

In Search of the Mystery Mill on Northwest Branch

"Each watershed . . . seems to have its own undiscovered "mystery" mill site, and hikers are encouraged to seek these out when they are located on parkland."

Michael Dwyer, *Montgomery County Mills A Field Guide*, 2012

Preface Notes

The author is indebted to Montgomery Parks, the Neighbors of Northwest Branch, and all those that work to preserve and restore all of our parks and natural water systems.

The photos and diagrams are by the author. References are included, however not all of them are primary sources. All fieldwork was strictly visual.

Northwest Branch is M-NCPPC Montgomery Parks property and it is against the law to use a metal detector or dig into the surface of Park Property, or to “collect” artifacts. Here is a link to Montgomery Parks Rules and Regulations:

<https://montgomeryparks.org/wp-content/uploads/2023/02/park-rules-regulations-final-adopted-rem.pdf>.

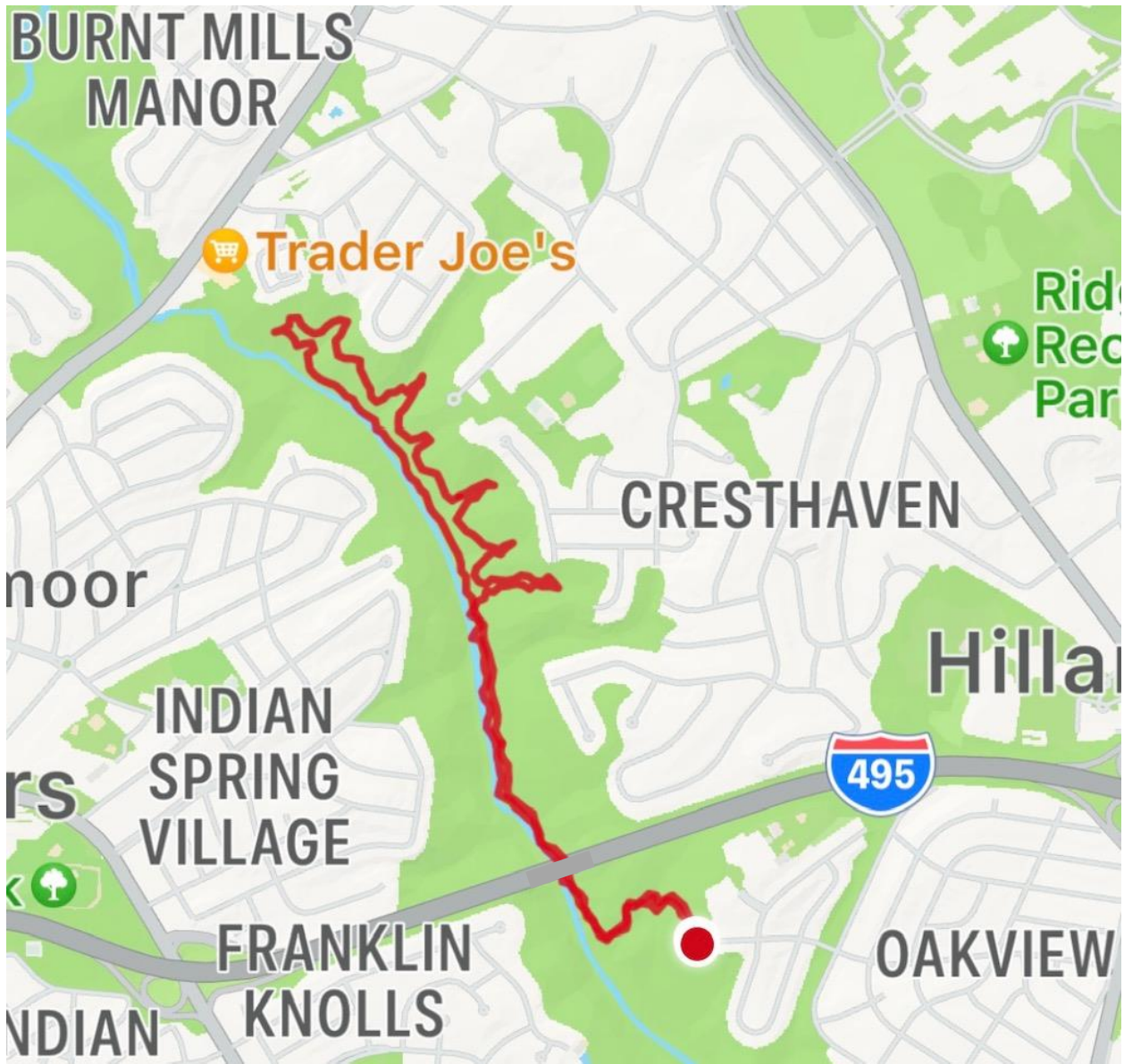
The Montgomery Parks Archaeologists are interested in what people find in the parks. If you find something, note the location, take a picture, and contact Montgomery Parks Archaeologists:

