

**Northumberland County Planning Commission
September 21, 2017
Minutes**

The regular monthly meeting of the Northumberland County Planning Commission was held on September 21, 2017 at 7:00 p.m. in the new Courthouse at Heathsville, VA with the following attendance:

Chris Cralle	Present	Garfield Parker	Present
Vivian Diggs	Absent	Albert Penley, Jr.	Present
Alfred Fisher	Present	Wellington Shirley, Jr.	Present
Ed King	Present	Heidi Wilkins	Present
Richard Haynie	Present	Charles Williams	Present
Patrick O'Brien	Present		

Others in attendance:
Stuart McKenzie (County Planner)

RE: CALL TO ORDER

The meeting was called to order by Mr. Alfred Fisher, Chairman.

Wellington Shirley gave the invocation.

Albert Fisher led the Commission in the Pledge of Allegiance to the Flag.

RE: AGENDA

The agenda was approved with a motion by Albert Penley which was seconded by Patrick O'Brien and approved by all.

RE: MINUTES- May 18, 2017

The minutes of the May 18, 2017 meeting were approved with a motion from Patrick O'Brien which was seconded by Albert Penley and approved by all.

RE: COMMISSIONERS' COMMENTS

There were no commission members comments.

RE: STAFF MEMBERS' COMMENTS

Staff wanted to make sure that the Commission members have been receiving the multiple emails that staff has sent out regarding electric substation and solar farm zoning. All indicated that they have.

RE: BOARD OF SUPERVISORS' LIASON COMMENTS

There were no comments from the Board of Supervisor's liaison.

RE: CITIZENS' COMMENTS

There were no citizen comments.

RE: PUBLIC HEARINGS

There were no Public Hearings scheduled.

RE: WORK SESSION ITEMS

There were no Work Session Items scheduled.

RE: DISCUSSION ITEMS

Chairman Fisher noted that the first discussion item is zoning for electric substations. Mr. McKenzie stated that he made copies of the materials sent out in emails to Commission members since the last meeting, and proceeded to distribute them to all present, and asked if there were any questions, and there were none. Mr. McKenzie stated that at the last meeting, members questioned the location and zoning of existing substations in the county. Staff therefore created a map that showed where all electric substations were located, which company owned them and the zoning of the tax parcel containing the substation. Mr. McKenzie further explained that some of the tax parcels in the list had no improvements (undeveloped land), while others had improvements with equipment and others had improvements only (a fence and a graveled area). Mr. McKenzie noted that the substation in Callao (owned by Dominion) is one with improvements only, a fence and graveled area, but no transformers or other equipment, as was the case with the substation in Village (owned by Northern Neck Electric Cooperative [NNEC]). Mr. McKenzie explained that he had received the list of electric company substation tax parcels from the Commissioner of the Revenue, Todd Thomas, and explained that the State levies taxes on such facilities, and he got the list for all facilities in the county from the State Corporation Commission. Mr. McKenzie stated that it was interesting to note that both Dominion and NNEC have tax parcels with nothing on them that are being taxed by the State. Summarizing, Mr. McKenzie stated that all the substations are on land zoned as A1, except for the Dominion substation in Callao, which is on land zoned R-1. Mr. Penley asked what is on the tax parcels with no improvements, to which Mr. McKenzie replied either forest or grass. Mr. O'Brien asked about the why the proposed NNEC substation is almost on top of an existing tax parcel owned by NNEC. Mr. McKenzie explained that it is a map scale issue, that when you are zoomed out at the county level, the symbols themselves are about ½ mile wide, so the sites are not, in reality on top of each other, but approximately a ¼ mile apart. Mr. O'Brien asked if the NNEC plans to replace the existing substation with the proposed substation. Mr. McKenzie clarified that the site the NNEC owns is right next to Rt. 360 and is in forest, and is very small, around 0.10 acre. Mr. O'Brien asked why doesn't the NNEC use the parcel they already own? Staff stated that Building and Zoning staff discussed it and surmised that the existing site is not big

