

**Albemarle County Planning Commission
FINAL Minutes June 1, 2021**

The Albemarle County Planning Commission held a public hearing on Tuesday, June 1, 2021 at 6:00 p.m.

Members attending were Julian Bivins, Chair; Karen Firehock, Vice-Chair; Rick Randolph; Corey Clayborne; Tim Keller; and Luis Carrazana, UVA representative.

Members absent: Daniel Bailey and Jennie More.

Other officials present were Charles Rapp, Director of Planning; Andy Herrick, County Attorney's Office; Bill Fritz; and Carolyn Shaffer, Clerk to the Planning Commission.

Call to Order and Establish Quorum

Mr. Bivins said the meeting was being held pursuant to and in compliance with Ordinance No. 20-A(16), "An Ordinance to Ensure the Continuity of Government During the COVID-19 Disaster." He said opportunities for the public to access and participate in the electronic meeting will be posted at www.albemarle.org on the Community County Calendar, when available.

Ms. Shaffer called the roll. All Commissioners indicated their presence except for Mr. Bailey and Ms. More, who were absent.

Mr. Bivins established a quorum.

Other Matters Not Listed on the Agenda from the Public

There were none.

Consent Agenda

MOTION: Mr. Keller moved to approve the consent agenda.

Mr. Clayborne seconded the motion, which carried 5:0 (Mr. Bailey and Ms. More absent).

Public Hearing

SP202100007 and SP202100008 Jefferson Mill Hydroelectric Project

Mr. Fritz presented the proposal for a hydroelectric facility using the existing Jefferson Mill dam. He said it had two special use permit numbers for it, as hydroelectric is actually a use listed in both the rural areas (RA) district and the flood hazard overlay district and requires a special use permit under both; they are processed simultaneously, but it has to get two numbers for that reason. Mr. Fritz said the existing dam and the adjacent building date to the 1800s, and the mill building is now used as a home.

Mr. Fritz said this was not a new proposal; the use of the river for power in this location has been going on since the 1800s. He demonstrated photos from the 1940s and current photos. Mr. Fritz said the dam cannot be seen from any adjacent properties and is on the Hardware River. Mr. Fritz presented an aerial photograph to show more detail of the existing Jefferson Mill Road and the

houses and the driveway. He also pointed out the extensive tree cover in the area. He demonstrated a photo taken looking downstream standing next to the house, which showed the existing water room, which is the area where the turbine will be located. He said the project will improve the outfall from the water room and install new inlets to bring water to the turbine.

Mr. Fritz said the applicant had submitted by far the most extensive and complete application that he has seen in the 30+ years he has worked for the County. He said this information has been reviewed not only by County staff but by state and federal regulators, and the applicant has been working with County and the state for about a year to identify and address all issues. He said the Department of Environmental Quality is the lead reviewer for this project and coordinates with other state agencies and federal agencies including the Department of Historic Resources, Department of Wildlife Resources, the Virginia Marine Resources Commission, the Environmental Protection Agency, and the Army Corps of Engineers, just to list some. He said all these agencies and others have been reviewing this proposal, and the applicant has been working to address all their concerns.

Mr. Fritz said DEQ held a meeting with all the reviewing agencies in the County with the applicant on May 10th. He said during that meeting, various agencies discussed the project; no significant concerns were identified by any agencies, and all the concerns that were raised were addressed by the applicant. He gave an example where restoration of the water room was discussed, and the Department of Historic Resources had questions about how the stabilization of the existing stone walls would be made, and the applicant was already proposing to use techniques approved by DHR for stabilization needs. He said those techniques preserve the historical integrity and value of the structure and allow for it to be stabilized and utilized.

Mr. Fritz demonstrated a photo taken from essentially the same spot as the previous photo and said the mill building was directly behind the camera. He said the photo gave a good perspective of the relationship of the dam to the mill building, and it also showed how effective the existing dam is preventing the up- and downstream movement of aquatic life; essentially nothing can go up- or downstream (downstream maybe, but not back upstream). He said part of the thoroughness of this applicant's application was not the subject of the special use permit, but the applicant was proposing to install a ladder on the dam on the opposite side of the river from the mill building, and this feature was strongly endorsed by DWR, VMRC and others, and County staff. He said they have not identified any issues with this application and were recommending approval of it. Mr. Fritz paused for questions.