<https://montgomeryparks.org/activities/history-in-the-parks/archaeology/>

Should you want to follow in my steps looking at the traces of the old mill sites, please look only, enjoy nature, sketch, take pictures, but otherwise leave everything intact for the professionals.

My Favorite Hike

For me my go-to hike on Northwest Branch starts at the trail head at the end of Oakview Drive, just inside the Beltway, heading north on the east side to the falls at Colesville Road at Burnt Mills and back. This is a hike I have taken many times over many years along the “big creek”. I have met a lot of fellow neighbors, and their pups too, I love to watch the seasons change, and even listen to the cicadas every 17 years or so. Besides people and nature, in the Fall of 2021, just for fun during my hikes I started noting the manholes that dot the path. Little did I know that this would begin a quest for a Mystery Mill on Northwest Branch.



Screen capture from Map My Walk App

Sanitary Sewer System

Following the path of Northwest Branch is a system of pipes running straight from structure to structure. Each structure is a cement-coated brick-masonry cone with a manhole collar and cover on top, some exposed, some fully buried except for the cover. Find a manhole, and if you have a line of sight to the next one, then you have found the straight path that the sewer pipe follows. The path changes from one side of the creek to the other. Perhaps the designers wanted to avoid the substantial rock outcroppings that periodically dip down from the surrounding topography into the creek bed or perhaps the path was determined based on which side of the Branch was experiencing early suburban neighborhood development. It is hard to imagine the construction effort that was required as it is all but hidden ninety years later.



Sewer Pipe diagonal crossing one mile south of Burnt Mills

There is one such sewer pipe crossing a mile south of Burnt Mills (or 200 yards north of the Beltway) where the pipe itself is visible in the stream bed. On the west bank, right next to the manhole structure at this crossing, is a stone wall perpendicular to the creek.

The “Small Dam”

This stone structure is the remains of a dam. Perhaps it was removed to allow the sewer pipe crossing here. Upstream is a long straight and rather flat portion of the creek. At the dam location there is a natural fall, albeit a small change in the water level. The height of the structure indicates that the impoundment was about 12 to 14 feet deep. Shallow compared to the dam and once fed the Burnt Mills to the north.



Looking upstream, the remains of the “Small Dam” and manhole structure next to it

There are several clues that confirm this wall on the *west side* was part of a dam. There are large depressions in the hillside on the *east side* where stone and or earthen fill was quarried, there is a remnant path part way up the topography on the east side of the creek downstream which might have been the mill race, and upstream on the east side there is a road-path curving uphill that afforded access to the creek and dam. Early maps don't show this road, but they do indicate a house on a small knoll on the hill above. The outline of that house is visible today, as well as the pathway that connected this house back to the area now covered with suburban development.

Maps in the Library of Congress provide confirmation that there was a dam at this location. The dam appears as a small dark line across the stream on maps from 1929¹ and 1932². The maps don't show any associated roads, or mill buildings or mill races. For reference, these maps do show the dam and mill race at Burnt Mills, but not at Adelphi Mill. Earlier maps of Montgomery County don't have enough detail to provide information on when this dam was built. The dam doesn't appear on later maps.

There is precious little room on either side of the stream here for a mill and no remains of one. As the height was low and the mark on the maps very small, I call this the “Small Dam”. I would like

to find out more about this dam especially if there was a mill here. If only there was a book about mills on Northwest Branch . . .



Former roadbed heading uphill just upstream from the Small Dam



Possible location of house on hill above the Small Dam

The Book

For the holidays in 2021 my next-door neighbors gave me the book!

*Montgomery County Mills, A Field Guide*³

The author, Michael Dwyer, organized the book by watercourses, one chapter for each. Chapters cover Seneca Creek (Great Seneca, Little Seneca, and tributaries), Rock Creek, Cabin John Creek, Sligo Creek, and Northwest Branch, as well as eight others.

