

MINUTES

7:30 PM

PRESENT: R. Dodds
D. Haywood
P. Lubitz
J. Mathieu
S. McNicol
E. Niemann
J. Strasser
D. Banisch, Planner
P. McCabe, Engineer
D. Pierce, Attorney

ABSENT: T. Kratzer
L. Sensus
M. Synchron, Alt #1

CALL TO ORDER

The meeting was called to order at 7:31 PM by R. Dodds.

NOTIFICATION

In order to ensure full public participation at this meeting, all members of this Board, and members of the public are requested to speak only when recognized by the Chair so that there is no simultaneous discussion or over-talk, and further, all persons are requested to utilize the microphones which are provided for your use by the Township. Your cooperation is appreciated.

Notification of the time, date and place of this meeting has been published in the Hunterdon County Democrat and has been posted in the Kingwood Township Municipal Building at least 48 hours prior to this meeting and has been filed with the Municipal Clerk.

NEW AND PENDING MATTERS

At the request of R. Dodds, D. Pierce provided the background on the solar applications and the Board's role in reviewing the applications. In the last few years the State legislature has adopted various laws with a goal of promoting solar and wind energy development. One of the laws that has had the greatest impact in Kingwood, is a law making the commercial solar facilities what is called an "inherently beneficial" use. What that means is that an applicant for that type of use can make an application to the Board of Adjustment for approval of that use in any zone in the Township, including residential zones. There is nothing the Township can do to prevent them from making that application in those zones. By having it designated as an "inherently beneficial" use the Board of Adjustment is very limited in the review that it could make in those applications. It is deemed to serve the public interest and so the Board of Adjustment would only be allowed to review, weigh the benefits and the detriments associated with that application. There would be no standards in any ordinance in the Township that would govern that type of application. Various requirements could be imposed in connection with a use variance application before the Board of Adjustment. What Kingwood did was to amend its zoning ordinance to allow these types of facilities as a "conditional use" in residential zones in the Township. It gives the Township the ability and it is done so by ordinance to impose various conditions related to that type of use and if the applicant meets all those conditions they are entitled to their approval. If the applicant does not meet

those conditions, they would have to go to the Board of Adjustment for a conditional use variance and would have to show, despite not meeting that condition, that it should be approved in that area. While the Township may not have had the ability to stop these uses from locating in residential zones, by enacting the ordinance and treating them as conditional uses it created a set of rigorous standards that the Board can apply to these uses and make sure that they comply with those standards before they get their approval. While the Township has standards the Township and Board must abide by those standards as much as the applicant does. If the applicant satisfies the standards, the Board is required by law to approve the application. The Board could conceivably deny it but an applicant, who meets the standards and is denied, would have a very easy time to go to the Superior Court of New Jersey and have it reversed on appeal. He provided the above background for the Board and the guests tonight to put things in perspective a little bit.

EffiSolar – Block 23, Lot 11 – County Road 519 – Preliminary Approval – Public Hearing

J. Giunco, attorney, was present this evening for the applicant. He stated the applicant is seeking a conditional use permit to develop a commercial solar facility. The subject property is Block 23, Lots 11 and 11.01. The applicant is seeking a variance for the frontage, which is an existing condition. The required minimum lot frontage is 200'. The lot has 50'.