enough to meet their needs. Mr. Williams stated that he was not at the last meeting, and wanted to know why we are talking about this. Mr. McKenzie offered the following summary, the NNEC submitted an environmental report to build a substation at the corner of Avalon and Sydnors Millpond Road to the Building and Zoning office approximately three months ago, but they have not submitted a building application for the project. There currently is no electric substation use in our current zoning ordinance. Utilities are defined, and are allowed by right in all zoning districts, but the definition of utilities only includes water and sewer. Staff stated that at last month's meeting, that we could lump electric substations in the definition of utilities and that would take care of the issue, but that would allow electric substations as a by-right use in all zoning districts, or, if the commission chooses, we create a definition for electric substations and decide which zoning districts would be by-right and which zoning districts would be conditional use. Mr. McKenzie continued stating that the documents he handed out earlier described how Richmond County Zoning handles electric substations and has the state definition of an electric substation, as there was a question at the last meeting of what constitutes a substation. Mr. O'Brien asked if the commission could adopt the State definition of an electric substation. Mr. McKenzie stated that would be fine, if that is the will of the commission. Mr. McKenzie offered to read the state definition of electric substation, "Substation - from Code of Virginia (2012) by The State of Virginia - Definition of Electric Substation. "Substation" means an electrical installation containing generating or power-conversion equipment and associated electric equipment and parts, such as switchboards, switches, wiring, fuses, circuit breakers, compensators and transformers." Mr. Penley commented that the definition pretty much covers everything. Mr. O'Brien stated that anyone attacks the definition, then we have the State Attorney General covering us. Mr. O'Brien made a motion to adopt the State Code definition of an Substation. Mr. Penley seconded the motion, and the motion passed unanimously. Mr. Penley asked about the letter from the Board (of Supervisors) and what they asked us to do. Chairman Fisher handed Mr. Penley a copy of the resolution asking for definitions and amendments to the county zoning ordinance for substations and solar farms, and Mr. Penley stated he wanted to get Mr. Williams up to date. Mr. O'Brien stated he recalled at the August meeting that Mr. Shirley had stated that he thought that electric substations should be allowed in A1 and C1, with every other zoning district being a conditional use. Mr. Shirley agreed and added that M-1 might also be included as a by right use, because the two parcels in the county zoned M-1 would not have a problem with the construction of an electric substation on them. Mr. O'Brien stated that as he understood it, in order to amend the zoning codes, there has to be a public hearing. Mr. McKenzie stated that yes, and that it was his hope that the Planning Commission could do that at the next meeting, on October 21, 2017. Mr. O'Brien motioned to adopt the substation as defined by Virginia code, zoning regulation to state that electric substations will be allowed by-right A-1, C-1 and M-1, and as a conditional use in the remaining zoning districts (R-1, R-2, R-3, H-1). Ms. Wilkins seconded the motion. Mr. O'Brien queried Mr. Shirley and the Board of Supervisor's representative, Mr. Haynie on the formulation of his motion. Chairman Fisher clarified that we are now in discussion of the motion. Mr. Williams stated that Richmond County allows substations by-right in R-3. Mr. McKenzie stated that Richmond County's R-3 zoning is a mixed-use zoning district that allows commercial next to residential, so more flexibility is needed in this district. Mr. Williams asked if the county would want special exceptions like Richmond County? Mr. McKenzie noted that the zoning administrator has informed him that Northumberland

County does not have special exceptions, only conditional uses. Mr. Haynie stated he liked the fact that the Commission adopted the state code definition of electric substation, as that gives you the backing of the State government. Mr. Haynie also stated that the electric companies are likely to create new substations in A1 to serve nearby R-2 subdivision, and that they don't want to go into a residential area, as people would likely object to the use. Mr. O'Brien asked Mr. Shirley, and Mr. Haynie if the proposed draft zoning for substations allows enough flexibility for them (the power companies)? Mr. Shirley responded by saying absolutely. Staff asked Mr. Shirley how much of the county is zoned A-1, 80% of the county? Mr. Shirley agreed. Mr. Shirley added that the draft zoning for substations should not pose a hardship on the power companies, nor the surrounding land owners, as there is no noise, the facility is just there and operating. Mr. Haynie stated that the Lottsburg Station serves Lake and Bundick, goes across the river and serves Walnut Point, and Newman's Neck and up to Claraville, and the Folly Road Substation back feeds the grid. Chairman Fisher reminded them of the motion on the floor to adopt the draft substation zoning rules as stated by Mr. O'Brien, and called for a vote, voting unanimously to adopt the draft substation zoning rules. Chairman Fisher want to make sure we get an answer from the NNEC on why they are not using the land that they own nearby on US 360. Mr. O'Brien stated that we are going on an assumption that the NNEC site on 360 is too small for their purposes, so perhaps they could send a representative or a formal answer to the question so we have that information from the applicant. Mr. O'Brien asked a procedural question, that staff will send out the draft zoning language prior to the meeting. Mr. McKenzie stated that yes and staff will need to advertise the public hearing for a zoning amendment in the local papers the prior two weeks in a row before the meeting, and would send draft language to the Planning Commission by email before the public hearing.

