Advocates for Herring Bay

November 29, 2017

Dear County Executive Schuh and Members of the Anne Arundel County Council,

On November 17, 2017, 14 organizations including AHB asked you to take immediate action to update the county's laws and standards for solar energy facilities. We hope that the following information will be helpful to you as you evaluate that request. It addresses four key concerns:

Anne Arundel's solar regulations do not reflect best practices. Our solar laws and 2010 Inspection Manual were adopted before the county had experience with ground-based systems. Since then, over 400 megawatts (MW) of utility-scale solar capacity have been built or proposed in Maryland, leading the Department of Natural Resources and numerous localities to update their zoning and performance standards (see Attachment A; details provided in Attachments E and F). Their experience shows that we can and should revise our standards to require:

- Robust and diverse vegetative buffers to protect viewscapes,
- Ground covers comprised of native and pollinating plants, and
- Monetary guarantees and rules ensuring that resources will be sufficient to decommission the site when it stops producing electricity.

Best practices should apply to pending projects. At least six projects have applied for permits to build solar arrays in Anne Arundel County. Taken together, they would have the capacity to produce about 12 MW of electricity, and could cover nearly 100 acres (see map in Attachment B). Applying state-of-the-art standards to that acreage will allow Anne Arundel to produce clean energy while preserving the ecological integrity of the land and minimizing the visual and fiscal impacts of development.

Getting it right is a county responsibility. In Maryland, the regulation of electric power plants depends on size. Plants that produce more than two MW are regulated by the state; smaller projects by the county. Five of the six pending projects are "community solar facilities" falling under the county's purview (see Attachment C). Although the Maryland Public Service Commission (PSC) is regulating the sixth facility (a three MW plant co-located with a smaller one), the PSC will factor the county's standards and policies into its decision.

Energy development is a county-wide issue. In the past, northern Anne Arundel bore the brunt of the water and air pollution from power plants like Brandon Shores and H.A. Wagner (see attachment D). Going forward, residents and businesses have the opportunity to develop pollution-free roof-top and ground-based solar systems throughout the county. And—as shown by the county's collaboration on a 12 megawatt solar project on a landfill in Annapolis— local governments can play a role in maximizing the use of brownfields for solar arrays. Everyone has a stake in the policies that will shape our energy future.

Thanks for taking the time to consider our views. Please do not hesitate to contact us if you have any questions.

Sincerely,

Birgit Sharp
Advocates for Herring Bay (AHB)

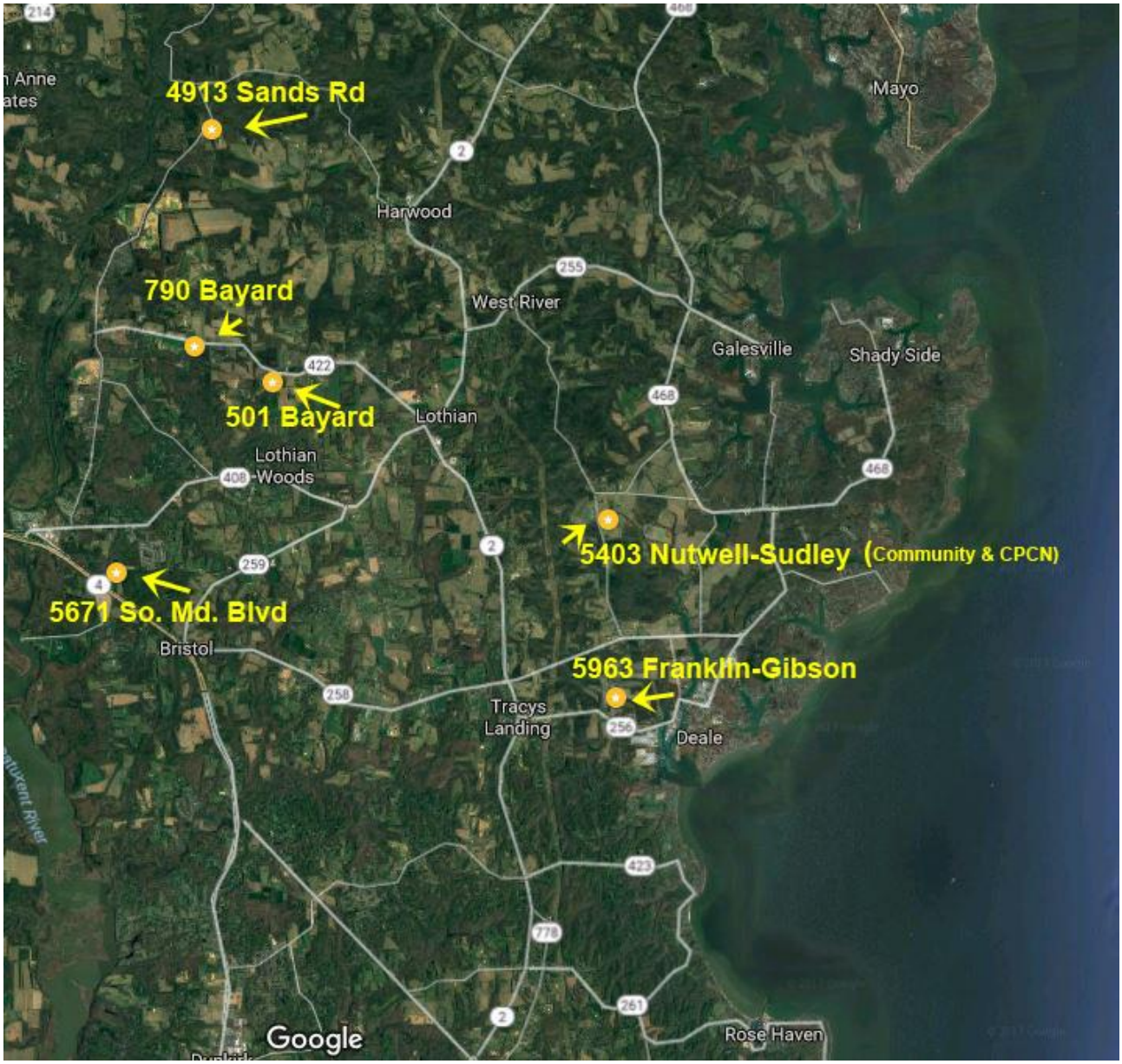
Cc: Members of Anne Arundel's Agriculture, Farming, and Agritourism Commission