D. Pierce swore in R. Roseberry.

R. Roseberry, engineer, provided his credentials to the Board. The Board accepted R. Roseberry as an expert witness.

R. Roseberry described the aerial exhibit being projected on the overhead. The subject property is Block 23, Lot 11. It is owned by I. Perrotti. The property consists of 130 acres. The Board had granted preliminary major subdivision approval. It is currently being used for agricultural purposes. The access to the property is gained from a 50' flag stem on Route 519. To the east of the site is a large wooded area, the Lockatong Creek to the south and residential properties to the north. To the west and north are large residential and agricultural properties. The property contains an existing farm house and outbuildings in the center of the site. The property gains access through an easement on Route 519, north of the frontage. The topography of the property is gently sloping. It is from 505' on the northerly boundary to 469' along the Lockatong Creek. The applicant has an LOI dated January 13, 2009. There are approximately 36.8 acres of wetlands on the property which are predominantly located along the westerly boundary and the Lockatong Creek. The subject property and the surrounding properties are located in the AR-2 zone. The applicant is proposing the construction of a utility scale solar facility. The original submission for this application had substantially more solar panels. The Township, subsequent to the original submission, revised their zoning ordinance. After the adoption of the zoning ordinance, the application was revised and scaled back to comply with the amended ordinance. The applicant intends to utilize 62 acres for the utility scale solar facility. The Effisolar system layout is different from other systems as they utilize a low solar panel array. The array is 4.5' off the ground and the arrays are 6.5' apart. The property is currently planted in hay. The hay is the same height as the solar panels, which is a good visual. The solar panels will face to the south. The construction of the facility will require very little grading. The geotechnical evaluation indicates that the racking can be driven into the ground. There is 6' before they reach any refusal. There will be no concrete footings. There will be grading for the pads and/or inverters. They will remove the topsoil to install the concrete base. The project is proposing to be constructed in two phases. The purpose of the phasing is to start Phase I before obtaining the necessary DEP permits for Phase II. The DEP permits for Phase II are due to the isolated wetlands around the existing barn and on the western portion of the property. The panels will be installed on 15 to 20 degree tilt. The panels will be wired to

inverters throughout the site. Each inverter is capable of handling 1 megawatt of power. It converts the power from DC to AC. There will be underground conduit. The switch gear is on the westerly property line at the point of interconnect in the existing power line. JCP&L has recommended this point as the point for the interconnect. Phase I can operate independently of Phase II, if the DEP permits are not obtained. There will be an 8' security fence around the site. The installation schedule will be the fence, landscaping, if seasonal and then the panels for Phase I. The site will be seeded with a low mow grass which will grow no more than 2'. The project is subject to a maintenance plan. The grass will require a twice a year cutting but possibly a few more during the first few years. The plan has been submitted to the Kingwood Township Volunteer Fire Company (KTVFC). They have received correspondence back from the KTVFC on May 9, 2011. They have addressed all of their issues. They have provided full perimeter access around the property, 20' aisles to maintain interior circulation, have checked all the turning radii around the property to assure adequacy. The site will probably be accessed by a brush truck or ATV. The fence will be black vinyl clad. They will install additional gates throughout the site at the request of the KTVFC. He described the proposed landscaping and provided a cross sectional view of the adjoining properties. Since the applicant does not intend to install berms due to their concern about erosion, they have increased the height of the plantings. After D. Banisch's review letter, the applicant has increased the landscaping on the northwest corner. He reviewed the views from the surrounding properties on the overhead. The views are on an accurate vertical and horizontal scale. The view is from the 30' sight line required by the ordinance. Looking from the opposite side of the Lockatong Creek, the existing woods are sufficient so no additional buffering is needed. It has a substantial setback distance due to the set aside from the open space and environmental constraints. It is 500' from the panels to the creek. There will be some visibility from Lot 10 due to the existing growth not being evergreens. They will supplement the area with evergreens, ornamental, shade trees and fencing. From Lot 10.05, which is northwest of the site, it is unique because it is separated by the New Jersey Power and Light easement. The area under the power lines has been cleared of vegetation. Screening of the interconnect equipment is being proposed by 10-12' evergreens and fencing. The height of the interconnect equipment is 161" measured from the top of the insulators. All the wiring on site is underground. The proposed landscaping is designed to achieve a screening of the equipment. The applicant has agreed to an onsite meeting prior to the installation and/or during the installation of the trees. The applicant is willing to supplement the trees as needed. PJM reviews the plan and issues a feasibility report. They specify the point of interconnect. It is the applicant's intention to meet the criteria of blocking a view from 30' from adjoining residences. The applicant agrees to have a site inspection to identify any existing conditions that need to be supplemented. The request for the frontage variance is typically not called a variance but a prior non-conforming condition. The lot width requirement is 200'. The variance request does not pose any detriment to the community. There will be no construction along the flag stem. The width of the easement, north of the frontage, is adequate. The staging will be done on site. They are proposing a 400' x 400' staging area, which should be adequate for the construction equipment and employee vehicles. All the employees, equipment and material will be internal to the site. There will be no vehicles on Route 519. The access drive has a 25' wide easement. It contains 18' of gravel surface within the easement. The gravel will be upgraded and maintained during the construction. Once the facility is up and running, the traffic generated will be very limited. There should be one trip of maintenance a month and three or four for repair if necessary. There will be no lighting on the system. The maintenance or repair crews will come with portable lighting on their vehicles. Most of the calls will be done during the day. They are in an area that will not require any lighting for security purposes. They have reviewed the professionals' letters and are in agreement with the listed items.

