The AVC Quarterly

Your Official Source for News on the Arkansas Valley Conduit

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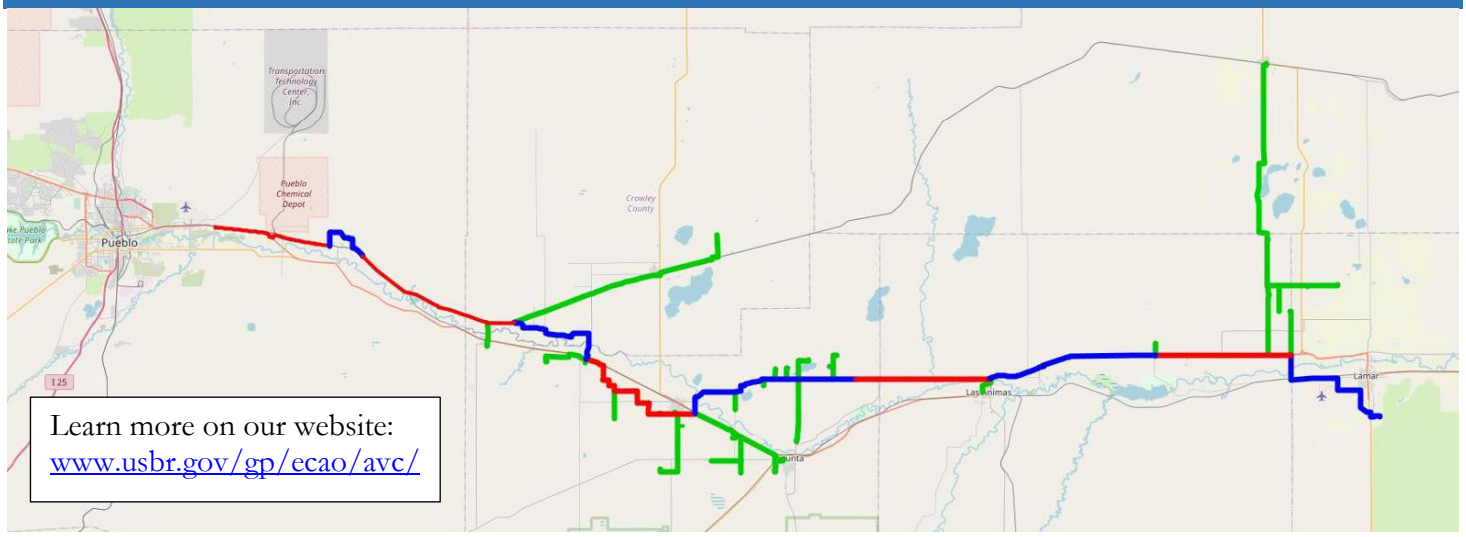

The current planned AVC pipe alignment – red and blue represent reaches of the "trunk line", while green represents "spur and delivery lines

Full Steam Ahead!

This is an exciting time for a project originally authorized in 1962! The Bureau of Reclamation (Reclamation) appropriated **$28 million** in Fiscal Year (FY) 2020 to move the AVC into construction. Additionally, the Southeastern Colorado Water Conservancy District (Southeastern) secured a **$100 million** loan and grant package through the Colorado Water Conservation Board (CWCB) to help fund project design and construction efforts.

A Project Charter and Project Management Plan (PMP) were signed by Reclamation and Southeastern in April 2020. These documents lay out in detail how the project will be managed and executed. The current project schedule has the initial groundbreaking in 2023 and final project completion in 2035. A more detailed project schedule is currently under development. Future newsletters will include more details of the anticipated milestones and major project activities.

Final design is currently underway for the first pipe segment – referred to as the "Boone Reach" – as well as a water treatment facility to be located near Boone which will serve the entire AVC.

Project Changes

You may notice some changes to the project from what was depicted in the past. The most notable change is that the pipeline around the south side of Pueblo has been eliminated. Thanks to some creative thinking, a new approach was developed which instead uses existing infrastructure owned by the Board of Water Works of Pueblo to convey AVC water to a connection point just east of the Pueblo Memorial Airport. This new approach is estimated to reduce the total project cost by as much as 19 percent and shortens the construction schedule by several years.

A Collaborative Approach

Reclamation and Southeastern are breaking new ground with a collaborative approach to constructing the AVC. Reclamation is serving as the lead for the "trunk line", while Southeastern is serving as the lead for the "spur and delivery lines". However, both agencies are involved in and working closely together on all parts of the project. This is really an exciting and innovative approach for a Federal project!

BUREAU OF RECLAMATION

Southeastern Colorado Water Conservancy District

AVC Geological Investigations

Trenton Lewis, Geologist, Bureau of Reclamation

Geological investigations are made to determine those geologic, seismologic, and soils conditions that affect the safety, cost effectiveness, design, and execution of a proposed engineering project.

View of a Gus Pech drill rig, rig tender truck, F550 crew truck and geology passenger vehicle on a typical set up for a drill site.

The task and character of geological investigations differ depending on the stage of the development of an engineering project, on the importance of the designed engineering work, on the geological structure and on the state of basic geological investigation of the project area. The investigation should produce a reliable basis for the development of the project, the plans, budget and working schedule for construction.

Geologic conditions at a site are a major influence on the environmental impact and impact mitigation design, and therefore a primary portion of geological investigations is to observe and report potential conditions relating to environmental impact.

Investigations performed to determine the geologic setting of the project include: the geologic, seismologic, and soil conditions that influence selection of the project site; the characteristics of the foundation soils and rocks; geotechnical conditions which influence project safety, design, and construction; critical geomorphic processes; and sources of construction materials. A close relationship exists between the geologic sciences and other physical sciences used in the determination of project environmental impact and mitigation of that impact. Those individuals performing geotechnical investigations are among the first to assess the physical setting of a project.