Attachment A: Overview of performance standards for solar arrays

Solar performance standards: Lessons learned from other MD counties

3 Top Issues	2013: AA Solar Law (Article 18-10-141)	2017: Examples from recent updates adopted by Queen Anne, Cambridge, and/or Frederick
Viewscape buffers	Must be screened from roadways and adjoining residential uses, based on 2010 Landscape Manual. Requires 15 ft. buffers.	- 50 or 75 foot buffers - Diversified evergreen trees & shrubs - Plan prepared by certified landscape architect - Inspection of vegetation throughout life of the project - Performance bonds for maintaining vegetation
Ground Cover	"Encouraged" to use low maintenance, low growing vegetative surfaces for stormwater management	- Require diverse, flowering ground-covers per DNR guidance developed under MD law (SB 1158, 2017) - Comprised predominantly of native and pollinating plants - Performance bonds and ongoing inspections, per above
Decommissioning	Owner must remove system when it stops producing electricity. If owner fails to do so, county will remove it at owner's expense. Assumed abandoned if no power produced for 12 months.	- Monetary guarantees (e.g., bonds) prior to issuing permits - Recordable covenant to reclaim site per plan - Amounts = to 125+% of est. costs, with periodic updates - Cost estimates prepared by independent experts - Decommissioning plan updated every 5 years - Shorter trigger for decommissioning (e.g., 6 months after production stops)
Other	Avoid glare, limit access, lighting, and height, and do not adversely affect historic sites	- Complaints about glare/reflection received within two years must be mitigated to city's satisfaction - Analysis of glare/solar radiation must be prepared by independent experts prior to permits

Attachment B: Map of pending solar applications in Anne Arundel as of August, 2017



Attachment C: Applications accepted by BGE in 2017 under 3 & R P P X Q L W \ 6 R O D U 3 L O R W
As Authorized by Maryland law HB 1087 (2015)
Anne Arundel projects highlighted in red