Chairman Fisher announced that they were switching to the discussion of solar farms. Staff indicated that the first handout, a document entitled "Solar Farm Zoning in Nearby Counties" is more up dated than the same information sent by email to Planning Commission members before the meeting. Mr. O'Brien asked if a solar farm needs a substation to connect to the electric grid, to which staff replied that he did not think so, but would investigate. Mr. Allain mentioned that oftentimes they are located together. Mr. Williams mentioned a solar farm on the road to Williamsburg, past West Point and that is the only one he has noticed. Mr. McKenzie passed out the zoning ordinance of Gloucester County and King William County as it relates to solar farms. Mr. McKenzie also handed out and described two additional handouts, one model ordinance for smaller-scale solar energy projects and another model ordinance for large scale solar energy projects, both of which were on the Virginia Department of Environmental Quality (DEQ) website for local governments to use. Staff explained that a solar advisory group assisted DEQ staff in drafting model ordinances for small and large solar energy projects for localities to consider when creating new ordinances. Mr. McKenzie proposed that the Commission discuss the handouts in the order received, and start with Solar Farm Zoning in Nearby Counties. Mr. McKenzie stated he talked with Bob Fink, the Zoning Administrator for Westmoreland County, and he stated that they have permitted two solar facilities, and their zoning ordinance deems a solar farm a public utility facility in their zoning ordinance, which is permitted by right in the M-1 district only, all other zoning districts allowed by special exception. Mr. McKenzie continued, saying that he talked with Don Gill in Lancaster County and he stated that solar farms are allowed by-right in M-1 only. Mr. Gill further explained if someone wanted to build one, they would have to

do it on land in M-1 or request a rezoning to M-1, with no option for special exception or conditional use zoning. Mr. McKenzie stated he called Trent Funkhouser, Acting Zoning Administrator for Essex County, and he stated that they treat solar farms as a utility, and it is not allowed by-right in any zoning district, but that conditional use is possible in all zoning districts. Mr. Williams asked what are the down side to having a facility like this nearby. Mr. McKenzie stated that he sent an email out to the Planning Commission members that had a link to the WVEC website that had a video of citizens objecting to a nearby solar farm being constructed, that basically all of the them considered it an eyesore. The solar farm project (once completed) would not generate any noise, and could also be screened with vegetation, the project is not going to create any emissions or air pollution, there might be a possibility of glare, basically the citizens have the not in my backyard syndrome. Mr. O'Brien stated that the panels are non-reflective, because they lose too much energy if you use regular glass and glare is produced. Mr. Williams stated he could see that a solar farm is more palatable than a wind turbine next door. Mr. Williams stated that having conditional use is a good thing, as each property has its own unique circumstances, and judge each on their own merit. Chairman Fisher stated that conditional zoning lets the public tell their side, and gets the problems out in the open for the Board to decide. Mr. McKenzie reminded the members about a previous inquiry into the zoning for three parcels for possible solar facilities, and noted that all of the sites were off the main roads, with forests all around, which would reduce the visual impact of the facilities. Chairman Fisher asked Mr. Shirley from the last meeting, what was the price the survey said they would pay per acre of land (for a leased solar farm use)? Mr. Shirley stated \$1,000 per acre, and stated that is a heck of a lot more than a bushel corn. Mr. O'Brien stated he felt that there are many in the county who own land and are cash poor, it might be a good thing for them and for the general public. Mr. Fisher clarified that most solar farm companies are renting land, not buying land, as Mr. Shirley had mentioned. Mr. O'Brien stated he was amused by the Richmond County solar ordinance and thought it too restrictive, and likely no one will build a solar farm in the county because of that. Mr. O'Brien stated that a less restrictive ordinance for Northumberland County will send a signal that we are open for business and are flexible to the needs of an electric generating company. And based on the geographic position between Richmond and Washington, D.C., that could be very, very good for the county economy. Mr. Shirley stated that he thought if the county made it a conditional use, everyone a chance to speak pro and con, and every proposal would be judged on its own merits, instead of saying, well its A1, you can do it (build and operate a solar farm). Mr. Williams stated he agreed. Mr. Penley stated that would help keep the companies for cherry-picking parcels. Mr. Shirley stated that he would be surprised if any company proposed a solar farm project in any other zoning district than A-1. Mr. McKenzie added that parcels in the residentially zoned districts are small compared to the average size of agriculturally zoned parcels. Mr. Haynie offered that they are likely looking at parcels at least five acres in size, maybe more, as a starting point. Mr. Shirley felt they would be only looking at sites that are 50 or more acres. Mr. Haynie stated if that were the case, then means there would not be many spots where landowners would want to do it, to give up good farm land, might give up some bad farmland. A parcel that size would not be around any residential areas. Staff brought up Mr. O'Brien's comment about the Richmond County solar farm zoning, and asked the commissioners to look at the Gloucester County solar farm zoning ordinance defines a large scale solar energy facility as one that produces more than 25 kilowatts, and that is even smaller than what Richmond County has in their

