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Lexington Avenue Solar Project Public Hearing Comment and Response Matrix

On November 16, 2020, the Planning Board received a letter from George and Madeline Fouhy with comments regarding the proposed Lexington Avenue Solar Farm. This matrix summarizes and provides responses to each comment included. Comments have been lightly edited for brevity. The original letter provided to the Town has been included as an attachment to this document.

Item	Comment	Response
1	*This solar farm proposed for Crompond would be located on a wooded hillside next to a wetland. The wetland feeds directly into the Croton Reservoir. Not only is this a thread to our wetlands, but it is also a far different physical environment than all the Solar Farms I have researched on the internet which show them located on flat desert areas, or on flat farmland.*	The project has been designed to avoid impact to all wetlands identified on site. The project will result in 0.22 acre of disturbance within the town regulated 100-foot upland buffer of a man-made, 1,000 square foot, wetland located within the existing Algonquin Gas Transmission Right-of-Way located on the property. This wetland buffer impact will be mitigated through the planting of native bushes within the buffer. The topography of the site is within the tolerance of proposed solar racking equipment. The southern facing slope will bolster solar production by minimizing potential for shading on the array.
2	*On the Dimension Energy Site Plan, for Lexington Ave., it looks like all trees approximately 200 ft. from my property line will be removed.*	Please see Sheet 3, Layout and Zoning Compliance Plan, of the project's site plan. Tree clearing will occur no closer than 316 feet from properties along Baron De Hirsch Road. The proposed project exceeds all setback requirements as listed in the Town of Cortlandt's Solar Ordinance.
3	*The land behind the residential properties on Baron De Hirsch Rd. slopes down to a stream and up on the other side of the stream to Lexington Ave. The slope varies I would say between 20 and 30*	Please see Project's slope analysis on Sheet 2, Existing Conditions, of the project's site plan. As the topography of the site is within the solar racking equipment's slope tolerance, extensive excavation and

	degrees (or between 15% and 45%, not 20% and 30% on the site plan) ...I believe this Solar Farm will need extensive excavation and possible retaining walls to work at all.	retaining walls will not be required for construction.
4	*When it rains, water seeps into the stream and hillsides and drains in the wetland…which eventually empties into Croton Reservoir. If it becomes a Solar Farm I guess this will still happen only faster and the water may contain Lead, Cadmium, and other hazardous materials.*	A preliminary Stormwater Pollution Prevention Plan (SWPPP) technical memo has been submitted to the Town by the Project's civil engineer. A full Stormwater Pollution Prevention Plan (SWPPP) will be submitted for the project and approved by the Town of Cortlandt and NYSDEP prior to final site plan approval. Based on NYSDEC stormwater protocols for solar projects, there is no appreciable increase, less than 5%, in the rate of runoff or volume of runoff expected. The project site currently consists of woods in fair conditions, light leaf little, with type C soils and will be transformed into a pollinator meadow with an expected increase in ground cover than currently exists as well as less runoff. The solar panels proposed for site are monocrystalline silicon and do not contain hazardous materials such as cadmium. This comment may be referencing alternate PV technologies such as thin film cadmium telluride (CdTe) solar panels, which are not proposed at the Lexington Avenue Solar Project.

5	*[Solar Panels] would have to be cemented into the ground because the hillside will erode when the trees are removed, and the panels will move, even with cement.*	The racking equipment proposed for the project utilizes helical screw installation. Racking equipment will be screwed into the ground to depths between 10 and 15 feet deep to secure the equipment in place. Cement is not currently proposed as an installation method for racking equipment. After construction all disturbed areas will be stabilized with low growth, native pollinator species, minimizing the potential for erosion.
6	*The weather here is not conducive to the creation of electricity from Solar Power.*	New York state has sufficient solar irradiance for solar energy production and is a leader in solar energy development under the state's Climate Leadership and Community Protection Act (CLCPA). Under CLCPA, the state calls for 70 percent of the State's electricity to come from renewable sources by 2030 and 6,000 megawatts of solar by 2025.
7	*The panels need to be tilted to the south or southwest to point at the sun.*	This is correct, the solar panels will face due south. Please see the Project's site plan.
8	*During storms the wind will lift some panels off their frames. The frames will shatter and need to be replaced. As time goes by, the company may decide this wasn't such a good idea and close the farm.*	Racking equipment proposed for the project is rated for 170mph windspeeds. Projects are underwritten by insurance policies to cover damage associated with extreme weather. While storm damage is unlikely, the facility would be promptly repaired. Under no circumstance would the site close due to weather.