The Neighbors of Northwest Branch are familiar with the well-known mill locations on Northwest Branch, two of which are included in this book. From north to south, starting with the Old Northwest (Kemp) Mills, where Old Randolph Road once crossed the Branch; then Beall's (Burnt) Mills at Columbia Pike; and finally Rigg's (Adelphi) Mill at Riggs Road (which is in Prince George's County therefore it was not covered, but is dear to my heart as my sister's wedding was held there).

Each mill had an attendant dam and head and tail races, a miller's house, and was located at a bridge crossing the stream. Northwest Branch is spanned by very few bridges, but a location on a well-connected road was critical for bringing grain to the mills from the surrounding fields and for distributing the products of the milling operations.

Of these mills, only Adelphi Mill and the adjacent miller's cottage still exist today. There are furtive remains of the dams and the mill races at both Kemp and Adelphi. At Burnt Mills the construction of the Water Filtration Plant and Reservoir necessitated the removal of the mill dam and millraces and what was left of the mill buildings, though the reservoir dam and natural fall of the creek waters demonstrate why this location was developed as a "mill seat" that operated for over a century, patented (recorded) in 1745 by Samuel Beall.

In the chapter on mills on Northwest Branch, Dwyer introduces a mystery mill in two citations.

- Montgomery County Tax Assessment of 1783 (Maryland State Chancery Court Records, Liber ES 54 folio 196) names Charles Chaney as the owner of a property named "*Hard Struggle*" and describes his mill as "*old*" (page 53).
- Beall's for-sale notice offering his mills and lands at the Burnt Mills location "*a very valuable Estate*" which was published in the Maryland Journal and Baltimore Advertiser in 1784. This advert specifically mentions another mill, "*a Grist-Mill and Fifty Acres of Land . . . about a mile and a half below, on the same stream*" [Northwest Branch]. The for-sale notice says that it was formerly owned by Charles Chaney (page 55).

Dam Location and Construction

A grist mill needs a dam for hydropower. Dams are located at natural falls in a stream profile where the dam increases the potential work of the water and the dam can be founded on firm bedrock.

Falls exist where the natural erosive action of the stream carves down and reaches a ridge or bench in the natural bedrock. The bedrock prevents or slows the action of the water. Downstream from the exposed bedrock the stream continues to wear into the topography gradually lowering the stream bed and therefore heightening the drop at the falls. Often the ridge of exposed bedrock is reflected in the topography on either side of the stream as exposed rock faces.

In the 18th century dams were constructed by building two stone retaining walls with earthen fill in between, preferably including clay-type soils. Clay soils are very sticky and expand when wet and naturally impede the passage of water. Sometimes timber cribbing was constructed first as support for the retaining walls. The distance between the walls is determined by the desired height. The dam in cross-section is a prism, wider at the bottom than the top, with sloped or battered sides.

Grist Mill Operation

A grist mill takes water from the dammed creek or river and runs it through a sluice to the top or bottom of a large wheel, mounted in the side of the mill building, and outfitted with a series of buckets or paddles to move the wheel by the passage of the water.

The force of the spinning wheel is used to rotate a large horizontal axel extending into the mill building. This in turn, through gears set at 90 degrees, rotates a large vertical axel which rotates the horizontal grooved mill stone over a stationary stone to grind the corn or wheat to make meal or flour.