zoning definition. If you look further, staff stated, you can see there is a clause added for the large scale, that it has to be less than five acres, and utility scale that it begins if the area covered is more than 5 acres. Gloucester County's threshold is even lower than Richmond County's. Staff indicated that the small system that is defined in the Gloucester County zoning ordinance is similar to what Northumberland County does now with residential solar units as an accessory use, it is also allowed in all districts as a by right use. Further explaining Gloucester's County solar farm zoning ordinance, staff indicated that a large one is allowed if affixed to a building and other criteria that is cited, which gets somewhat complicated and that is why staff opted to include the entire ordinance, instead of a summary of the ordinance. Staff summarized the Gloucester County solar farm ordinance, the larger a facility it is, the more restrictive the zoning ordinance becomes, which make sense to him. Mr. Williams asked if we have had anybody request to build a solar farm in the county. Mr. McKenzie stated no, only a request to check the zoning classification for three parcels, and Mr. Shirley received a survey in the mail, as he explained earlier. Mr. McKenzie added that he thinks the only people who don't like the idea of solar farms are the electric companies themselves, because they have to deal with a lot of small providers instead of a single, large facility and doing so would make it more onerous for the companies to deal with the multiple entities, as well as someone else making a profit and the electric company having to accept their energy. Mr. O'Brien asked if anyone has expressed concern over Northumberland County zoning being silent on the subject of solar farming? Mr. McKenzie stated that if someone wanted to build a use that is not in our zoning ordinance, then the project would be automatically sent to the Planning Commission to add that use to the zoning district, the same thing we are doing now, in a compressed time frame as this person would want to go ahead with this project. Ms. Wilkins asked if the Planning Commission needs to come up with a definition for solar farms, and is there one. Staff indicated he thought there was one in the Model Ordinance, Ms. Wilkins agreed. Ms. Wilkins asked if we could consider these part of State Code, and staff stated no, they are recommendations, DEQ has a permitting by rule as these projects need state approval as well as local approval, so this is the criteria DEQ use to break up the projects into large and smaller, so if we follow similar definitions we will be consistent with how the state defines these projects. Mr. O'Brien stated on behalf of the applicant it would be helpful as they are using the same classification system. Staff pointed out that if you look at the Gloucester County zoning ordinance regarding solar facilities, they went on their own and established their own criteria, with small, medium and large categories. Staff also pointed out that in the DEQ model ordinance for both small and large facilities, the state requires a decommissioning plan. Staff indicated he did not see a decommissioning plan as part of the Gloucester County Ordinance, so they might not be in compliance with that part. Mr. McKenzie noted that if a solar farm becomes non-functional on leased land, the owner should not have to pay to have the equipment removed, so a decommissioning plan makes sense. Chairman Fisher stated he could see the merit of a decommissioning plan on publicly owned land, but not on private land and that would be up to the individual to determine prior to signing any contracts. Mr. O'Brien noted that requiring an exit strategy at the time of application is relatively common, and it gives the building inspector the right to declare it unsafe and do something about it. Staff asked commission members to consider a large hail storm, the solar panels could be damaged by a hail storm. Mr. O'Brien stated you would not want a scenario where a company had a solar facility, that was damaged by hail and is only operating at 60% capacity, and the