T. Decker reviewed his review letter as follows:

A. Conditional Use

The installation of the solar arrays is a conditional use within the AR-2 Agricultural/Residential District. The following conditional use standards have been identified as a non-conformance or in need of additional information:

1. §132-102.P(1)b(i) requires that all major solar facilities on tracts of land 40 acres and greater in size shall not occupy more than 50% of the gross tract area, provided the remaining 50% of gross tract area be dedicated as open land containing a minimum of 30% of the unconstrained tract area. *Plans have been revised to indicate compliance with the open land provision. The following clarifications are needed:*
 - a. *Sheet 2 of the plan set shows unconstrained area calculations. An existing feature plan should be submitted depicting the area and limits of existing constrained and unconstrained areas to substantiate the unconstrained tract area of 70.51 acres.*
 - b. *Landscape buffer plantings are proposed within areas designated as proposed unconstrained open areas. As the buffer plantings are part and parcel to the proposed solar facility, these areas may not qualify as open areas.*

R. Roseberry responded the ordinance has guidelines for the preservation of open space. The applicant is preserving the open space to the maximum extent possible. The applicant has prepared a constraints map. The open lands meet the criteria of the 50%/30% ordinance requirements. The applicant is preserving the southern portion of the lot. The agricultural areas will be deed restricted from any development. The applicant has agreed to provide public access. The applicant intends to fence off both sides of the access road. The land will have gates on both sides of the area. **D. Banisch** inquired if the applicant has no intention of farming the land, if they would be willing to make it available to another farmer to farm or dedicate it in fee simple for public greenway open space or agricultural. **J. Giunco** stated they would offer it to another farmer but not be willing to dedicate the property. **R. Roseberry** stated the access way is 20' wide. Exhibit A-1 indicates how the applicant proposes to unobstructed access to the active farming area.

- c. *Sum of proposed individual unconstrained open areas is 21.71 acres. Table on Sheet 2 of the plan set indicates 21.74 acres.*
2. §132-102.P(3) requires that, except pursuant to a permit issued by NJDEP, no portion of major solar or photovoltaic energy facilities and structures shall occupy areas of land designated and regulated by NJDEP as floodplains, flood hazard areas, wetlands, wetland transition areas or riparian corridors. The solar facility as proposed encroaches into these environmentally sensitive areas. Documentation has not been received indicating submission of an application to NJDEP.

Applicant's engineer has indicated that Phase 1 of the application does not require NJDEP permits with the exception of a Permit-by Rule under NJAC 7:13-7.2(b)9 permitting solar panels within the riparian buffer. NJAC 7:13-7.2(b)9 does not specifically address solar panels, but does permit the "the construction of an open structure with a roof outside a floodway, such as a car port, covered patio or pole barn". The regulation further lists conditions which must be satisfied. NJAC 7:13-7.2(a) requires that written notice be provided to the NJDEP at least 14 days prior to initiating the activity. A copy of this notification should be provided to the Township as a condition of any site plan approval.