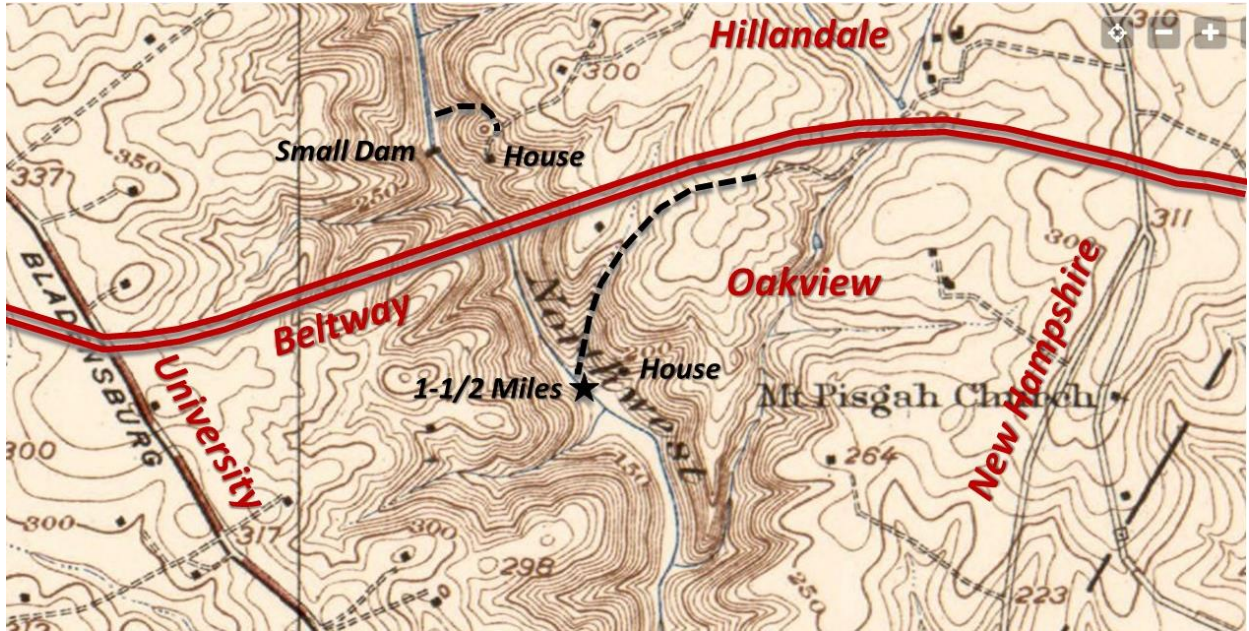
The dam at a grist mill requires two controllable features. The first is at the head stock where the water was drawn off the dam and conveyed through the mill race. The second is a relief gate, a manually operated opening at the top of the dam, that allows the miller to set the desired head, and to let excess water pass over the dam.

To identify the Mystery Mill I went looking for evidence for the following: the dam, which might take the form of areas where materials were quarried; the mill race, which might be a depression or channel visible in the topography; the foundations for the mill, which may be a rectangular outline; the slot for the water wheel; metal debris of any kind that haven't completely rusted away. The holy grail would be to find a mill stone!