9	*Solar Panels contain lead and cadmium and other hazardous materials. When they shatter the Lead, Cadmium, and other hazardous materials land on the ground in small pieces.*	This is a misunderstanding of the solar panel technology used on site. The solar panels proposed for the Lexington Avenue Solar Project are monocrystalline silicon and are primarily composed of silicon and encased within glass, and steel. Cadmium Telluride (CdTe) thin film solar panels are not proposed for use on site. The solar facility will be equipped with controls and monitoring equipment, which will detect equipment damage in real time. In the unlikely event of equipment damage, the facility's Operations and Maintenance contractor would dispatch a technician to attend to any necessary repairs.
10	*If the solar farm is OK'd and build and the solar company should decide to close the Farm, who is going to pay for the decommissioning. I think the company should pay and that should be stipulated in any approval.*	A decommissioning bond will be provided to the Town of Cortlandt prior to construction, as outlined in the Town's local solar law.
11	*The company's representative did not commit to building the access road shown on the site plan. He seemed to indicate they wanted to use Dykeman Road for access.*	As shown in the Project's site plan, the facility will be accessed from Lexington Avenue. No upgrades are currently proposed to the existing gravel access road off Dyckman Road.
12	*The power that will come from the solar farm will not benefit Cortlandt Manor. The solar company sells the power to ConEd and ConEd just adds it to their power supply and it goes into their grid.*	This is a misunderstanding of community solar. While electrically the project is interconnected to Consolidated Edison (ConEd)'s distribution grid, Cortlandt residents will have the opportunity to subscribe to the project and be credited for the electrical offtake, resulting in savings on their monthly ConEd electrical bill.

13	*Solar farms leak electrical fields…these fields have been associated with cancer and other health hazards. They can interfere with radio, television, Wi-Fi signals.*	Solar panels do not release electromagnetic fields (EMF). Solar string inverters release EMF at approximately the same level as consumer electronics such as cell phones, laptops, or televisions. The EMF produced by solar inverters are non-ionizing, meaning they do not have the ability to damage biological cells. EMF also degrades over distance and, as inverters will be located several hundred feet from property boundaries, are not anticipated to raise EMF above existing background levels.
14	*Solar Farms are a short term and not very reliable fix for a problem we have been ignoring since the first oil embargo. We live in the northeast. In the wintertime the sun is high enough in the sky for about six hours to provide any useful solar power. How long do you really think Dimension Energy will remain interested in this site after they have a couple of windstorms...and they have to replace a couple of their panels and clean up the remains of the ones just destroyed.*	Solar panels have a typical lifespan of 30 to 40 years, around the same lifespan of a gas or combined cycle turbine. While solar irradiance may be slightly higher in summer compared to winter, New York state has sufficient solar radiation year-round to justify the development of solar facilities. The racking equipment proposed for the project is rated for windspeeds up to 170mph while the solar panels themselves are rated for windspeeds up to 140mph. Hurricane Sandy by comparison had windspeeds of up to 115mph.
15	*We are a small residential town in the Northeast. I know the state has just closed our chief source of revenue, Indian Point…How will hurting the property values of the residents in Crompond and decreasing property tax revenues in the future because these revenues are based on the value of the property they own, and it will drive down property values, how will that help the town out of the revenue problems we have?*	Studies conducted by the Solar Energy Industries Association (SEIA) and value advisory firms like Cohn Reznick show that solar projects have no measurable impact on property value. Please refer to the SEIA's Property Value Factsheet at the link below. https://www.seia.org/sites/default/files/2019-09/Solar%20Property%20Value%20FactSheet%202019-PRINT_1.pdf