With regards to Phase 2, the applicant's engineer indicates that documentation of NJDEP wetland permit approvals will be provided at the time of building permit for Phase 2. Documentation should be provided as a condition of any site plan approval.

3. Applicant should demonstrate, through testimony and exhibits, compliance with §132-102.P(5) regarding visibility from adjoining residential uses at a height of 30 feet above ground level. *To be provided at public hearing.*
 - R. Roseberry indicated on the overhead several lines of sight from Lot 10.01, including the 30' sight line. He stated, scrolling left a half mile away, due to the topography issues, is where you will be able to see some of the panels.**

4. Submission of a Maintenance Plan is required in accordance with §132-102.P(5)a. *A draft maintenance plan has been submitted. Comments regarding the maintenance plan are as follows:*
 - a. *Section 2.3 of the report states that "excessive dirt, bird droppings and pieces of debris should be removed to prevent damage and to ensure full functionality and energy production of the system". Additional information should be provided regarding washing procedures including use of any cleaning solutions, source of water supply, manpower and anticipated frequency.*
 - R. Roseberry stated the panels rarely need to be cleaned. For all the operation plans, they are self-cleaning. J. Giunco stated the applicant is relying on the rain to wash the panels.**

 - b. *Section 2.4 provides details of the maintenance of the ground cover, however no information is provided with regard to maintaining the landscape plantings required for screening.*
 - R. Roseberry stated the applicant will add a landscaping maintenance agreement.**

 - c. *Excerpts of the maintenance plan report should be added to the plan set summarizing the maintenance procedures and frequency.*
 - R. Roseberry stated the maintenance plan and decommissioning plan will be on the actual plans.**

5. §132-102.P(7) requires that the facilities do not result in reflective glare as viewed from a height of 30 feet above ground on adjoining residential properties. *Applicant indicates that a letter report addressing glare will be submitted under separate cover. To date our office has not received a copy.*
 - R. Roseberry stated it is not necessary because of the location of the site and the tilt angle of the panels and topography. The minimum point was more than 50' in elevation. There is no reflective surface to impact any of the properties.**

6. §132-102.P(9) requires that no identification be visible from the property line. A sign is proposed within the access strip between Lots 6.01 and 7. *Applicant's engineer correctly points out that §132-61A(7)e requires signage conspicuously mounted at the driveway entry to the site for emergency service response.*

7. §132-102.P(11) requires that all components be designed to withstand a ground level wind velocity of 90 mph or greater. Supporting documentation and/or testimony should be provided. *Documentation has not been provided. Applicant's engineer states that the applicant agrees that all components will be designed to withstand 90 mph or greater.*

R. Roseberry stated the applicant agrees.

B. Bulk Requirements

Bulk requirements for the AR-2 Agricultural Residential District are provided below.

Requirement	Required	Existing	Proposed	Comments
PRINCIPAL BUILDING				
Minimum Lot Area	7 acres	130.76 acres	130.76 acres	Complies
Minimum Lot Frontage	250 ft	50 ft	50 ft	Existing Non-Conformance (see comments #1 & 2)
Minimum Lot Width	250 ft	2216 ft	2216 ft	Complies (see comment #1)
Minimum Lot Depth	300 ft	1936 ft	1936 ft	Complies (see comment #1)
Minimum Front Yard	75 ft	2,100 ft	493 ft	Complies
Minimum Rear Yard	60 ft	887 ft	69 ft	Complies
Minimum Side Yard	50 ft	586 ft	50 ft	Complies (see comment #3)

1. Zoning table on plans inaccurately reflects the required zoning information and should be revised. ***Satisfied.***
2. Lot frontage along Route 519 is restricted to the existing frontage along Route 519. Therefore this is a non-conforming pre-existing condition. ***No response required.***
3. Minimum side yard of 50 feet is required per §132-102P.(4) regarding solar facilities and replaces the 40 ft setback requirement for single family residences as it is more restrictive. ***No response required.***