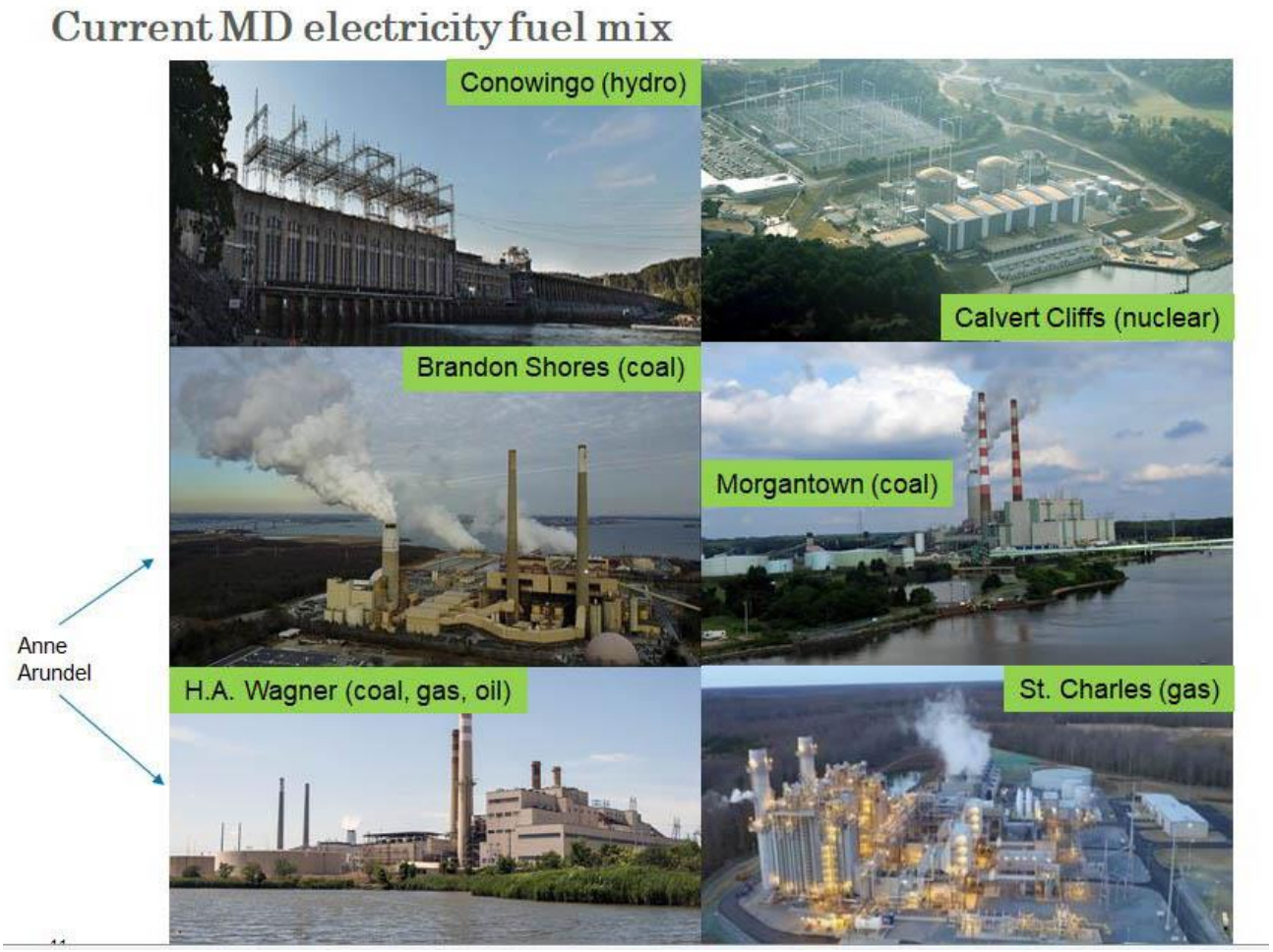
BGE Community Solar Pilot Program Application Listing 10/16/17 1:13 PM

