



Friends of the Cheat

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**December 10, 2022**

**To: Mr. Travis Long, Director  
Technical Support Division  
West Virginia Division of Highways  
1334 Smith Street  
Charleston, West Virginia 25301**

**Subject: Corridor H – Parsons to Davis Comments**

Mr. Long,

Thank you for providing the opportunity to submit comments in regards to the Corridor H – Parsons to Davis WVDOH project.

Friends of the Cheat (FOC) is a non-profit organization formed in 1994 whose mission is to “restore, preserve, and promote the outstanding natural qualities of the Cheat River watershed.” Based in Kingwood, West Virginia, our organization has worked for 28 years with state, federal, and private partners to vastly improve the water quality conditions of the Cheat River, namely from the harmful effects of acid mine drainage. This effort includes millions of dollars of investments to create and manage acid mine drainage treatment systems in the watershed. Part of this success is attributed to the quality of water we receive from the Cheat’s major tributaries – the Shavers Fork, Dry Fork and Blackwater River. Any negative impacts to the water quality in these tributaries have real and tangible effects to the health of the Cheat River main stem. The Cheat River provides clean drinking water supply to tens of thousands of West Virginians, as well as safe water for recreation.

As such, our organization has serious concerns about the development of Corridor H from Parsons to Davis, in particular for the potential for the Revised Original Preferred Alternative (ROPA) to create additional acid drainage. The ROPA would travel extensively through the Upper Freeport Coal seam, which is the same coal seam that, when exposed to air and water creates acid mine drainage pollution. Mining of this coal seam has created serious impacts to the tributaries of the lower Cheat that our organization and state agencies have worked to restore for decades.

Within the 2007 Supplemental Final Environmental Impact Statement (SFEIS), the SFEIS states the following:

“Specific avoidance, minimization, and mitigation measures regarding subsidence are detailed in the 1996 Corridor H FEIS (p.III-237)” and “the potential for acid mine drainage as a result of project construction and appropriate avoidance, minimization, and

mitigation measures are detailed in the 1996 Corridor H FEIS, Volume III Mitigation Document (pp. 22-25).”

Additionally, within the 1996 Final Environmental Impact Statement (FEIS), the document states:

“Mitigation measures taken during construction through active or reclaimed-non-reclaimed strip mined areas would include the proper treatment or removal of waste deposits and/or any acidic materials that would contribute to the formation of acid mine drainage...**Measures to avoid exposure of coal seams would be considered in final design.** The exact depth to the coal seam would be determined through the use of exploration borings into underlying rock stratum. **Adjustments to the finished grade of the proposed highway to an elevation above that of the coal seam could then be made. When avoidance is not possible, exploration borings would be used to determine the exact depth, thickness, and slope of the coal seam in relation to the local groundwater table...**If the coal seam is located below the local groundwater table and drainage is visible from the seam, then a chemical analysis of the groundwater would be performed to determine whether the groundwater exhibits the typical chemical characteristics of acid mine drainage. **If found to contain acid mine drainage, then the proper diversion and treatment of the acid mine drainage would be executed so as not to degrade the quality of surface waters down gradient of the proposed highway cut.**”

FOC argues that these considerations (exploration borings) should be considered in earlier phases of design, and not just final design. In waiting until final design to consider exposure to coal seams, it makes it less likely that WVDOH could avoid these impacts as considerable time and funds would have been invested to move design forward to completion up to that point. Taking into consideration exposure to coal seams and exploration borings early on in the design phase would lead to a more informed final design and potentially less impacts to water quality. FOC has decades in experience in acid mine drainage treatment and can confirm that it is extremely costly. Factoring in this information early on will prove cost effective for WVDOH.

Additionally, in regards to the above statements from the SFEIS and FEIS, FOC presents the following questions:

1. If acid mine drainage is produced during or after construction and subsequently treated, to what water quality standards will treatment be held to? What entity will monitor to ensure that WVDOH is within compliance and at what frequency? Across the state, NPDES mining permits must treat acid mine drainage so that the effluent leaving the site meets 47CSR2 – Requirements Governing Water Quality Standards for West Virginia, in particular for pH, aluminum, and iron. FOC advocates that WVDOH, its agents, and contractors, be held to the same standards for this project.
2. Adequately treating acid mine drainage to water quality standards requires substantial physical space, up to multiple acres, to treat sites that may produce acid drainage flows as small as 50 gallons per minute of highly acidic water. How will WVDOH ensure that

adequate treatment of acid mine drainage takes place given the limitations and constraints of the surrounding topography?