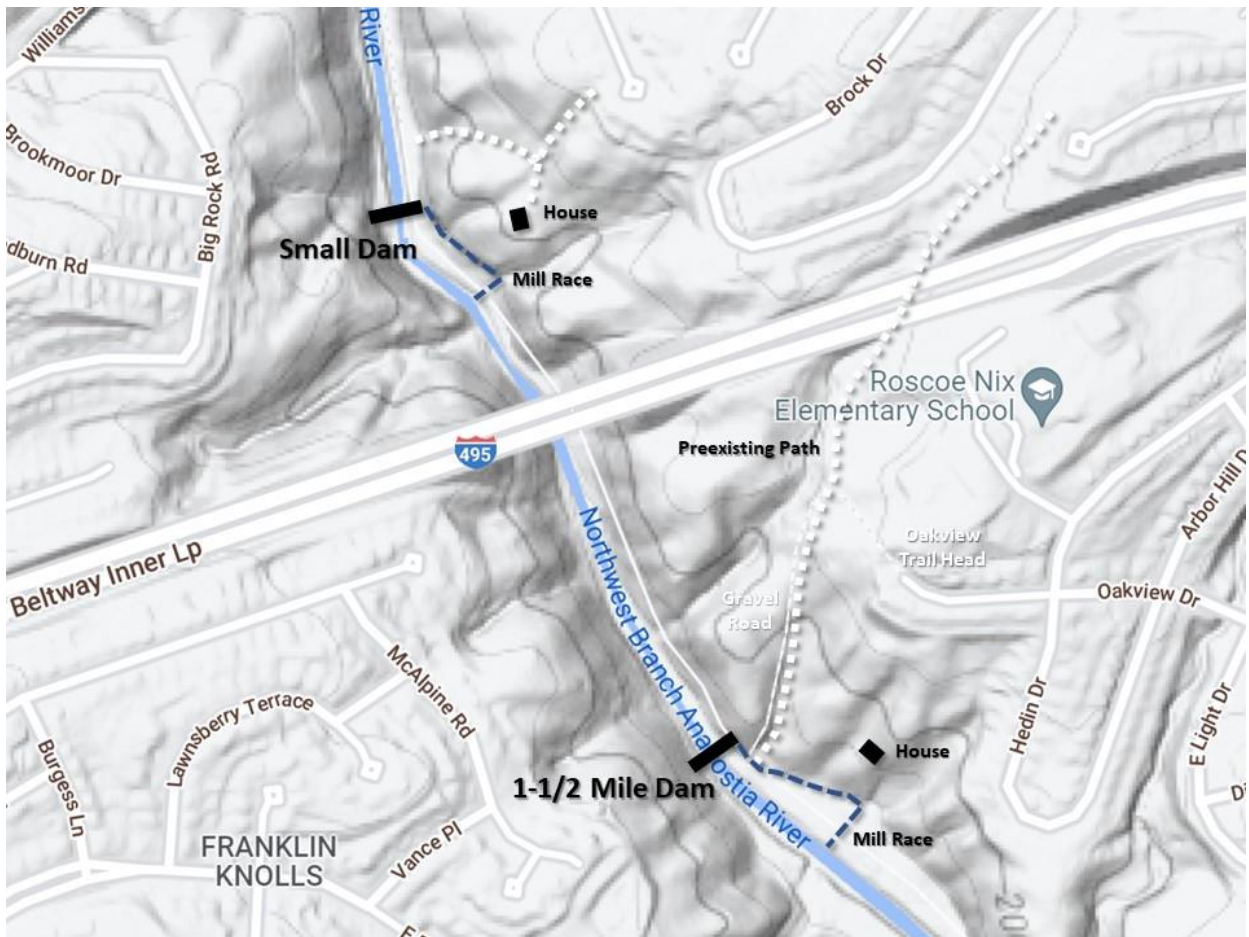
The Hard Struggle Tract and Mill

Hike downstream on the Northwest Branch from Burnt Mills and at the *one-mile* mark you will be at the location of the former Small Dam. Continue for *another half-mile* to where Beall said Chaney's Mill was located and you will be at the start of the asphalt pathway and at the bottom of the gravel road down from the Trail Head and Park maintenance entrance at the end of Oakview Drive.

Before exploring these locations, perhaps Beall was incorrect, and the Hard Struggle was further downstream. One possibility is that he was referring to Rigg's Mill, which is three miles from Burnt Mills and it is a half-mile into Prince George's County. This is twice as far as the referenced distance and Rigg's Mill would not appear in a Montgomery County Tax Assessment. By all accounts Rigg's Mill can't be Chaney's "Old" Mill.



1929 Map with added notations, old/former in black, modern in red



Comparison of the Two Dam Locations on Google topography map

Another possible location for Chaney's "Old" Mill is at the only other bridge over the stream south of Burnt Mills. The only 18th or 19th century crossing of Northwest Branch between Columbia Pike and Riggs Road is where Blair Road coming out of Sligo (Silver Spring) bridged the creek. This is now called Piney Branch Road which joins New Hampshire Avenue today at side-by-side bridges. This crossing is more than two miles from Burnt Mills and *just outside* of Montgomery County. There are no references to a mill at this crossing on any map in the Library of Congress. There are no remains of a dam or mill race, and the creek is very flat in this area. No maps show a dam or reference to a mill at this location. The Blair Road (Piney Branch) crossing is not a likely location for Chaney's "Old" Mill.

Returning to Beall's "a mile and a half" distance and assuming that it was accurately measured as *the walking distance* along the Branch, then the Hard Struggle Mill was, as mentioned, where the gravel road down from Oakview Drive to the stream ends and the asphalt trail begins. This service road was paved with wood planks and gravel after Hurricane Agnes.

There are no map references to a mill or dam or structure at or roads to this location. There is a symbol for a house on the slope immediately above on the maps from 1929¹ and 1932². Surveying the area today the stream bank is quite wide providing plenty of room for a mill. Just upstream there is a natural fall of several feet in the stream, and the gorge is very narrow there so a dam at that location could have been economical to construct. There are no visible remains of a bridge or dam or mill structure. However, the gravel service path provides evidence to this being a potential location of the Mystery Mill.

The Path

In 1972 Hurricane Agnes devastated Maryland when the storm stalled over our portion of the East Coast for several days. Northwest Branch flooded with waters over 24 feet above the natural level of the creek. The flooding damaged the sewer system and stream banks. Shortly thereafter WSSC improved the path from the end of Oakview Drive down to the Branch to effect the repair of the sanitary sewer and restoration of the stream banks.