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16	*If this project is approved, I think we should require Dimension report any broken solar panels to the Town and the town inspect and require that Dimension Clean up the debris, in a timely manner.*	Standard project operations and maintenance, including in kind panel replacement would not require Town notification. If the extent of onsite work requires a building or electrical permit, the Town of Cortlandt will be notified.
17	*ConEd must be ready to accept any power from the solar farm before any trees are removed.*	ConEd has completed a Coordinated Electric System Interconnection Review (CESIR) study for the project and has confirmed the project can interconnect to the local distribution grid.
18	*Dimension must agree, when it is finished with the site to decommission the site when it is finished with it and be required to replace trees removed during construction.*	The solar facility will be decommissioned at end of life in compliance with the Town of Cortlandt's local solar law. Tree clearing proposed for project installation will be mitigated during initial construction through a combination of on-site and off-site planting, as well as a contribution to the Town of Cortlandt's Environmental Fund.
19	*I think we should at least require that a hedge be installed around the entire site, to obscure the view and mitigate damage to property values for the residential properties in the neighborhood.*	The project has been sited and designed to minimize view from neighboring properties to the greatest extent practical. The project facility will be sited between approximately 400 and 500 feet from the Baron De Hirsch properties, and all existing vegetation within 300 feet of the existing western property boundary will remain intact. Given the topography of the parcel, the proposed project will be located on land approximately 50 feet higher in elevation than the Baron De Hirsch properties, further obscuring it from view.
20	*Dyckman Road should not be used by Dimension during or after construction*	Dyckman Road will not be used for site access during the Project's initial construction or operations and maintenance.

21	*If any residential or any other local business reports any disruption from electromagnetic waves to any electrical appliance generated by this site, they should be compensated for any inconvenience.*	Solar panels do not release electromagnetic fields (EMF). Solar inverters release EMF at approximately the same level as consumer electronics such as cell phones, laptops, or televisions. EMF also degrades over distance and, as inverters will be located several hundred feet from property boundaries, are not anticipated to raise EMF above existing background.

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Attachment A – Letter from George and Madeline Fouhy to the Town of Cortlandt Planning Board, dated November 16, 2020

George and Madeline Fouhy
PO Box 22
41 Baron de Hirsch Road
Crompond, NY 10517
November 16, 2020

To: The Cortlandt Manor Planning Board

Reasons for Opposition to 2.3 Meg Solar Farm in Crompond, NY

I have been researching Solar Farms ever since I heard about the one proposed for my back yard by CS Engineering. I have been reading various articles and looking at US Geological Survey maps and pictures of Solar Farms. This letter outlines my reasons for opposing the construction of the solar farm in Crompond. I have included links to my my research references at the end of this letter.

This solar farm proposed for Crompond would be located on a wooded hillside next to a wetland. The wetland feeds directly into Croton Reservoir. Not only is this a threat to our wetlands, but it is also a far different physical environment than all the Solar Farms I have researched on the internet which show them located on flat desert areas, or on flat farmland.

I know that the town has approved a Solar Farm located on the old Croton Egg Farm. I guess that makes some topographic sense. It is flat, it was a farm.

On the Dimension Energy Site Plan, for Lexington Ave., it looks like all trees approximately 200 ft. from my property line will be removed (it's hard to tell how far the cutting area is, as the site plan has no scale). I'm pretty sure I'll be able to see Solar Panels 200 ft away.

The land behind the residential properties on Baron De Hirsch Rd. slopes down to a stream and up on the other side of the stream to Lexington Ave. The slope varies I would say between 20 and 30 degrees (or between 15% and 45%, not 20% and 30% on the site plan). The stream flows north and south and the slopes are east to west and down to the south. Once on the other side of the stream near the solar panels, the slope becomes even greater. When you are in the Solar Farm area the slope is more north to south and the slope descends steeply to the wetlands. (Drive down Lexington Ave. from Dykeman Dr. to Rt. 202 for an idea of the slope. Better yet, try walking up Lexington. Bring some oxygen.) I walked part of the area. I did not use a google map as the Dimension Site Plan says it did. I believe my estimates are better than the Dimension Energy Site Plan. I believe this Solar Farm will need extensive excavation and possible retaining walls to work at all.