S-Small/Brown/Oth
O-Open
L-LMI

R-Reserved
I-In-Svc
W-Wait List

	Numeric Text	Numeric	Date	Text	Text	Numeric	Value	3 Dec pl	Date	Value	(1,2,3)
	PSC CSEGS ID	BGE Project ID	Application Date	Applicant	CSEGS Address	CSEGS Zip	(S,O,L) Category	(MW) Size	Expected Operation	(R,I,W) Status	Pilot Year
1	17A2150140003869	4705565	8/3/2017	TPE Maryland Solar Land Holdings, LLC	11956 E Philadelphia Rd	21087	O	2.000	7/31/2018	R	1
2	17A2150690003901	4705992	8/7/2017	Alder Energy Systems, LLC	9203 Dogwood Rd	21244	O	0.900	2/27/2018	R	1
3	17A2150200003873	4705564	8/14/2017	Cypress Creek Renewables LLC	20450 Middletown Rd	21053	O	1.900	7/28/2018	R	1
4	17A2150140003869	4706010	8/22/2017	TPE Maryland Solar Land Holdings, LLC	5403 Nutwell Sudley Road	20778	O	2.000	7/31/2018	R	1
5	17A2149970003865	4705567	8/22/2017	CleanChoice Energy Community, LLC	501 Bayard Road	20711	O	2.000	12/17/2018	R	1
6	17A2150690003901	4706005	8/23/2017	Alder Energy Systems, LLC	10021 OLD COURT RD	21244	O	1.980	2/27/2018	R	1
7	17A2149970003865	4705573	8/25/2017	CleanChoice Energy Community, LLC	5963 Franklin Gibson Road	20779	O	1.329	12/18/2018	R	1
8	17A2149560003861	4705971	8/25/2017	Anuppant Solar Power Inc	17700 Ridgely Street	21230	S	1.800	12/12/2018	R	1
9	17A2150210003874	4706013	8/28/2017	Community Energy Solar, LLC	790 Bayard Rd	20711	O	2.000	6/30/2018	R	1
10	17A2149970003865	4705578	8/29/2017	CleanChoice Energy Community, LLC	4913 Sands Rd	20711	L	2.000	9/17/2018	R	1
11	17A2149970003865	4705581	8/29/2017	CleanChoice Energy Community, LLC	632 Freeland Rd	21053	L	2.000	9/17/2018	R	1
12	17A2149970003865	4705577	8/29/2017	CleanChoice Energy Community, LLC	1139 Monkton Rd	21111	O	2.000	9/17/2018	R	1
13	17A2150200003873	4706022	8/30/2017	Cypress Creek Renewables LLC	14466 Green Rd	21013	O	2.000	8/30/2018	W	1
14	17A2148980003856	4705584	9/1/2017	Forefront Power, LLC	19735 Graystone Rd	21161	O	0.840	6/30/2018	W	1
15	17A2150700003900	4705605	9/6/2017	Earth and Air Technologies LLC	2117 Old New Windsor Pike	21771	L	1.950	1/31/2018	R	1
16	17A2150570003894	4705590	8/30/2017	SGC Power LLC	17800 Queen Anne Bridge Road	20716	O	1.584	8/30/2018	W	1
17	17A2148980003856	4705580	9/7/2017	Forefront Power, LLC	2316 Ridge Road	21244	L	1.980	6/30/2018	R	1
18	17A2148980003856	4705607	9/7/2017	Forefront Power, LLC	9155 Old Court Rd	21244	L	1.980	6/30/2018	R	1
19	17A2150800003903	4706009	9/6/2017	New Source Generation LLC	15700 Hanover Pike	21155	O	0.990	2/1/2018	W	1
20	17C2149980003866	4705614	9/20/2017	Groundswell	4221 Primrose Ave	21215	L	0.322	12/31/2018	R	1
21	17A2150280003875	4705600	9/22/2017	ESA Sparks Glenco, LLC	15637 York Road	21152	L	1.849	8/31/2018	R	1
22	17B2149960003864	4725902	9/26/2017	Cambridge Flats LLC	2114 Cambridge Street	21231	S	0.00993	12/16/2017	R	1