Ms. Tatiana Marzan (taking care of the permitting process on behalf of the client) asked for another member of their team, Ms. Jessica Penrod (the original project manager of the project), to be let into the meeting.

Ms. Marzan said they did not have a presentation as Mr. Fritz had said he would present on their behalf.

Mr. Fritz said he had told Ms. Marzan there was no need for her to do a presentation but to make herself available to the Planning Commission.

Ms. Marzan said they were available to answer questions.

Mr. Keller said he supported this application, and it was the great conundrum between cultural resource protection and natural resource protection that he had spent his professional lifetime

thinking about. He asked (just to play devil's advocate) if best environmental practices would be to remove this dam completely.

Mr. Fritz said the issue of the removal of the dam was not identified during the state's review of this particular application. He said he did not know if that was because it simply was not part of the concept. He said the state was significantly impressed by the current state and quality of the dam and the installation of the fish ladders, the use of turbines that were not going to harm fish life, and there was even the discussion about installing a portage around the dam for recreational usage. He said Mr. Keller may be correct, but the issue did not come up, and he could not provide any additional comment about that.

Mr. Keller said he personally agreed with everything that Mr. Fritz had said, but it seemed to him that it was their responsibility to ask what best practices are, and he would like to have an answer to that.

Ms. Marzan said the dam was used before for hydropower application, so they were reusing the same use and trying to restore an old hydropower site basically. She noted that fish passage was very important to them and to the client as well, so they were trying to improve the fish passage and the connectivity of the river as well as restoring the previous use of the dam.

Ms. Penrod said her comment would be specifically around the existence of fish that have been in the area, and the studies that they have done thus far and the information that is publicly available indicate that the dam is not a huge hindrance to species, especially species of concern going upstream any farther, due to the amount of dams that are below the Jefferson site. She said specifically for the best practices related to the environment, it was not having a huge impact thus far unless other dams downstream were actually removed, and then it probably would be the best practice, but the likelihood of those dams being removed was a very small percentage simply in that some of them were hydro as well and some were for water control.

Mr. Keller said that was a fair answer, and that was what he was searching for.

Mr. Joseph Head (civil engineer with Natel Energy) said best practices would probably dictate tearing up all the freeways and turning them into meadows for butterflies, but it would be hard to get one's truck around it if that were done, so it was a balance between human existence and the animals. He said this was carbon-free energy that would be generated so they would not be contributing to add any more CO₂ to the atmosphere with this; they would actually reduce the carbon footprint, so there was an advantage.

Mr. Head said that as Ms. Marzan pointed out, from an historical point of view, the structure was built 200 years ago to generate power from the river to grind wheat, and so they would be returning the structure to its original historical purpose. He said every dam in the country ought to be torn down so the fish could swim free, but that was probably not going to happen, so the goal was to try to make the best of it and to try to generate carbon-free power from a renewable resource and minimize the footprint on the environment and minimize the impact.

Mr. Head said they have had people studying the mussels in there; they have been looking at the dissolved oxygen aeration in the water; they have identified different fish species. He said the state people are worried about the eels (the American eels and the sea lamprey), and they think that this can improve their habitat and maybe expand their habitat with an eel ladder. He said they are taking an existing resource and bringing it back to its original use plus improving what was

already there, and their project would have a net positive impact on the environment.

Mr. Randolph mentioned the Rivanna Conservation Association 2019 survey, which was published in February of 2021. He said he had spoken with one of the coauthors, Rachel Pence, and page 3 of that report, in talking about the South Fork of the Rivanna River, said the dam which is used for purposes of drinking water "has a negative influence on the downstream fish community in this section of the South Fork Rivanna River."