3. Once acid mine drainage is exposed, it must be treated for years, if not decades, in order to avoid serious impacts to water quality down-gradient. If WVDOH exposes sources of acid mine drainage through construction, will the agency pay for treatment, including site maintenance, through and after construction of Corridor H? What entity will ensure treatment continues into perpetuity? What sources of funding with WVDOH use to fund acid mine drainage treatment after construction of Corridor H is complete?
4. Will the WVDOH include measures to avoid exposure of coal seams and exploration borings in earlier phases of design, so as to avoid exposure of acid mine drainage as much as feasibly possible, as FOC suggests?

FOC also reviewed the guidance in the 1996 Corridor H FEIS, Volume III Mitigation Document for acid drainage. The Mitigation Document states:

**“A routine component of the final engineering phase is to conduct geotechnical borings to determine the geological characteristics along the alignment. In areas of high acid drainage probability, these borings will be analyzed to more accurately determine the geological formations’ potential for acid formation.”**

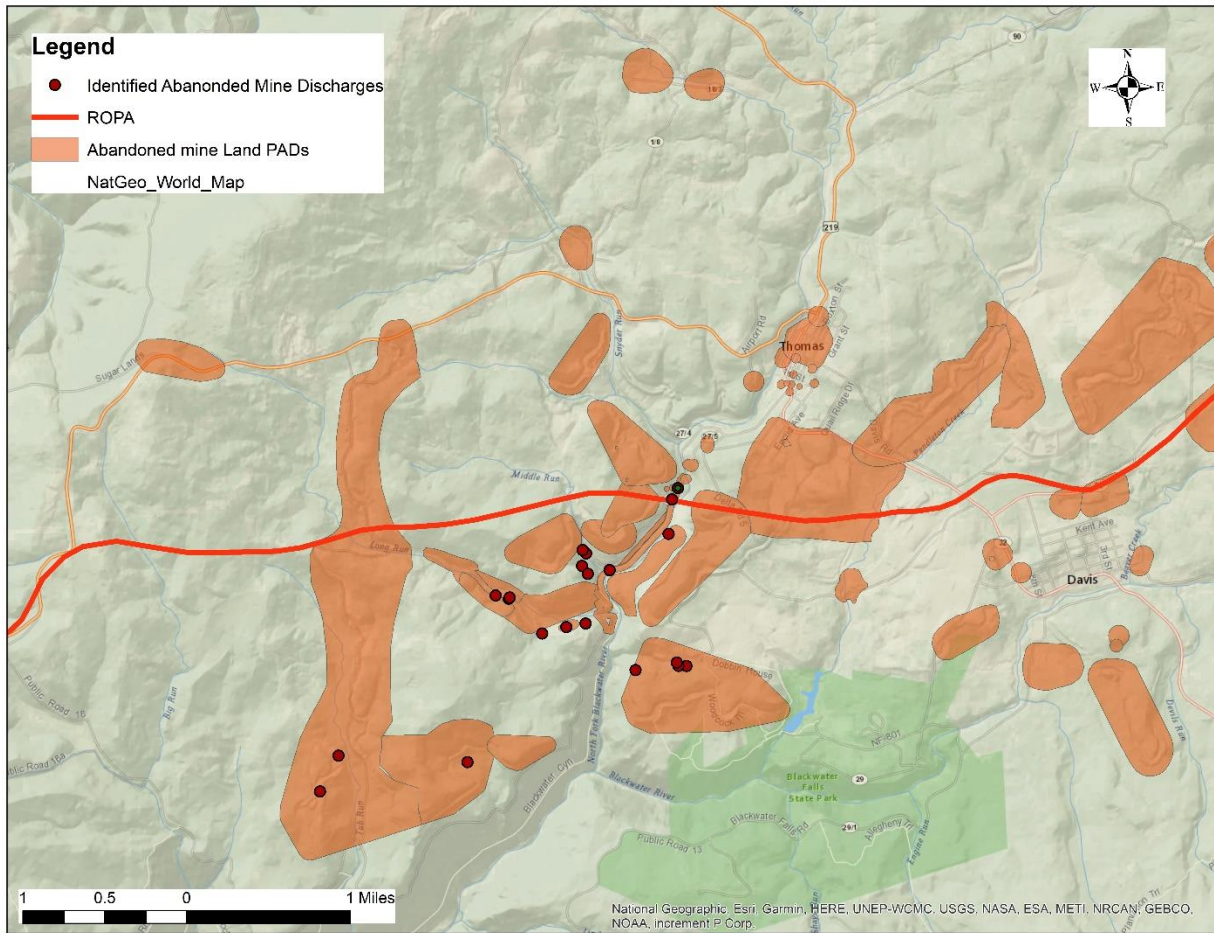
As stated above, FOC strongly urges the WVDOH to conduct geotechnical borings in early design phases to avoid exposing acid drainage during construction, rather than waiting until the final phase of design. From our 20+ years of experience in constructing acid mine drainage treatment sites, waiting until the final phase of design to perform important geotechnical work that will inform the severity of acid drainage can significantly increase the cost of the project, result in the re-design of major facets of the proposed work, or most significantly: result in release of untreated acid drainage to the environment.