company abandons the facility. Mr. O'Brien further explained that there has to be something in there that legally obliges them to either fix the damage, or clean it up. Mr. Williams stated he thought that solar panels are rather vulnerable, hail, wind, tree limbs. Mr. King asked how long these solar farms last, what is the life expectancy of the panels. Staff could not answer the question, but citizen Mr. Allain stated 25 to 30 years. Mr. Allain added that not that they quit working at that time, but that the technology is advancing so much that they become inefficient, compared to the latest solar panel technology. Current technology is about 22% efficient, but the estimate for maximum efficiency in the future is about 40%, so likely there will be improvement in the coming years. Mr. O'Brien asked when you are talking about 40%, are you talking about collection capacity or useful life of the panel? Mr. Allain clarified collection capacity. Mr. Parker mentioned advancements in battery technology has sped up solar power adoption, and Mr. Allain said yes for home that is off the grid, but that solar farms connect directly to the electric grid, so no batteries are needed. Staff brought up solar shingles, that was mentioned at the last meeting, and did a little research on them, and their use is dependent on the building and roof orientation, so likely there won't be much retrofit usage of solar shingles, but they could be used on new construction if you orient your building correctly to maximize the angle for solar collection. Mr. Penley asked if we are going to have a public hearing on this (solar farm zoning). Staff replied in the affirmative. Mr. Williams asked what is our next move on this. Staff stated it depends on how comfortable the Commission is with this issue, and how fast they want to move with it. Mr. McKenzie stated that he is still learning about solar farms each time he researches the topic, if the Commission wants to discuss it further, that is fine, if they want to take action that is fine as well. Staff had hoped to get the electric substations done first, since there is an applicant that wants to get started, whereas there is no proposed solar farm project as of this moment. Mr. O'Brien stated there are a lot of variables with regards to solar power, and he stated he would personally like more time to think about the appropriate way to handle this use in the county. Mr. McKenzie stated he has given Commissioners a lot of information, existing county solar farm ordinances, model ordinances, and he suggested that members look at the footnotes of the model ordinances, because they contain additional information that they might want to consider as it discusses some of the deliberation the committee had when coming to consensus on the draft solar farm model ordinance. Mr. McKenzie stated one of the footnotes was interesting to him was in the large-scale model ordinance, on page 7, the committee decided against recommending fencing, as there is very little chance of getting shocked. They also did not want to require vegetative buffers, even though they have language referencing vegetative buffers. Staff asked Commission members to look at the footnotes to get an idea of some of the issues that the community will face once these facilities are built. Staff mentioned that we did not discuss King William County solar power station zoning, they have no by-right use in any zoning district and they have conditional use allowed in Agricultural Conservation District, and B-1, B-2 and M (industrial). Ms. Wilkins stated that they do have a decommissioning section in their ordinance. Staff indicated that King William might be a good county to model our ordinance after, if that is the Commission's will. Mr. O'Brien commented what he liked about the King William solar power station definition and stated would be a pretty good definition if you removed the "is defined to provide service at a utility scale" phrase, it is actually a pretty good working definition. as part of the definition describes how Northumberland is currently handling residential solar projects. Staff pointed out that the Gloucester County solar