The vegetation consists of Maple, Ash, Oak, and some Pine. The trees hold the hillsides in place. I have seen Fox, Owls, Hawks, Turkeys, Deer, Coyotes, Ground Hogs, etc. It is easy to see why this is the Croton Watershed. When it rains, water seeps into the stream and hillsides and drains into

the Wetland. The Wetland follows Rt.202 and feeds Hunter Brook which eventually empties into Croton Reservoir. If it becomes a Solar Farm, I guess this will still happen only faster and the water may contain Lead, Cadmium, and other hazardous materials.

As I understand it, Solar Panels are large and heavy pieces of glass, and they are placed on aluminum racks. I assume they would have to be cemented into the ground because the hillsides will erode when the trees are removed, and the panels will move, even with cement.

The weather here is not conducive to the creation of electricity from Solar Power. It is cloudy half the time and always humid. Lately we have been having more hurricanes and Nor Easters. My power has been out (off and on) for two weeks this year so far, due to windstorms and hurricanes. It is **not** recommended that Solar Farms be located in humid and or windy areas. Humidity, clouds, snow and Wind reduce electrical output. We have plenty of wind, clouds, snow and humidity here.

The panels need to be tilted to the south or southwest to point at the sun. During storms the wind will lift some of the panels off their frames. The frames will shatter and need to be replaced. These costs will reduce the profits of the Solar company. As time goes by, the company may decide this wasn't such a good idea (reduced output and high maintenance and close the farm.

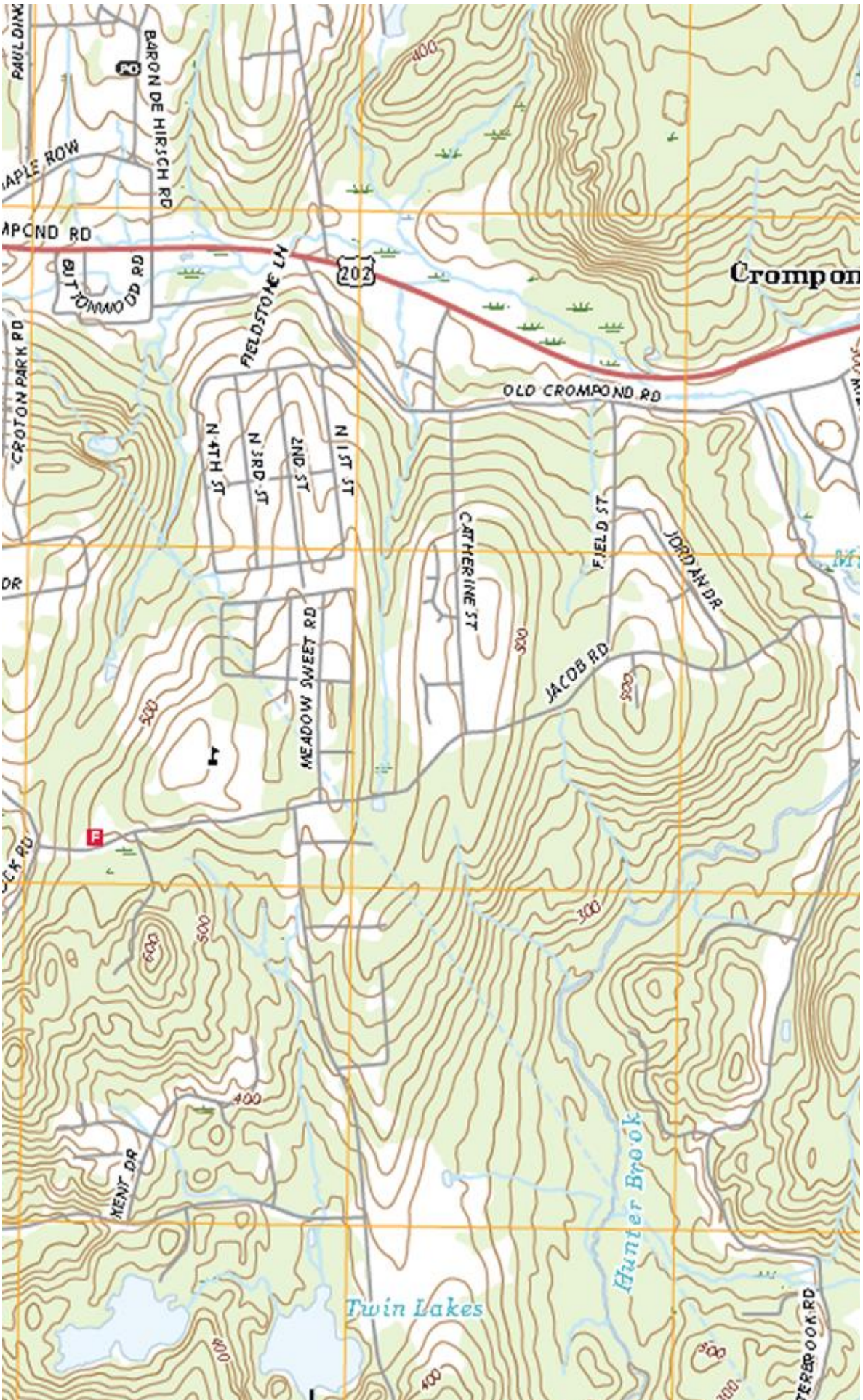
Also, important -- Solar Panels contain Lead and Cadmium and other hazardous materials. When they shatter the Lead, Cadmium and other hazardous materials land on the ground in small pieces. The Lead, Cadmium and other hazardous materials have to be recycled and removed especially in the watershed for the water we drink. This recycling process is very expensive and necessary.