The Mitigation Document also stated the following:

**“In order to predict the possible levels of acidity and chemical characteristics of drainage that may result from construction of Corridor H, additional investigations of acid drainage were conducted. A field survey of acid drainage areas along corridor H from Buckhannon WV to Elkins, WV was carried out on March 23, 1995...The drainage from the natural formations had limited acidity and iron concentrations. This type of drainage is what will be expected from the formations along the proposed alignment for the remainder of Corridor H.”**

FOC does not support the statement that the route from Buckhannon WV to Elkins, WV is comparable to the route proposed from Parsons, WV to Davis, WV in regard to anticipated drainage types and acid load severity. FOC has reviewed abandoned mine land discharge data from the WVDEP Final Cheat Metal pH TMDL excel sheet (found at <https://dep.wv.gov/WWE/watershed/TMDL/grpa/Pages/default.aspx>).

When plotting the ROPA in context to the 25 existing identified abandoned mine land seeps (Figure 1), it is clear that the route will intersect, impact, and/or exacerbate these seeps and has the potential to unearth additional sources of acid drainage as excavation work is implemented.



**Figure 1.** Map highlighting extensive abandoned mine land Problem Area Descriptions (PADs) as well as identified abandoned mine discharges in context to the ROPA.

When comparing the limited data collected from the 1995 study from Buckhannon WV to Elkins, WV to the data in the WVDEP Final Cheat Metal pH TMDL excel sheet for the area directly adjacent to the Parsons – Davis ROPA, the flows associated with the known AML discharges in the Parsons - Davis area are significantly higher, with the largest flow associated contributing over 4,400 gallons per minute of acidic water. Flows associated with abandoned mine discharges in the Parsons – Davis section average 238 gallons per minute, while the flows listed in the 1995 study from Buckhannon – Elkins average 25 gallons per minute. Of the 25 identified abandoned mine discharges in the Thomas area, 14 have pH levels below 4.0, contributing acidity levels  $\geq 1,000$  times greater than pH 7 (neutral) water. It is extremely likely WVDOH will encounter numerous sources of acid drainage during construction if the ROPA for Corridor H is constructed.

Upon review of existing abandoned mine discharge data and Abandoned Mine Land PADs, the “Northern route” - Alternative 1D, may be less impactful and less likely to result in additional formation of acid drainage through the construction of Corridor H. However, Alternative 1D also traverses through the Upper Freeport Coal Seam. Geotechnical borings should be collected and analyzed for both routes.

In regard to the above, FOC proposes the following:

1. WVDOH, with guidance from Acid Mine Drainage specialists from WVDEP and/or private consultants, conducts several geotechnical borings along the ROPA from Parsons – Davis at several locations to more accurately determine the severity of acid drainage anticipated from construction. FOC also proposes WVDOH conduct an identical study along the “Northern route” 1D and compare results.
2. After collecting and analyzing the results from the geotechnical study, WVDOH works with acid drainage specialists and WVDEP to determine an anticipated cost associated with long term treatment (greater than the lifespan of construction of Corridor H, into perpetuity) of any acid drainage produced from the ROPA and from “Northern route” 1D.
3. WVDOH uses the information described above to make an informed decision in regards to which route to develop to final design.
4. If the route chosen still will result in the creation of acid drainage, WVDOH secures all necessary funding for the acid drainage treatment into perpetuity prior to construction of Corridor H.

In summary, FOC is very concerned about the potential for this project, as it stands, to unearth new sources of acid drainage and exacerbate existing sources of acid drainage in the Blackwater River watershed, which will ultimately have negative impacts to the Cheat River watershed. If the water quality of the Blackwater River becomes further degraded through acidification, it will reduce the buffering capacity of the Shavers Fork and Dry Fork Rivers and thus reduce the quality of the Cheat River. Tens of millions of dollars have been spent in the Cheat River to restore water quality, and our organization urges WVDOH to take the threat of creating additional acid drainage seriously so as not to undue our decades of work.

Additionally, the mitigation measures listed for management are concerning and limited, with only one page of actions described in the 1996 Corridor H FEIS, Volume III Mitigation Document. There is no contingency plan or efforts listed or described if acid drainage is encountered on a large scale, which we have witnessed firsthand in Muddy Creek in Preston County. FOC urges WVDOH to consult with WVDEP and acid mine drainage specialists to determine which route is least impactful to develop to final design and to create detailed contingency plans for if/when acid drainage is encountered at a variety of magnitudes.

Sincerely,

Amanda Pitzer

