 3.3.1.2 NOTICE OF INTENT FOR EXCAVATION DEWATERING

Prepare and submit the Notice of Intent (NOI) for APDES coverage under General Permit AKG002000 for Excavation Dewatering and associated Dewatering Work Plan to the Contracting Officer for review and approval. The permit

documents, forms, and further permit information can be accessed at the following location: <http://dec.alaska.gov/water/wnpssc/stormwater/index.htm>.

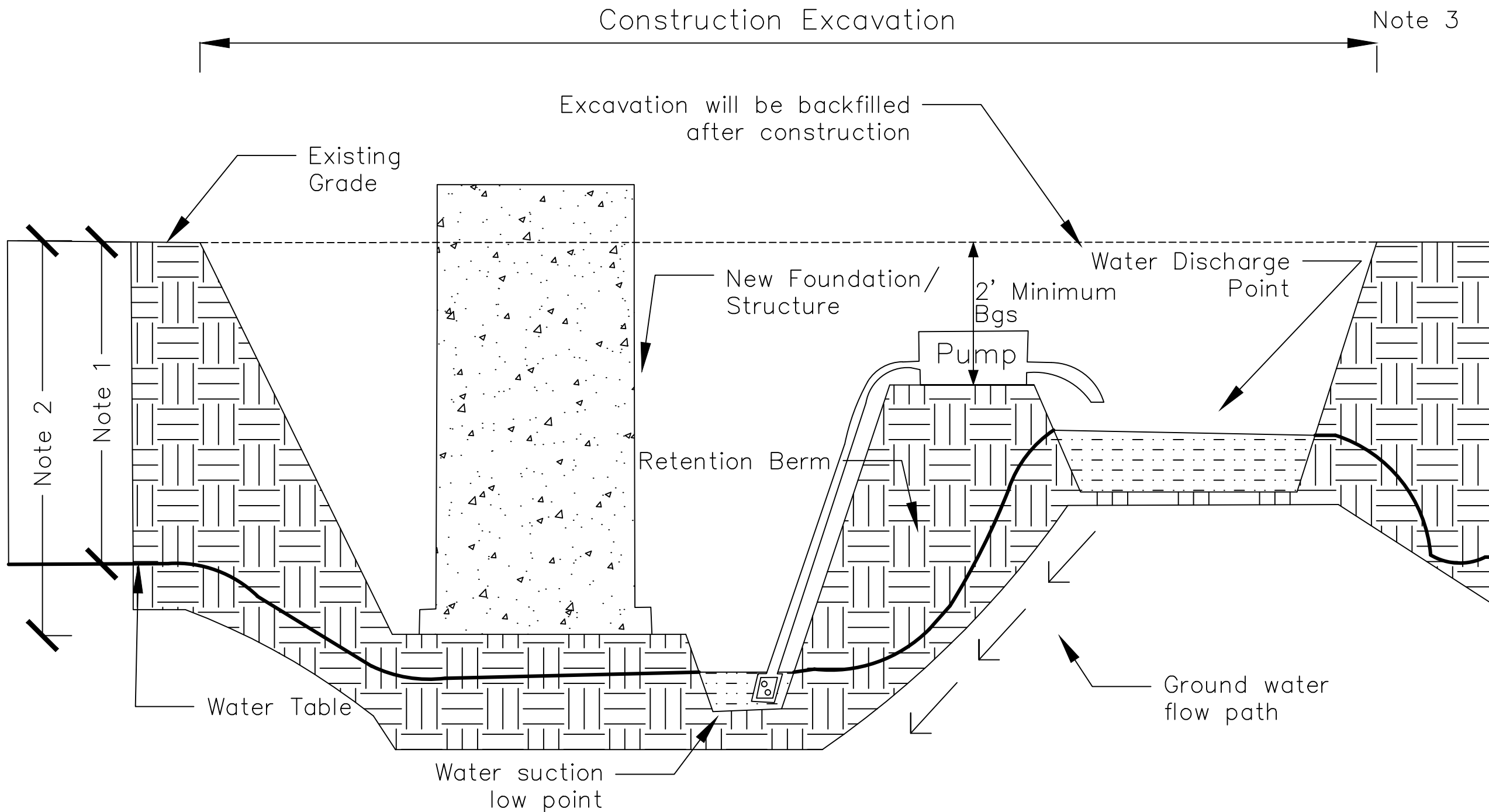
Submit the approved NOI, Dewatering Work Plan, and appropriate permit fees to the ADEC Division of Water. No land disturbing activities ultimately requiring excavation dewatering may commence without permit coverage. Maintain an approved copy of the Dewatering Work Plan at the onsite construction office, and continually update as regulations require, reflecting current site conditions.

Submit a copy of the ADEC authorization to the Contracting Officer within seven (7) days of receipt of authorization and prior to conducting any ground-disturbing activity on site.

#### 3.3.1.3 NOTICE OF TERMINATION FOR EXCAVATION DEWATERING

Submit a Notice of Termination (NOT) to the Contracting Officer for approval once excavation dewatering activities are complete on all portions of the site for which the permittee is responsible. Once approved, submit the Notice of Termination to the ADEC Division of Water.

-- END OF SECTION --



- Notes:
1. Existing groundwater has an average depth of 5.8 FT. below existing grade.
  2. Bottom of new structure could be approximately 10 FT. below existing grade.
  3. If a project is a utilidor/utiliduct construction, water discharge point will be as depicted. If project is for a deep footing of a building, the water discharge point will be contained within the building footprint.

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