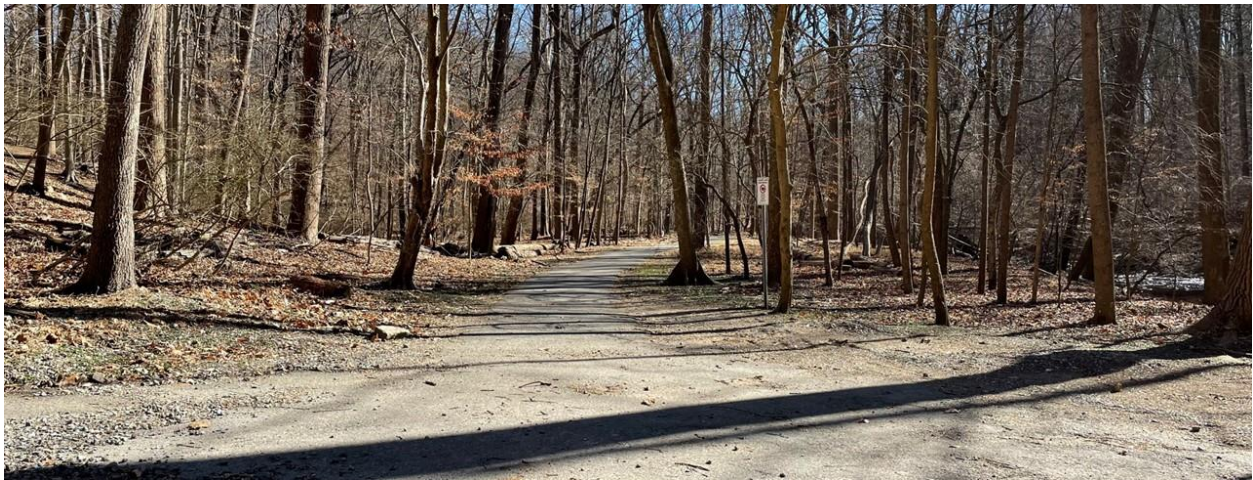
This service road *followed a pre-existing path*. Those of us who played in these woods in the 1960s knew well of the rusty wire fence extending from tree to tree defining the long straight portion of this path. The wires had been in place for so long that each one was subsumed by tree growth. The path may well have been used for the installation of the sewer system. The right angle-turn that the gravel road makes near the top of the hill to connect to Oakview Drive was made by WSSC in 1972.

The fence wire no longer exists in situ (outside of what is inaccessible inside of the remaining trees) however this sample is similar.





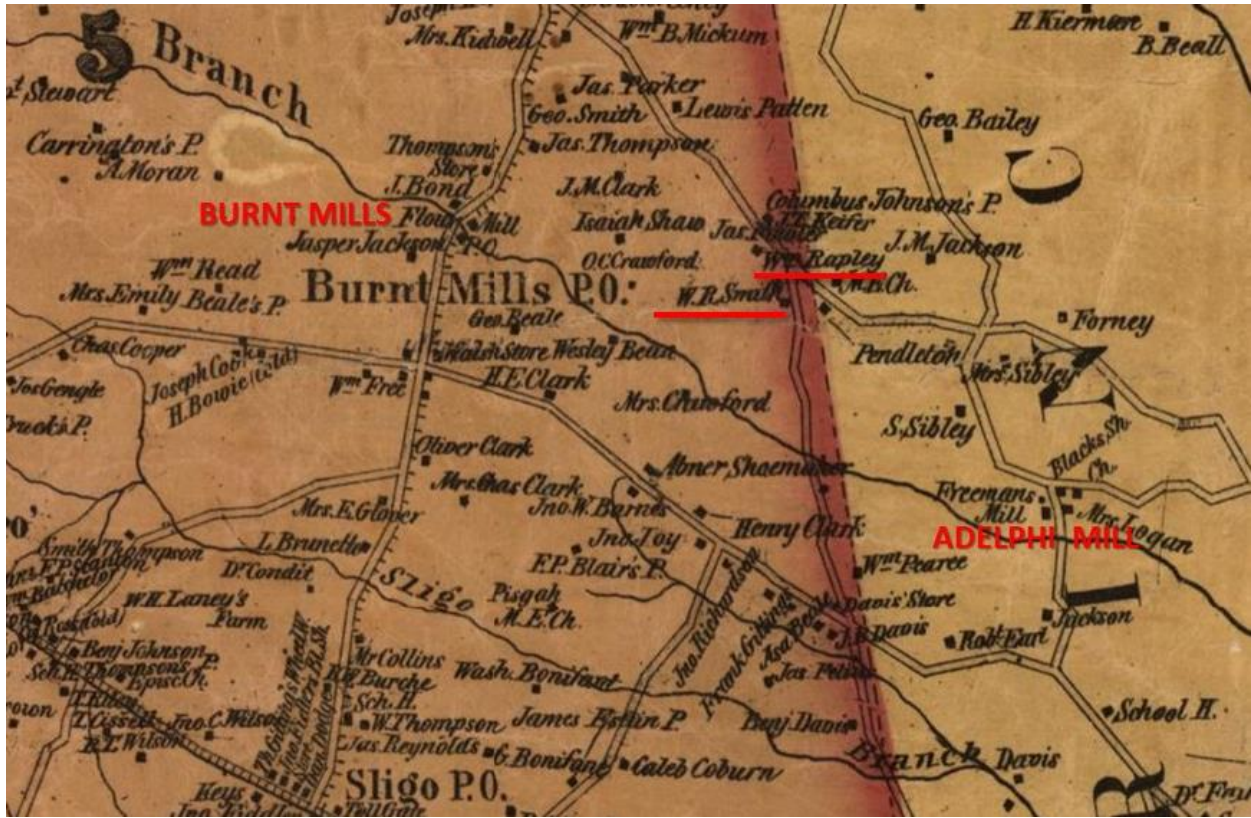
Path down from Trail Head at Oakview Drive with former wire fence added digitally