Mr. Randolph said the project before the Commission was a private piece of property where they were reverting the dam back to its historical role, and when raising a question about whether dams should be undammed, then they need to be thinking of the tradeoff that would need to occur where the largest dams upriver on the Rivanna River and elsewhere would generate the amount of reserve water that the County and City of Charlottesville use for drinking water. He said there was a tradeoff that had to occur, and the gentleman quite correctly stated that. He said this was a piece of private property where they were trying to do the best they could to further the interests not only of the natural world but of also reducing the amount of methane and CO₂ that otherwise would be generated through burning hydrocarbons. He said it was a positive step and something really welcome in that section of the Scottsville district and in the County.

Ms. Firehock asked the technical question of whether they had determined yet what substratum would be used to line the bottom of the fish ladder. She noted there was a difference in eels' ability to migrate successfully based on that.

Mr. Head said people have written treatises on this topic, and it depended on the size of the eel. He explained the American eel starts its life in the Sargasso Sea out in the middle of the Atlantic, and they work their way up the James River and then up the Hardware. He said they were not talking about small ones; by the time they reach the state sampling point down at the mouth of the Hardware, they are a minimum of six to eight inches but can get up to several feet long.

Mr. Head said some have an Astroturf-type material on the bottom of the ladder, but as the eels get bigger, they like to swim around knobs, so the size of the bump is critical. He said they have not 100% figured out exactly which way they want to go on that, but it will be some sort of material. He said one of the people involved had suggested they use some tile, and the ones he had seen have had some kind of artificial material like an Astroturf, but he did not know how long that would last. He said the Hardware River is a tough river and flashy. Mr. Head noted the past year, the remnants of one of the hurricanes had blown through, and that river went from a pleasant little stream to a raging torrent in hours, and all of a sudden, instead of three or four inches over the top of the dam, two feet of water were blowing through, and six hours later, it was back to being a nice little stream again. He said whatever is built is going to be able to handle those kinds of forces. He said one idea was to specially cast some ceramic plates with the knobs built in there and then mortar those into the bottom of the fish ladder. He said they think if they did something like that, it would be around for another 100 years.

Mr. Head said this dam was actually totally amazing; it had been built by hand 200 years ago and was just rock and mortar. He said this river has been pounding on this dam for 200 years, and it was still there, so they have a responsibility and standard to meet if they are messing with this dam. He said whatever they do, they want to make sure they do not harm the historical nature of it and what they add would be around as long as the dam is.

Ms. Firehock said she was glad the fish ladder would last at least as long as the dam, hopefully.

She said she would like to send them an article, and maybe they could tell her more (email or she could send it to Mr. Fritz). She said there was a study on the success of eel migration on different types of substrates; specifically, the more studded the substrate, the better they did, and it compared that to other types of substrates that were not as successful. She said that would be useful but was not something that she was proposing to condition approval on or anything; she just wanted to make sure they thought about that. Ms. Firehock thanked Mr. Head for the eel migration lesson.

Mr. Fritz said if Ms. Firehock sent it to him, he could take care of forwarding it.

Ms. Firehock said her background was actually in stream habitat restoration, and she did that for many years. She commented about the clean energy solution and noted while it was true that hydropower could be considered cleaner than something like coal (she did notice and was glad to see a lot of solar panels on the top of the mill building, so obviously clean energy sources were being used), there were other things that could be used to generate energy. She said she had no way to comment on the energy needs of this particular building and whether it did indeed need to use water power in order to get sufficient green energy to power this building, and she did not know about the energy efficiency of the appliances in the building, so it was really not something that they could talk about. Ms. Firehock said the reason that she would be leaning in support of this application was because of the fact that there is a situation now where the eels cannot migrate up successfully, and because of their intervention as part of generating power, they would be able to. She said looking at it from a net effect, there would be a net benefit to the environment, and they would be better off than if they decided to deny this or took no action that evening.