Technical Review

1. Applicant should discuss the purpose and timing of the proposed project phasing. ***Applicant intends to commence Phase 1 construction in 2011 and Phase 2 in 2012 after NJDEP approvals.***
2. Applicant proposes to demolish the existing farm house and farm structures. We recommend that a Phase I Site Assessment be conducted on the property to identify any potential site contamination prior to removal of the existing farmhouse and accessory structures and commencement of construction. ***Applicant indicates a Phase 1 Preliminary was included in the transmittal. Our office did not receive a copy of the report for review. The Board Secretary has confirmed that she has one copy in the file. Applicant should be prepared to discuss the report's findings at the public hearing.***

R. Roseberry stated the applicant performed a typical pesticide testing. A Phase 2 site assessment is not necessary and will not reveal anything that will impact the property. There are some piles around the homestead of vegetative nature and will be dealt with accordingly.

3. A note should be added to the plans that all demolition and disposal of debris will be in accordance with NJDEP regulations and any other agency having jurisdiction. ***Satisfied.***

4. A note should be added to the plans stating that the septic disposal system and well will be removed /abandoned in accordance with NJDEP regulations. *Satisfied.*
5. Testimony should be provided regarding shielding of any electric equipment from interfering with radio or television reception at the lot line in accordance with §132-54B. *Applicant will provide testimony.*
R. Roseberry stated the components are UL listed and if there is any interference, the applicant will address.
6. Testimony should be provided regarding safety and security associated with the proposed improvements. *Applicant will provide testimony.*
R. Roseberry stated the applicant agrees to provide additional interior fencing around the switch gear with the same 8' fence.
7. A note should be added to the plans that all utilities shall be installed underground. *Satisfied.*
8. The applicant should address the relocating of existing utility poles along the access drive rather than installing the utilities underground. *Satisfied.*
9. The interconnection location with the grid should be added to the plans. *Satisfied.*
10. Our office defers to Board Planner David Banisch for review of the proposed landscape design. *Refer to report by Banisch & Associates.*
11. Pursuant to §132-60A(2), a note should be added to the plans restricting the removal of soil from the site and that no concrete footings for the solar racking systems shall be placed in prime farmlands or farmlands of statewide significance. *Satisfied.*
12. Pursuant to §132-60A(2), a note should be added to the plans that grading within prime farmland and farmlands of statewide significance is limited to only that necessary to construct access roads and for the construction of inverter and equipment pads. *Satisfied.*
13. Applicant should discuss if any grading is proposed in the vicinity of the buildings to be removed. *Grading in the vicinity of the buildings is scheduled as part of Phase 2. Specifications should be provided regarding the removal depth of existing foundations, fill material and compaction requirements in basement areas as required to obtain a suitable base for solar installation.*
R. Roseberry stated the applicant will add the demolition and backfill procedures of the foundations to the plans. The reason why the buildings are not being removed initially is due to the Cultural Resource Review of the structures which is required by the DEP.
14. §132-60A(3) requires permits from NJDEP for installation within NJDEP regulated areas. The applicant has identified the following activities requiring permits:
 - a. Very Minor Road Crossing *Eliminated in revised layout.*
 - b. Utility Crossing *Eliminated in revised layout.*
 - c. Filling of an isolated wetlands *Proposed in Phase 2*
 - d. Installation of solar panels in an agricultural wetland. *Proposed in Phase 2*
15. Applicant has also indicated that solar facilities and fence construction within the Riparian Zone are classified as a Permit by Rule. An applicability determination issued by NJDEP should be obtained to confirm. *Applicant agrees to provide the appropriate documentation.*

16. The following design standards from Supplemental Regulations, Ordinance §132-60A have been previously commented on under the Conditional Use section of this report and are repeated for the purpose of additional ordinance citation. *Addressed under previous comments.*
 - a. §132-60A(6) regards sight visibility from adjoining residential uses.
 - b. §132-60A(6) addresses the need for a maintenance plan.
 - c. §132-60A(10) addresses glint and glare.
 - d. §132-60A(12) regarding sign visibility from a property line.
 - e. §132-60A(14) regarding wind.