If the Solar Farm is OK'd, and built, and the Solar Company should decide to close the Farm, who is going to pay for the decommissioning? I think that the company should pay and that should be stipulated in any approval.

At the October Planning Board meeting, the company's representative did not commit to building the access road shown on the site plan. He seemed to indicate they wanted to use Dykeman Dr. for access.

What is the plan? How will they get into and out of the site with the hazardous material?

(See Mohegan Lake Quadrangle US Geological Survey Map next page)


BARON DE HIRSCH RD
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APOND RD
BUTTONWOOD RD
FIELDSTONE LN
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Crompon
CROTON PARK RD
OLD CROMPOND RD
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N 3RD ST
2ND ST
N 1ST ST
CATHERINE ST
FIELD ST
JORDAN DR
MEADOW SWEET RD
JACOB RD
500
400
300
600
KENT DR
Twin Lakes
Hunter Brook

Land use (From the Union of Concerned Scientists Website)
"***Depending on their location, larger utility-scale solar facilities can raise concerns about land degradation and habitat loss. Total land area requirements vary depending on the technology, the topography of the site, and the intensity of the solar resource. Estimates for utility-scale PV systems range from 3.5 to 10 acres per megawatt, while estimates for CSP facilities are between 4 and 16.5 acres per megawatt.***
Unlike wind facilities, there is less opportunity for solar projects to share land with agricultural uses. However, land impacts from utility-scale solar systems can be minimized by siting them at lower-quality locations such as brownfields, abandoned mining land, or existing transportation and transmission corridors Smaller scale solar PV arrays, which can be built on homes or commercial buildings, also have minimal land use impact. (union of concerned scientists)**, (https://www.ucsusa.org/resources/environmental-impacts-solar-power)"**

Solar Field in Puert0 Rico after Hurricane. (https://www.forbes.com/sites/michaelshellenberger/2018/05/23/if-solar-panels-are-so-clean-why-do-they-produce-so-much-toxic-waste/?sh=39125636121c)

The power that will come from the solar farm does not benefit Cortlandt Manor. The Solar Company sells the power to Con Ed and Con Ed just adds it to their power supply and it goes into their grid. Saying it is Cortlandt's Electricity would be like saying that the water from Hunter Brook that flows into Croton Reservoir belongs to Yorktown. It is a mischaracterization.