Start of the asphalt path south / downstream along NWB with the water on the right

People and Properties

Charles Cheney was born very early in the 18th century and was “an early colonial settler of Maryland”. Chaney sold “Hard Struggle” to William Beall in either 1740 or 1750 (conflicting sources or conveyed in two separate actions). Sources state that “Hard Struggle” was later called “Hills and Dales”⁴. This is surely the origin of the name of the community at the intersection of New Hampshire Avenue and Powder Mill Road – *Hillandale*. These lands are immediately east of the stretch of Northwest Branch where the Small Dam is located.



Portion of 1865 Map of Montgomery County, with name/place highlights added

The following history excerpts were found at the referenced websites.

- *The Hillandale area started with Indian settlers amid agricultural lands. European settlers made Hillandale their home in the 17th century. Early settlers were deeded land and upon their death the land was given to their heirs. One parcel of land was named Hills and Dales.⁵*
- *Late in the Civil War, a Mr. W.W. Rapley purchased some 382 acres of forest land, which covered all of present day Oakview from South Dilston Road to what are now the Xaverian College [National Labor College] grounds. The land was gradually cleared during the latter half of the nineteenth century and planted with crops of wheat, corn, hay and grain. A large house, surrounded by magnificent oaks, was built in the area of Cahart Place [a road in Oakview].*

The land south of the Rapley Estates was part of a track called “Hard Struggle” and had been purchased late in the 19th century by Mr. W.R. Smith. A Scotsman of the Cameron clan, he named the area “Cameronia” and built a house which was burned several years ago.⁶

- *Turn of the 20th Century the local area contains small farms, two country churches and three large country estate-farms owned by wealthy Washingtonians. One estate boasts an early golf course and a dam on the Northwest Branch that provides both boating and terrapins.⁷*

Each of these references to persons and estates can be verified. The Rapley Estate is well documented, including photos of the mansion, and its exact location is known through many map notations. The Martenet and Bond Map of Montgomery County⁸, 1865, labels the homes of both W.W. Rapley and for W.R. Smith in the area of Oakview. The home of W.R. Smith is south of Rapley's and closer to Northwest Branch.

These histories put "Hard Struggle" on the east side of the Northwest Branch and north of Piney Branch bridge crossing and west of New Hampshire Avenue. Both the Small Dam and the Oakview locations are within the area of Chaney's "Hard Struggle" tract that became "Hills and Dales". Maps^{1,2,8} show the Rapley and Smith houses in the area that the histories^{5,6,7} call "Hard Struggle" and "Hills and Dales", which is the area of Hillandale and Oakview today.

Prime Locations for the Mystery Mill

Each location has tentative evidence, and it is possible that there was development at each location.