17. Applicant should advise as to the method of anchoring the racking systems (driven piers, helical screws or concrete) and if a geotechnical report has been performed on the property. *A geotechnical report has been submitted. Comments follow:*
 - a. *Fill and compaction requirements outlined in the report for areas of foundation removal should be added to the plan set.*

18. Ordinance §132-60A(6)(a)[2] requires a seed mixture of native, non invasive shade tolerant grasses in areas occupied by the solar facility. Applicant should provide testimony regarding the proposed seed mix, its viability and future maintenance needs. *Applicant agrees to provide testimony.*

T. Decker stated there is some topsoil generated from stabilizing the roadways. R. Roseberry responded they will have about a 13” layer of topsoil which can be easily distributed throughout the site. The shale will be used to reinforce the roads. He stated between moving the shale to the roads and the topsoil throughout the site, it will be a net zero effect.

19. Ordinance §132-60A(7)(b) requires a continuous berm within the landscape buffer. *Per ordinance §132-61.A(1) requirements onsite soil is not to be moved from the site. Based on observations of solar facilities currently under construction in the township, significant quantities of excess topsoil and subsoil is generated from construction of stabilized access drives and trenching for utilities. This material should be utilized to create landscape berms to enhance the proposed landscape buffers.*

20. Ordinance §132-60A(7)(c) requires that each access gate include a sign identifying the responsible parties for operation and maintenance of facility. *Satisfied.*

21. A note should be added to the plans stating that the ground beneath the solar facilities and structures shall not be covered with stone in accordance with Ordinance §132-60A(11). *Satisfied.*

22. A note should be added stating the maximum permitted height is 12 feet in accordance with §132-60A(13). *In addition to inclusion within the zoning table, the maximum permitted height should be added to the racking detail.*

R. Roseberry stated the maximum height will be 4.5’ with a 15 to 20 degree angle.

23. A note should be added stating that use of lead acid batteries is not permitted in accordance with §132-60A(15). *Satisfied.*

24. A note should be added stating that the use of cadmium telluride solar panels is not permitted in accordance with §132-60A(16). *Satisfied.*

25. Submission of a decommissioning plan is required in accordance with §132-60A(18). ***A report titled Decommissioning Plan has been provided. Excerpts of the decommissioning plan should be added to the plan set summarizing the decommissioning procedures.***
26. Per §132-61.A(7)c. emergency vehicle access shall be provided to all components and shall include access roads not less than twenty (20) feet in width, which shall be reinforced or suitably improved to support the weight of typical fire department apparatus. Turning areas shall be provided and each bend or turn in the access road shall provide an adequate turning radius for firefighting apparatus maneuvering. ***Applicant's engineer indicates that they are working toward a solution with the Kingwood Fire Company. An update of these discussions should be presented at the Planning Board hearing.***
27. Some access paths shown on the plan scale 30 feet in width however are dimensioned as 20 feet. ***Satisfied.***
28. Per §132-61.A(7)d, an exterior electrical disconnect / emergency shutoff which de-energizes the system shall be provided, which shall be plainly marked with a reflective placard identification. ***Satisfied.***
29. §132-61.A(7)e requires that each site include a sign indicating that the energy facility exists on site, indicating whether the system is a roof or ground mounted system. Such sign shall be conspicuous. ***Satisfied.***
30. Per §132-61.A(7)f a note should be added requiring compliance with the National Electric Code, latest edition. ***Satisfied.***
31. A note should be added to the plans stating that security fencing and gates shall be fully erected and operational prior to the installation of solar or photovoltaic facility installation in accordance with §132-61.A(7)g. ***Satisfied.***
32. Per §132-61.A(7)h, Knox Boxes should be added at all gate locations. The plans only indicate a location at the main entrance gate. ***Satisfied.***
33. A note should be added to the plans referencing §132-61.A(7)j and that an emergency response plan shall be provided to the Fire Company. ***Satisfied.***
34. §132-61.A(7)k requires a site address sign posted at the main entrance gate to the facility. The sign as proposed is located within the access strip between Lots 6.01 and 7. Given the distance (approximately 1,320 ft) of the entrance gate to the road, it may be appropriate to locate the sign closer to the road for ease of identification. ***Satisfied.***
35. A note should be added to the plan stating that Material Safety Data Sheets (MSDS) shall be submitted to emergency response providers for all component materials which contain hazardous or flammable substances in accordance with §132-61.A(7)l. ***Satisfied.***
36. An note shall be added to the plans stating that prior to the issuance of a certificate of occupancy, the Fire Department and Emergency Squad will be provided access to the solar facility for a safety compliance check and familiarity with the site in accordance with §132-61.A(7)m. ***Satisfied.***
37. §132-61.A(11) discussed the Open Lands Requirements of the major solar facilities. Applicant should address these requirements as they relate to the proposed application. ***Previously addressed.***
38. Conformance with Ordinance §132-111.1 regarding conservation easements and marker is required. Marker locations and details should be added to the plan set. ***Marker details have been provided. Locations remain outstanding.***