Attachment D: Electric power plants in Maryland



New Power Source in Maryland's Electricity Mix

Solar Energy Systems – Screening and Ground Cover

Jurisdiction	Code
Anne Arundel County	A ground mounted solar energy system–principal shall be screened from roadways and adjoining residential uses or zones in accordance with the Landscape Manual. Solar energy system-principal owners are encouraged to use low maintenance and low growing vegetative surfaces under system as a best management practice for stormwater management.
City of Cambridge	Small-Scale and Community Solar Energy Systems shall be screened so as to be shielded from public view to the maximum extent practicable. Ground-mounted Solar Energy Systems shall require a landscape screening plan for review and approval by the Zoning Official, and such screening shall be maintained in good health throughout the existence of the Solar Energy System. Medium and Large-Scale Solar Energy Systems shall be screened from all City rights-of-way and from adjoining properties with vegetation. The vegetative screen may consist of existing vegetation as determined by the City. A landscape plan, prepared by a third party licensed landscape architect and paid for by the applicant, shall be submitted for review and approval by the City as part of the application process. The plan set shall show and identify all existing vegetation to remain or proposed to be removed, pending City approval. Any trees with a six (6) inch or greater caliper to be removed shall be shown on the plan set, along with a mitigation plan for their removal with a two (2) for one (1) tree replacement ratio with a minimum caliper of three (3) inches, measured at the DBH (diameter at breast height, or four and a half (4 .5) feet above the ground). The landscape plan shall include: A minimum of a seventy-five (75) foot buffer with two (2) staggered rows of six (6) foot tall native evergreen trees located on a three (3) foot average undulating, naturalized berm. Evergreen tree species shall be a varied mixture of compatible types. The trees shall be planted using triangular spacing and attain an eight (8) foot height in two (2) years. Actual spacing of the trees will be dependent on species selection. The buffer shall include evergreen shrubs and a ten (10) foot-wide flowering ground cover/pollinator habitat area with the remaining area planted in native, warm season, low growing grasses/clovers. The Planning Commission and/or the Board of Appeals may remove or modify the berm requirement on a case by case basis. All plantings, excluding trees, shall benefit pollinators. The screen plantings, the flowering ground covers, and warm season, low growing grasses and clovers shall be considered "beneficial habitat." Seed mixture shall be reviewed and approved by the City in conjunction with State agencies. Flowering ground cover shall have a minimum of ten (10) plant species with a minimum of two (2) flowering seasons in addition to spring. In addition to the evergreen trees, cluster plantings of seven (7) to nine (9) native deciduous trees randomly planted to break up the evergreen screen shall be planted every with spacing of fifty (50) to seventy-five (75) feet between clusters.

Solar Energy Systems – Screening and Ground Cover

	A minimum of sixty (60) percent of the site shall consist of flowering ground cover/pollinator habitat for the panel area, with the remaining portion of the site seeded with native, warm season, low growing grasses/clovers that benefit pollinators. Screening shall minimize glare on all City rights-of-way and adjacent properties.
Frederick County	The appearance and visual impact of the solar facility shall be minimized by the use of screening. A 25 foot deep buffering and screening area shall be provided along common property lines between the Solar Facility and all adjoining residentially zoned property and along all adjacent roadways. The buffering and screening area may include a combination of berms, predominantly evergreen species at least 5 feet in height at the time of planting, or fencing to be determined by the County Council based on characteristics of both the solar facility location and the surrounding neighborhood. The County Council may increase the 25 foot buffering and screening area depth based on characteristics of both the solar facility location and the surrounding neighborhood. The buffering and screening area may be located within the setback areas.
Queen Anne's County (including proposed Changes in bill 17-17)	Queen Anne's current law: Provide a detailed landscape plan demonstrating that non-invasive native plant species are used to surround the solar arrays site providing a vegetated buffer that consists of a landscaped strip at least 25 feet wide measured from each property line and/or around the perimeter of the site area of the solar arrays. Additional buffer area may be required by the Board of appeals to provide screening from adjacent residential uses and/or public or private roads and/or rights-of-way. It shall be demonstrated in the landscape plan as part of the site plan that plantings will be of a type that will adequately screen the solar arrays from view of adjoining properties and private and public roadways and a landscape berm appropriate to accept plantings, up to four feet high, may be used to assist in screening solar arrays. Queen Anne's proposed ordinance No. 17-17: (b) environment: (1) All forested areas impacted or proposed for removal for construction shall be mitigated in accordance with Chapter 18:2, Forest Conservation Act. (a) if reforestation is required, planting may be incorporated as landscaping per §18:2-14.A. (2) show that the gross usable area for panels will exclude wetland areas....Impacts associated with access or interior roads and utility crossings shall provide the necessary authorization for any disturbances. (3) all natural resources are to be identified and protected in accordance with Chapter 18:1, Part 4, Article IX. (4) Identification on the site plan of the site's soil composition. Existing top soil shall not be removed from the site. (5) provide a detailed landscape plan, which is a combination of plantings, existing vegetation, fencing, and if applicable, berms, and demonstrating the following: (a) a vegetated buffer that is a minimum of 50 feet wide around the perimeter of the [site], which provides screening from adjacent properties and residential uses and roads and/or rights-of-way. This buffer may be located within the setback. (b) The plan shall identify the location and general size and composition of existing vegetation. Healthy existing vegetation within the designated buffer area may be used to satisfy the buffer standards when it is identified as to what standard it meets. In the event that