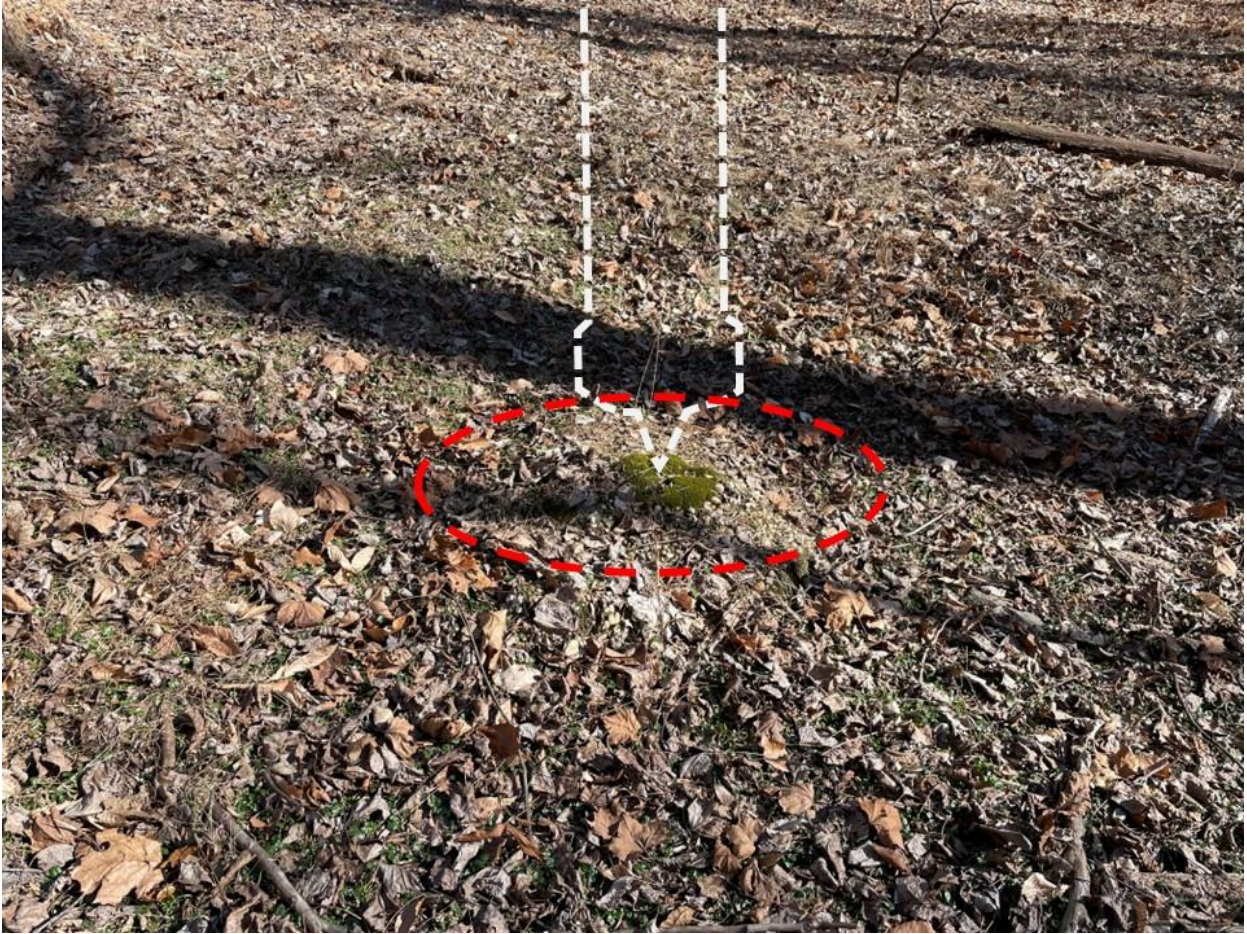
The Small Dam had a steep access road, a house above, a possible mill race, but very little room for a mill. The access road is *upstream* from the dam.

At the Oakview, or the "mile and a half" site, there is an access road and much more space for a mill. Maps^{1,2} show a house on the hillside above this location. At this location there is a foundation that might have been associated with a mill, and depressions in the landscape that might be the mill race.

It is easy to image a dam at either location containing "terrapins". However, not so easy to imagine a mill pond large enough for "boating"⁷.



Looking upstream / north at the "mile and a half" location with suggested dam level



Possible foundation / pivot for vertical axel, 4' diameter, at the "mile and a half" location



Possible mill race and flow direction at "mile and a half" location

Chaney's "Old Mill" on his "Hard Struggle" tract could have been at the "Small Dam" or it could have been at Beall's "mile and a half" / Oakview location. More fieldwork and more research are needed. The Mystery Mill on Northwest Branch represents more of the past to be uncovered, and more reasons to keep hiking the "big creek".

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About the Author

The author grew up next to Northwest Branch. After many adult years away, during which time he earned an architectural degree from Temple University and studied archeology in Italy with the eminent archaeologist Baldassare Conticello, Superintendent of Pompeii and Herculaneum, he returned to the same home overlooking the "big creek" in 2014.

References

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