Ms. Firehock did note from an environmental perspective, the best option would be a partial breach of this dam so that there was not a dam across the river, and if anyone wanted to study this, a multitude of dams had come down in Virginia including some major ones. She said just because Albemarle has a drinking water reservoir was not a justification for continuing to maintain dams across streams. She said there was a whole host of problems that occur (from warming water behind the dam, from preventing migration of passage, from trapping sediments sometimes which are contaminated), so she was not a fan of dams. She said she was here in this area when the issue came up about a partial breach of the Rivanna Dam at the Woolen Mills, and her students wrote a grant proposal that was used to fund a study of the partial breach, which was officially done very successfully. She said obviously it does not generate power anymore, and that particular dam was a liability that needed a lot of repairs to meet the state's Dam Safety Act, and so it was cheaper to actually breach it than to try to have it generating power again.

Ms. Firehock said because this project had a net benefit and at the end of the day righted a partial wrong in terms of allowing the fish back up the river, she would be in support of it but did not want anyone to think that a "yes" vote on this proposal indicated her support for maintaining dams. She noted just because something was historic did not mean it should be maintained. She said there are historic coalmines, and no one would make an argument for maintaining all historic coalmines, so that argument did not hold any water, so to speak.

Mr. Randolph added that page four of the RCA study he had mentioned earlier pointed out that dams are limiting the passage of eels in two out of the three sites, where no American eels were collected, and one of those sites was above the South Fork of the Rivanna River. He asked Ms. Firehock when she sent that study out to please send it to the RWSA for their awareness as well because they need to be aware of that. He said the other two sites were Buck Mountain Creek and the Moormans River also.

Ms. Penrod, Natel Energy, said she was the project manager for this and had been out on maternity leave, which was why they had not seen her before. She said specifically about the substrate for the eel passage, it was the Fish and Wildlife Service who would ultimately be agreeing upon what was proposed to them. She said they would love to read the article that Ms. Firehock was going to share, but ultimately it was out of their hands for truly what would be installed.

Mr. Bivins mentioned the power generation. He said if he understood, on page 16 of the proposal, he saw that the number of kWh in a year would be about 111,000 per year, but a typical house usually uses around 13 kW per month (or, for example, 12,000 kWh per year). He asked what the arrangement was for that significant magnitude that would be generated (where it would be going or who would be buying it or whether that was known yet).

Mr. Fritz said this would be grid-tied, and they could sell back to Dominion the same as people who have solar on their house.

Mr. Bivins said that was what he wanted to know because it really was not that big of a house, so they were only going to use probably something like 13 kW/month.

Mr. Fritz said he believed the owner would be using it to charge their electric vehicle and other things.

Mr. Bivins agreed that would push it up then. He said he saw that capacity and thought two things: whether they usually do residential projects (because it felt like according to the kind of projects they have on their website, this felt very intimate), and if so, it seemed there was a good amount of capacity here (which he does not have a problem with that). He said the first question was how this fit in the suite of projects that they do and whether they would be the ones that come back to check on it from year to year.

Mr. Head said there were two residences in the area owned by the same people, and they were going to consolidate the two meters. He said if they could get their hands on them (selling like hotcakes now), the owner wanted to put in some Tesla power walls so the power could be stored and used at different times. He said they think based on their usage that most of the power would be used locally there.

Mr. Bivins said he knew of a person who lived on the reservoir who had a horrible experience with the Tesla walls, and Mr. Fritz could speak to that. Mr. Bivins admitted his bias against Tesla but suggested there were some good alternatives to the Tesla walls, and they might want to look into those. He said they did not answer the question about who would maintain this thing.

Ms. Penrod said there was an on-site facility manager whom they would be training to do the long-term maintenance. She said they would come in only as needed and do not have a long-term contract to be the maintenance provider.

Mr. Bivins commented that when he looked at their firm's page, he noted they also have a UVA graduate as well as graduates from other institutions who work there, and he personally was pleased to see that and pleased to see that it was such an eclectic and talented group of people thinking about how to go to this next phase of energy production. He gave his congratulations on that.

There were no public comments.

MOTION: Mr. Randolph moved to recommend approval of SP202100007 and SP202100008 Jefferson Mill Hydroelectric Project with the conditions recommended by staff.

