



COLORADO OPERATIONS

Henderson Mill
19302 County Road 3
Parshall, CO 80468
Phone (303) 569-3221

December 11, 2018

Via Email

Mr. Peter Hays
Division of Reclamation, Mining and Safety
1313 Sherman St., Rm. 215
Denver, CO 80203

Re: 1 Dam Right Abutment Drain Replacement, Permit No. M-1977-342

Dear Mr. Hays:

As discussed during our phone call on Tuesday November 20th, I am providing documentation in relation to the 1 Dam Right Abutment Drain Replacement project. Based on our discussion, you indicated that we do not need to submit a Technical Revision for this project unless we discover that the original design is significantly different from the planned design.

If you have any additional questions or concerns or decide that a Technical Revision is required for this project, please feel free to contact me at 720-942-3480 or Miguel Hamarat at 720-942-3255.

Sincerely,

A handwritten signature in black ink that reads 'Amber Parmet'.

Amber Parmet
Senior Environmental Engineer
Climax Molybdenum Company
Henderson Operations

CC (via email):

M. Hamarat, Climax
A. Hilshorst, Climax

Attachments:

- 1) Project Summary

ATTACHMENT 1

Project Summary

1-Dam Abutment Pipeline Replacement Summary

Pipe Alignment:

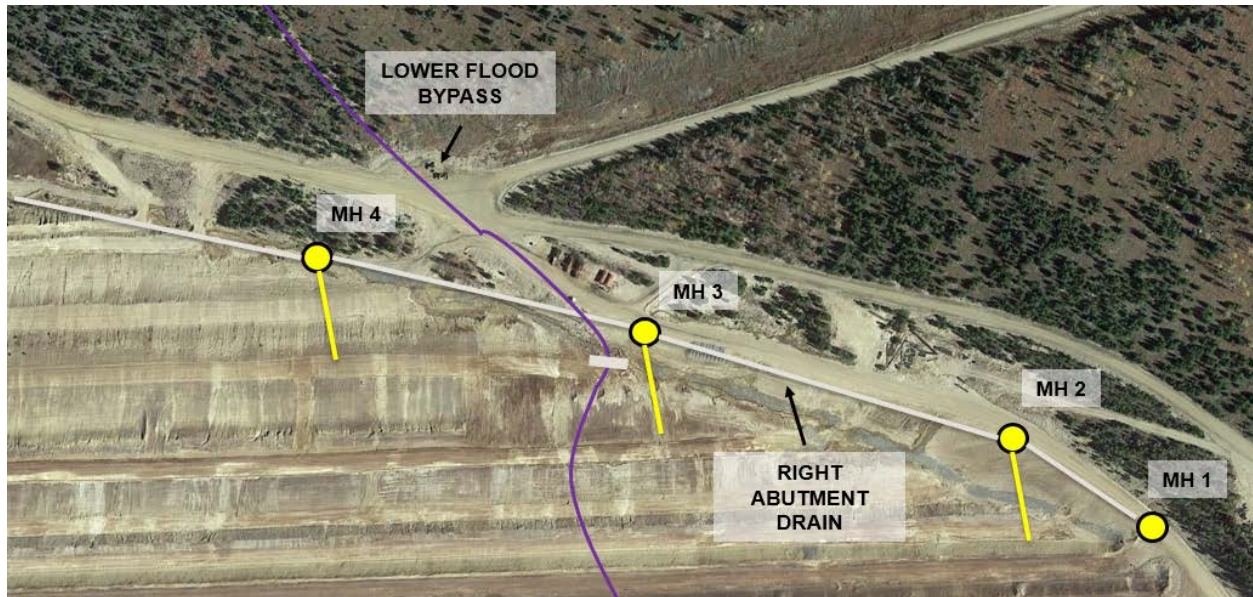


Figure 1. 1 Dam Seepwater Subdrain System Detail (Wheeler, 1978)

- * The letters 'MH' represent manholes
- ** The Lower Flood bypas is abandoned

Current Pipeline Design to the Best of Site Knowledge:

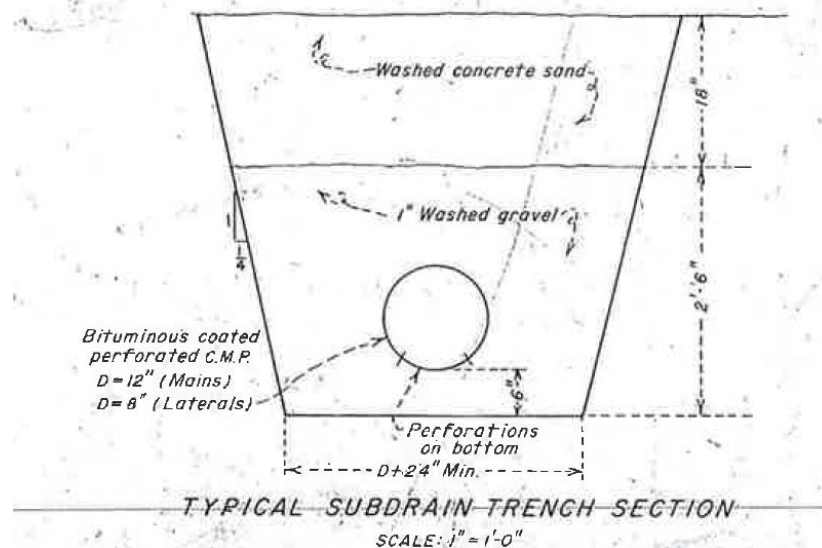


Figure 2. 1 Dam Seepwater Subdrain System Detail (Wheeler, 1978)



Figure 3. Original Seepwater Collection Pipe



Figure 4. Abutment Drain Trench Backfilled With Sand

Planned Replacement:

The proposed repair is to replace the current CMP drain with a Corrugated High-Density Polyethylene (CHDPE) Slit pipe with a reverse filter as shown in the preliminary cross section in Figure 7. The existing pipe would be trenched and removed from the abutment, followed by the installation of select filter material and the new pipe.

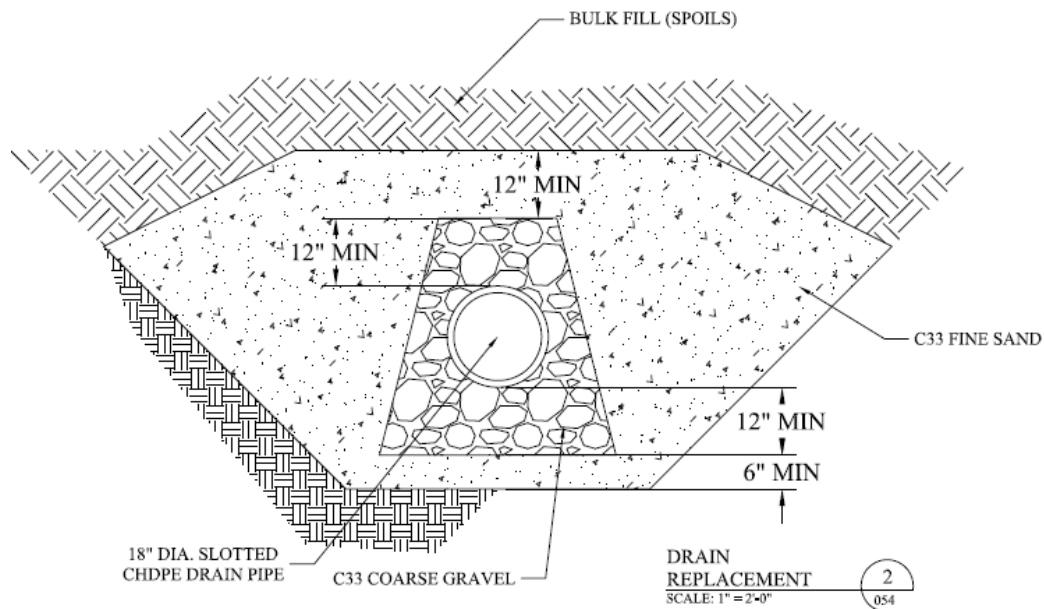


Figure 5. New Abutment Drain Detail

The proposed design would essentially function the same way as the original system from the 1970's, but with updated materials that would not be degraded by the properties of seep water. The Select filter material will be an engineered earth filter held to strict QC standards in order to perform correctly and collect water without plugging with tailing material.