Insufficient geotechnical investigations, faulty interpretation of results, or failure to portray results in a clearly understandable manner may contribute to inappropriate designs, delays in construction schedules, costly construction modifications, use of substandard borrow material, environmental damage to the site, postconstruction remedial work, and even failure of a structure and subsequent litigation.

Geological investigations and subsequent reports are an essential part of all civil engineering and design projects. The Arkansas Valley Conduit project is primarily a pipeline project with associated infrastructure. Requiring geologic investigations for the final design and installation of the pipeline and for foundation characterization for associated infrastructure.

A buried pipeline is a structure that incorporates both the properties of the pipe and the properties of the soil surrounding the pipe. The structural design of a pipeline is based on certain soil conditions, and construction control is important to ensure these conditions are met. Proper soil support of the pipe is critical to the performance of all types of pipe, and proper inspection of pipe installation is essential in obtaining the required support.

Typical excavated test pit.

The main components of the currently proposed geologic investigations for the Arkansas Valley Conduit project rely on the advancement of drill holes and test pits to allow for characterization of the foundation and materials that will be encountered in the construction of the project. The characterization is further supplemented with a suite of field and laboratory testing. This information along with surface geologic mapping and other surveys are intended to provide the required engineering geologic information for final design of the pipeline and associated infrastructure.

The People of AVC

Each issue of this newsletter, we'd like to introduce you to some of the faces working to make this project a reality! We will start this first edition with our Project Sponsors. These individuals provide leadership guidance and ensure the Project Management Team has the resources to execute effectively.

Our Project Sponsors are Jeffrey Rieker for Reclamation and James Broderick for Southeastern. Let's learn a bit about each of them!

Jeffrey "Jeff" Rieker, P.E., Ph.D., is the Area Manager for the Eastern Colorado Area Office of the Bureau of Reclamation. In this capacity he oversees Reclamation's two major water supply projects on Colorado's front range: the Colorado Big-Thompson Project and the Fryingpan-Arkansas Project. Jeff began his career with Reclamation in 1999 as a hydraulic engineer in Denver. Since that time, he has overseen a variety of water resource planning and management issues for Reclamation in Carson City and Sacramento, as well as Washington D.C. where he served as the Mid-Pacific Region's liaison and representative in the Commissioner's Office. Most recently he was the Operations Manager for Reclamation's Central Valley Operations Office, where he was responsible for the day-to-day water and power operations of Reclamation's Central Valley Project. Jeff holds a bachelor's degree in Civil Engineering from the Missouri University of Science and Technology, a master's degree in Civil Engineering with an emphasis in Water Resources Planning and Management from Colorado State University, and a Ph.D. in the same subject from Colorado State University. Jeff is also a registered Professional Engineer in the State of Nevada.

James "Jim" Broderick has a master's degree specializing in public management and environmental resource planning, a bachelor's degree in public administration and policy in environmental science, biology, chemistry, economics, and political science. He has been executive director for the Southeastern Colorado Water Conservancy District since November 2002. Prior to joining the District, he was in Business Administration for Tucson Water. He has served as president of the Colorado River Water Users Association, Colorado Water Congress, and the Arkansas Basin Roundtable.

Project Objectives

The AVC Project Charter was finalized and signed by both Reclamation and Southeastern in April 2020. The Charter – among other things – established the following objectives for execution of the AVC project:

1. **Satisfy authorization:** Fully satisfy AVC authorization as described in Public Law 87-590, as amended.
2. **Timeliness:** Complete the project as quickly as possible without compromising safety or quality. Deliver AVC water to all participants by the end of 2035.
3. **Enforcement order resolution:** Deliver water which will support compliance with mandatory National Primary Drinking Water Regulations as well as non-mandatory National Secondary Drinking Water Regulations set by the Environmental Protection Agency (EPA) and resolve Colorado Department of Public Health and Environment (CDPHE) enforcement orders.
4. **Effective project management**: Complete the project within approved scope, schedule, and budget. Manage the project in accordance with all applicable agreements.
5. **Quality:** Deliver an end-product which meets the quality standards as defined in approved specifications and drawings as well as Reclamation and industry standards and best practices.
6. **Safety:** Complete the Project without any lost time accidents and without any negative safety impacts to the public. Utilize engineering controls wherever

possible to eliminate safety hazards. Ensure safety is addressed in all specifications and is considered as an evaluation factor in all construction contract awards.

7. **Cultural/Environmental:** Uphold all cultural and environmental commitments and agreements. Minimize, mitigate, and/or eliminate any adverse impacts.
8. **Transfer to O&M:** Ensure a smooth transfer of operation and maintenance (O&M) responsibilities upon completion of construction.

Going Forward

Our plan is to produce this newsletter quarterly for the duration of AVC construction. If you have any questions, comments, concerns, etc., please don't hestitate to reach out to one of our Project Managers (contact information below). We are excited to be moving forward with this project and will strive to be as transparent as possible and keep all interested parties in the loop as the project progresses.

Landowners

If you are a landowner along the planned pipe alignment, you may be hearing from us in the coming weeks, months, and years (if you haven't already). In a future edition of this newsletter, we will describe in more detail the process for Federal Government land acquisitions which will apply to Reclamation's part of the AVC. If you have any questions or concerns in the meantime, please don't hesistate to reach out to us!

We will be trying to work within publically-owned right of ways (such as along state and county-owned roads) to the maximum extent possible to limit impact on private landowners. However, this project will require both Reclamation and Southeastern to acquire interests on privately owned parcels (mostly via easements).

Project Managers – Contact Information

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More information is available on the AVC website:
www.usbr.gov/gp/ecao/avc/

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