Solar Energy Systems – Screening and Ground Cover

	Healthy vegetation which is intended to meet the buffer planting requirement is cleared, damaged, or destroyed during construction; the vegetation shall be replaced with the same species or with an approved substitute. The removal of any existing vegetation under a waiver shall void such waiver received and a revised landscape plan must be submitted. (c) Non-invasive native plant species are recommended. Non-native plant material shall not total more than fifty percent (50%) of all plantings. (d) The plan shall be prepared by a licensed landscape architect registered in the State of Maryland. (e) Where a phased construction plan is proposed, the landscape plan shall identify the phasing of the plantings applicable to each construction phase. (f) To ensure adequate variety, and avoid monotony and uniformity within the buffer, plant materials shall not include more than 25 percent (25%) of any single species. The vegetation shall be thickly planted and of such species that it will provide an opaque visual barrier that obscures the [facility] from sight once the vegetation reaches maturity or within five years, whichever comes first. Plantings shall include a mix of evergreen and deciduous trees, shrubs, and beneficial habitat as follows: (1) a minimum of two staggered rows of evergreen trees that at installation, shall be at least 6 feet in height, each planted no more than 10 feet apart. Evergreen tree species shall be a varied mixture of compatible trees and achieve a height of eight (8) fee in a minimum of 2 years. (2) In addition to evergreen trees, native deciduous or shade trees with a minimum size at installation of 2 inch caliper will be interspersed to enhance the evergreen screening along with understory trees with a minimum size at installation of 1 inch caliper or six (6) feet in overall height. (3) Shrubs with a minimum size at installation of 24 inches in height or 30 inches spread. (4) The buffer shall include a flowering ground cover for pollinators or other beneficial habitat. The ground cover seed mixture shall include a minimum of 10 plant species with a minimum of 2 flowering seasons. (5) The height of proposed plantings may require alternatives based upon the site elevation and visibility from adjacent properties and roads and/or rights of ways. If necessary, an elevation or perspective illustration exhibit shall be provided with viewpoints from relevant locations around the site. (g) A landscape berm shall be provided at a minimum of three (3) feet height to assist in screening. The design of the berm shall be such that the natural drainage patterns of the site will not be altered. The requirement of providing a landscape berm may be waived in whole or in part by the Board of Appeals, subject to the following conditions.... (h) Irrigation Standards. To assist in maintaining plant materials in a healthy condition, all newly created landscape buffer areas shall be watered in a manner adequate to ensure its establishment and survival. The landscape plan shall include a watering schedule appropriate for the proposed plantings, which may include service by on-site irrigation or water truck, until the plan material is sufficiently established to survive on natural soil moisture.... (i) A maintenance agreement for the landscape plan shall be provided with a surety or other financial assurance per Part 7, Article XXVII of Chapter 18 to cover replacement of the plantings and/or irrigation system for any failed plantings and/or irrigation system. All plantings shall be maintained in a live, healthy condition for the duration of the solar array use and shall be replaced by the solar array operator as necessary to maintain all screening....

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	doned if no electric or thermal power is generated by the system for a period of 12 consecutive shall have 12 months to dismantle and remove the solar energy system. If the owner fails to the County may complete the removal at the owner's expense.
	ND OF ITS USEFUL LIFE OR HAS BEEN ABANDONED SHALL BE REMOVED. THE OWNER OR TALLATION NO MORE THAN 150 DAYS AFTER THE DATE OF DISCONTINUED OPERATIONS. THE TY BY CERTIFIED MAIL OF THE PROPOSED DATE OF DISCONTINUED OPERATIONS AND PLANS
	SYSTEMS, STRUCTURES, EQUIPMENT, SECURITY BARRIERS AND TRANSMISSION LINES FROM
	ASTE IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL WASTE DISPOSAL REGULATIONS;
	SITE AS NECESSARY TO MINIMIZE EROSION.
	THE FACILITY WITHIN 150 DAYS OF ABANDONMENT, THE COUNTY RETAINS THE RIGHT TO ION OF SPECIAL EXCEPTION APPROVAL, THE PETITIONER AND LANDOWNER AGREE TO ILITY.
	OLAR FACILITY SHALL PROVIDE A SECURITY BOND OR EQUIVALENT FINANCIAL SECURITY IN COUNTY ADMINISTRATIVE OFFICER.
	nergy Systems that cease to produce electricity for six (6) months shall be presumed sumption by presenting substantial evidence, satisfactory to the Zoning Official, that d the applicant 's reasonable control, that there is no intent to abandon the Solar Energy g Solar Energy System is reasonably practicable.
	substantially damaged and shall not be repaired or replaced, or repair or replacement has may direct the applicant to begin the decommissioning process within sixty (60) days of the gy System unserviceable.
	report regarding the Solar Energy System's power production.