Healthwise, solar farms leak electric fields. When you drive near high-power electric lines with your radio on you will hear electrical interference. It comes from the wires. This is what is called dirty electricity. It is caused by the expansion and collapsing of electrical fields around the wires.

These fields have been associated with cancer and other health hazards. They can interfere with radio, television, Wi-Fi signals the list is longer.

"*The Croton, Catskill and Delaware watersheds deliver approximately 1.4 billion gallons of pristine, unfiltered drinking water each day from 19 upstate reservoirs to more than nine million people living in New York City, Westchester, Putnam, Orange and Ulster Counties. (https://www.riverkeeper.org/nyc-watershed/). "*

I know that the people who built the NYC water supply, built it for themselves and their children. They thought having a reliable, clean, inexpensive source of water was a good idea. They paid taxes, floated bonds, and even allowed their towns to be flooded by the reservoirs in order to have it. Solar Farms are a short term and not very reliable fix for a problem we have been ignoring since the first oil embargo in the 1970's. We live in the northeast. In the wintertime, the sun is high enough in the sky for about six hours to provide any useful solar power and half that tine on average the sky is cloudy. How long do you really think Dimension Energy will remain interested in this site after they have a couple of wind storms like the one that went through here last night (11/15/2020) and they have to replace a couple of their panels and clean up the remains of the ones just destroyed?

We are living in a small residential town in the Northeast. I know the state has just closed our chief source of revenue, Indian Point. I think that this was an arbitrary politically motivated decision and it put the town in a bad financial situation. How will hurting the property values of the residents in Crompond and decreasing property tax revenues in the future because these revenues are based on the value of the property they own, and it will drive down property values, how will that help the town out of the revenue problems we have?

If this project is approved, I think we should require Dimension report any broken solar panels to the town and the town inspect and require that Dimension clean up the debris, in a timely manner.

Con Ed must be ready to accept any power from the solar farm before any trees are removed.

Dimension must agree, when it is finished with the site to decommission the site when it is finished with it and be required to replace the trees removed during construction. (See Decommissioning-Solar-Systems.pdf)

I think we should at least require that a hedge be installed around the entire site, to obscure the view and mitigate damage to property values for the residential properties in the neighborhood.

Dykeman Dr. should not be used by Dimension during or after construction.

If any residential or any other local business reports any disruption from electromagnetic waves to any electrical appliance generated by this site, they should be compensated for any inconvenience.

- **It is an intrusion on a residential neighborhood.**
- **It is dangerous and hazardous to the wetlands, the environment, and our health.**
- **It has the potential to turn the area into a brown field.**
- **It is short sighted and counterproductive.**

It is unrealistic, almost silly they came to the planning board with a google map. The idea that this site could be developed in a three or four-month timeline is ridiculous. They really did not know how they were going to get construction materials to the site. It was not thought out. So, we are hoping the planning board turns this idea down.

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SOURCES

I am including my sources for information here. All this information came from the URL's included.

"A watershed is a geographic area whose rainfall, snowmelt, streams and rivers all flow or drain into a common body of water, such as a reservoir, lake or bay. Ultimately, most watersheds in the U.S. drain into the Atlantic or Pacific Oceans or the Gulf of Mexico. Whether your drinking water comes from a surface supply—reservoirs, rivers or lakes—or underground sources called aquifers, everyone lives in a watershed. Water quality protection is important for all of us.