- 39. A note should be added to the plans that all demolition and disposal of debris will be in accordance with NJDEP regulations and any other agency having jurisdiction. *Satisfied.*
- 40. In accordance with Ordinance §132-110H, every development application is subject to review and approval by the Kingwood Township Fire Company (KTFC) as to the adequacy of fire protection features. Chief Floyd issued a review letter on May 9, 2011. Items addressed to the satisfaction of the KTFC shall be properly noted or detailed on the plans as may be appropriate. *Applicant's engineer has responded via letter to the fire chief dated June 29, 2011.*
- 41. The applicant's engineer has demonstrated that the project as currently designed does not exceed a quarter (1/4) acre of additional impervious. By State statute, the elevated panels are not classified as an impervious structure. However the disturbance associated with installation of underground electric lines, solar racking systems, concrete pads and access ways will exceed one acre, thereby triggering requirements for stormwater management. Supporting calculations have been provided demonstrating that stormwater management requirements will be satisfied through the change in ground cover from rotational row crops to meadow. *Satisfied.*
- 42. Details of the proposed solar panel modules should be added to the plans. *Satisfied.*
- 43. *Based on recent observations of solar facilities currently under construction in Kingwood Township, the following concerns should be addressed:*

- a. *Anticipated construction traffic and duration of construction.*

R. Roseberry stated the applicant anticipates 60 to 80 employees on site at one time. It is a 9 month operation. The site will be accessed from County Road 519, Route 29 and/or Route 12. The construction vehicles will not be using any local roads.

- b. *Off street parking of vehicles during construction.*

J. Giunco stated the applicant is willing to provide signage prohibiting on street parking.

- c. *Construction staging areas for storage of material including any temporary lighting for security.*

Testimony was provided earlier.

J. Giunco stated testimony has been provided for 43 a, b and c.

- d. *The proposed solar field and existing structures to be removed under Phase 2 have limited access after construction of Phase 1. How will Phase 2 be accessed after the completion of Phase 1?*

R. Roseberry stated Stage 2 will have its staging area where the existing residence is located. It will have a dedicated access route. T. Decker requested the access plan for Stage 2 be provided on the plans. T. Decker requested the applicant provide a sequence for when the staging areas are put in and removed. He stated when the staging areas are removed, any compacted soils be scarified and be restored to farmland conditions. R. Roseberry stated it will be incorporated into the soil erosion and sediment plan.