farm definition narrows it down to photovoltaic solar technology, whereas the King William leaves it open ended with regards to solar technology, it has heat exchanger in the definition, so it could be solar heating of water or other solar technology. Staff described a solar power facility out West that has mirrors that are articulated to move with the sun and focus their energy on a single receptor at the center which is heated to produce electricity. Staff indicated he did not think that type of facility was coming to Virginia, but that there might be merit to leave the solar farm definition to be flexible enough to encompass new technology, and staff indicated he liked the King William definition as well. Mr. Penley stated he liked no by right use in any district. Citizen Lee Allain asked the chairman to speak and was given permission to speak, stating that Gloucester approach of small solar project with less than 25 Kilowatts was important to keep from additional regulations, but over that, when it is a commercial venture and the power over 25 kw and the power is sold is when he feels the zoning regulations should be triggered. Restating his comment, Mr. Allain said that allowing homeowners to build an under 25 Kw solar project to help power their house, should be by-right. Ms. Wilkins pointed out that the King William Zoning Ordinance also covers that by saying this definition does not apply to individual residences. Mr. Allain stated that the Commissioner's should embed that type of language in the zoning ordinance so that is clear. Mr. O'Brien asked Mr. Allain if 25 KW for an average home is an industry standard. Mr. Allain replied that no, 5 Kw is about average, but a larger home might require more Kw Mr. O'Brien asked if one could make money with a 25 Kw solar farm, and Mr. Allain replied no, you need at least a megawatt. Mr. McKenzie informed those present about the local solar cooperatives that have formed in the Middle Peninsula and the Northern Neck, but these are not commercial solar farm ventures, but instead a community movement of banding together as individuals to achieve price reductions by buying residential solar equipment in bulk and having it installed at each participants house. Mr. O'Brien stated it is a buyer's co-op, and staff agreed. Chairman Fisher summarized that the consensus was to table this, take information home and look it over, and come back with any questions you might have, and bring it up at the next meeting. Chairman Fisher asked that currently in the county there is no limit on the number of solar watts you can have at a home? Staff replied that it is a determination by the Zoning Administrator, Mr. Marston, whether a project is deemed "residential scale". Mr. McKenzie noted that he had a photograph of a solar project that was approved by Mr. Marston as residential scale solar accessory use and installed at a residence in the county. Chairman Fisher asked what would happen if someone complained about that approved residential solar project. Mr. McKenzie explained that he was not sure. Mr. McKenzie stated he would assume that Mr. Marston would explain that he determined this project to be mainly for use at the residence and deemed it an accessory use that is allowed, just as a garage or a gazebo is allowed. Mr. Haynie asked how many solar panels do you need to make up 5 Kw? Mr. Allain recounted that about 3 years ago, a 3' x 3' panel would put out about 120 watts. Mr. Haynie stated that a house would need about 5 Kw, how much area would that cover? Mr. Allain said around 200 square feet. Mr. Haynie stated that is not very big, and said that the photograph of the approved solar project was much bigger than that. Mr. Fisher stated the approved residential solar project photo showed 24 panels, likely 4' x 8'. Mr. Allain stated the solar panels are small enough an individual can handle them to install them. Mr. Haynie asked what is the average cost to a homeowner? Mr. Allain stated that today it is typically \$2-\$3 a watt, so 5 Kw is \$15,000. Mr. O'Brien clarified that is based on the cost of the panels primarily and Mr. Allain agreed. Mr.

Allain noted that the cost of the solar panels is going down, you can today buy panels for about \$1.50 per watt, but the installation costs are staying about constant. Mr. Fisher noted that the best thing about solar panels is there are no moving parts. Mr. McKenzie noted that he had previously asked Mr. Allain how the interconnection to the electrical grid works, say the power goes out on the grid, what is the possibility of the solar panels re-energizing the grid? Mr. Allain responded that the solar panels have isolation switches that will disconnect from the grid, just like you do with a home generator. Mr. Penley asked the date of the next meeting, and staff replied October 19, 2017. Mr. Fisher thanked citizen Allain for the information that he provided at the meeting.

RE: PUBLIC COMMENTS

There were no public comments at this meeting.

RE: PUBLIC HEARING

There were no public hearings at this meeting.

RE: ADJOURNMENT

With a motion from Albert Penley, seconded by Patrick O'Brien, and approved by all, the meeting was adjourned at 8:20 pm.