As water travels over the land or through the ground, it picks up naturally occurring minerals as well as contaminants from animals and human activities. Thus, pollution sources are classified as point or nonpoint. A *point source* originates from a single location, such as a sewage treatment plant which may discharge clean, treated wastewater from a pipe into a river or stream. *Nonpoint sources* are diffuse—they don't have a single point of origin and are generally carried off the land along with surface water during rain events. (https://www1.nyc.gov/site/dep/environment/about-the-watershed.page)"

"The Croton, Catskill and Delaware watersheds deliver approximately 1.4 billion gallons of pristine, unfiltered drinking water each day from 19 upstate reservoirs to more than nine million people living in New York City, Westchester, Putnam, Orange and Ulster Counties. (https://www.riverkeeper.org/nyc-watershed/) "

"Hazardous materials

The PV cell manufacturing process includes a number of hazardous materials, most of which are used to clean and purify the semiconductor surface. These chemicals, similar to those used in the general semiconductor industry, include hydrochloric acid, sulfuric acid, nitric acid, hydrogen fluoride, 1,1,1-trichloroethane, and acetone. The amount and type of chemicals used depends on the type of cell, the amount of cleaning that is needed, and the size of silicon wafer [4]. Workers also face risks associated with inhaling silicon dust. Thus, PV manufactures must follow U.S. laws to ensure that workers are not harmed by exposure to these chemicals and that manufacturing waste products are disposed of properly.

Thin-film PV cells contain a number of more toxic materials than those used in traditional silicon photovoltaic cells, including gallium arsenide, copper-indium-gallium-diselenide, and cadmium-telluride[5]. If not handled and disposed of properly, these materials could pose serious environmental or public health threats. However, manufacturers have a strong financial incentive to ensure that these highly valuable and often rare materials are recycled rather than thrown away.(https://www.ucsusa.org/resources/environmental-impacts-solar-power)"

"Some solar modules (For example: First Solar CdTe solar module) contains toxic materials like lead and cadmium which, when broken, could possibly leach into the soil and contaminate the environment.

A **perovskite solar cell** (**PSC**[1]) is a type of solar cell which includes a perovskite structured compound, most commonly a hybrid organic-inorganic lead or tin halide-based material, as the light-harvesting active layer.[2][3] Perovskite materials, such as methylammonium lead halides and all-inorganic cesium lead halide, are cheap to produce and simple to manufacture. (https://en.wikipedia.org/wiki/Solar_cell)"

"Lead toxicity is an important environmental disease and its effects on the human body are devastating. There is almost no function in the human body which is not affected by lead toxicity. Though in countries like US and Canada the use of lead has been controlled up to a certain extent, it is still used vehemently in the developing countries. This is primarily because lead bears unique physical and chemical properties that make it suitable for a large number of applications for which humans have exploited its benefits from historical times and thus it has become a common environmental pollutant. Lead is highly persistent in the environment and because of its continuous use its levels rise in almost every country, posing serious threats. This article reviews the works listed in the literature with recent updates regarding the toxicity of lead. Focus is also on toxic effects of lead on the renal, reproductive and nervous system. Finally the techniques available for treating lead toxicity are presented with some recent updates.(https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4961898/)"

"Cadmium exerts toxic effects on the kidneys as well as the skeletal and respiratory systems. It is classified as a human **carcinogen**. It is generally present in the environment at low levels; however, human activity has greatly increased levels in environmental media relevant to population exposure. (https://www.who.int/ipcs/assessment/public_health/cadmium/en/)"

Land use

Depending on their location, larger utility-scale solar facilities can raise concerns about land degradation and habitat loss. Total land area requirements varies depending on the technology, the topography of the site, and the intensity of the solar resource. Estimates for utility-scale PV systems range from 3.5 to 10 acres per megawatt, while estimates for CSP facilities are between 4 and 16.5 acres per megawatt.

Unlike wind facilities, there is less opportunity for solar projects to share land with agricultural uses. However, land impacts from utility-scale solar systems can be minimized by siting them at lower-quality locations such as brownfields, abandoned mining land, or existing transportation and transmission corridors [1, 2]. Smaller scale solar PV arrays, which can be built on homes or commercial buildings, also have minimal land use impact. (union of concerned scientists), (https://www.ucsusa.org/resources/environmental-impacts-solar-power)