Mr. Keller seconded the motion, which carried 5:0 (Mr. Bailey and Ms. More absent).

Mr. Bivins said the project team could share with the applicant this had passed and that the next step would be working with Mr. Fritz on the presentation to the Supervisors. He recommended that if they were going to do a presentation that they be ready to do it.

Mr. Bivins said that the Commissioners were each very excited about the project and thanked them for turning their energies to this kind of work and for assembling a team of individuals who looked like they were also having fun thinking about different ways in which to bring electricity into life.

Committee Reports

Ms. Firehock said the ACE committee met virtually to discuss adding a ranking criterion for habitat cores that are high-quality habitats that have been mapped in the County. She said recently, they had looked at things such as agricultural soils, the size of the property, the number of development rights eliminated, and this added an additional criterion for high-quality habitats. She said that was added, and they wrestled with the language, and she was told it was a small miracle that they both proposed and acted on the recommendation in just one meeting, so that had been done and would move forward to the Board of Supervisors to consider amending the language. She said she did not think it would come to the Planning Commission, but it was a change to the ordinance because it changed the ranking criteria for acquisition of conservation easements. She said some members of the Board were also considering the question of funding for the ACE program because due to COVID and all the other demands on the County, there was no funding for that program in the current year, but they have to rectify that.

Mr. Clayborne said he attended a CAC meeting where they had a presentation given by Sandy Shackelford of the TJPDC on the Urban Rivanna River Corridor plan and went through their preliminary recommendations. He said he was not sure if that would ever come before this body but wanted to give an update on that. He asked Mr. Rapp if he knew if that would come before the Planning Commission for a work session.

Mr. Rapp said the plan was that it would; it was taking a little bit longer than expected to wrap up that plan and get it to final draft, but they were hoping to get there towards the end of the summer in August/September time frame to get to the Planning Commission and the Board.

Mr. Randolph let everyone know that the 5th and Avon CAC met to talk about a piece of property that is on Avon Street Extended that lies just south of Avinity, and the owner of the property lives on that property. He said there was a community meeting to first look at this, and there were some pretty deep-seated concerns of residents in Avinity about how they were going to be able to maintain their private amenities and try to control residents from another community who might come in and avail themselves of those facilities when they are not paying the HOA fees for them, so that issue will probably be before the Planning Commission. He said he did not know the timing but sometime later in the summer he was assuming, and then they will hear from both the

residents of Avinity as well as the applicant on how they are going to address it, but clearly those concerns came out at the CAC meeting.

Review of Board of Supervisors Meeting—May 19, 2021

Mr. Rapp said there was a Board meeting on May 19th, which was the day after the last Planning Commission meeting. He said it was fairly light between development department items and primarily went over some transportation projects, updates for the upcoming Smart Scale grant submission cycle, and probably the largest project out of that was the Eastern Avenue extension in Crozet, a very large project that was much needed to help some circulation out there, and a few other projects. He said they also had a public hearing that evening for the secondary six-year road plan with VDOT to get public input on that, and all that will be moving forward as they work through the VDOT cycle.

Old/New Business

There was no old/new business.

Items for Follow-Up

There were no items for follow-up.

Mr. Bivins said for those who were not at the convention that happened the previous month for the GOP to remember the following week was their opportunity to vote in the Democratic election and to please share that information.

Mr. Bivins said they would not be seeing each other the following week (unless they see each other at the polls), and the next meeting would be on June 15th for RST and then ACSA.

Mr. Rapp said they would have a continuation of RST with some changes that were made by the applicant in the community meeting that they held to get some feedback on that, and it was a comp plan compliance review that would come with Ms. Kanellopoulos afterwards.

Adjournment

At 6:47 p.m., the Commission adjourned to June 15, 2021, Albemarle County Planning Commission meeting, 6:00 p.m. via electronic meeting.



Charles Rapp, Director of Planning

(Recorded and transcribed by Carolyn S. Shaffer, Clerk to Planning Commission & Planning Boards and transcribed by Golden Transcription Services)

Approved by Planning Commission
Date: 06/15/2021
Initials: CSS