The Board expressed concern with regard to the traffic being generated by the construction of the facility and the peak time of the start and end of the school day. J. Giunco stated he will coordinate the times with a board representative. R. Roseberry stated it can be put as a note on the plans and addressed at the pre-construction meeting. D. Pierce stated the municipal ordinance allows construction hours to be between 7-7 with noise from

8-6. R. Roseberry was in agreement with the construction hours. J. Giunco stated the construction will be 6 days a week but no construction will be done on Sunday. He stated, by the time construction commences, it will be November but construction will still be going on in July of 2012. There will be no construction work outside of daylight hours.

D. Banisch reviewed his review letter as follows:

1. We have reviewed the following information in preparation of this report:
 - Application transmittal letter addressed to Dianne Laudenbach, Kingwood Township Planning Board from Julia G. Algeo, PE of Maser Consulting, P.A., dated June 29, 2011, transmitting revised plans and supporting documentation with responses to Board Engineer’s comments of May 10, 2011
 - Plan set, entitled “Preliminary and Final Site Plan for EffiSolar Corp.”, consisting of 12 sheets prepared by C. Richard Roseberry, PE, of Maser Consulting, P.A. dated March 30, 2011 and last revised June 29, 2011
 - Stormwater Management Report prepared by Richard Roseberry, PE, of Maser Consulting, P.A. dated March 30, 2011 and last revised June 29, 2011;
 - Decommissioning Plan prepared by Maser Consulting P.A. dated March 30, 2011 and last revised June 29, 2011;
 - Maintenance Plan prepared by Maser Consulting P.A. dated June 29, 2011
 - Geotechnical Engineering Report prepared by Dennis C. Loh., PE of Geo-Technology Associates, Inc. dated April 6, 2011
2. This is an application for preliminary and final site plan approval of a major solar photovoltaic energy facility in the AR-2 zoning district. In accordance with §132-30.D.(8) Major solar photovoltaic energy facility and structures are permitted conditional uses in the AR-2 District, subject to the conditional use standards found at §132-102.P. and supplemental regulations found at §132-61.A. of the ordinance.
3. The applicant proposes to construct a 14.3 megawatt solar facility consisting of 60.76-acres of 61,200± solar panels, 17 inverters and a transformer with an interconnection to an existing 34 kilovolt electric line that transects this existing 130.76-acre farm.

The project is to be constructed in two phases.

- Phase 1 of development will take place on unconstrained areas of the tract and include 50,200± panels and all of the inverters and generate approximately 11.7 megawatts of electricity.
 - Phase 2 will take place on a portion of the tract labeled as “Farmed Wetlands” and include 11,000± panels that will generate approximately 2.6 megawatts of electricity.
 - Applicant indicates that Phase 2 will not take place in the freshwater wetlands and transition areas until an individual permit for this activity is secured from NJDEP.
4. A transformer is to be located on the west side of the tract approximately 135’ from the nearest tract boundary adjoining residential property. Plans details do not identify the dimensions, appearance or noise characteristics of the proposed transformer.
 5. Sheet 1 of the plans states that a design waiver is sought from the requirement to provide a berm within the landscaped buffer (§132-102.P. (5)). §132-61.A.(5) provides the following:

“Where it can be demonstrated to the satisfaction of the reviewing Board that the use of natural topography and siting behind proposed or existing vegetated areas will sufficiently screen solar and photovoltaic energy facilities and structures from view as required herein, portions of the required berm and landscaping may be reduced at the Board’s discretion.”

Thus, the Board may grant a design exception to relieve the applicant of the requirement for a berm under certain conditions.

R. Roseberry indicated the request for no berms is due to the fact that the property is the high point of the drainage area. He does not want any erosion.

Conditional Use Standards - §132-102.P. “Major solar or photovoltaic energy facilities and structures.”

6. §132-102.P.(1)b. requires a minimum lot size of 20 acres in the AR-2 Zone. For tracts greater than 40-acres in area, 50% open lands are required which may not be occupied by any component of the solar facility. The open lands must be 50% of the gross tract area and must include 30% of the unconstrained tract area. Open lands are required to be permanently deed restricted.

a. A schedule of zone requirements on Sheet 2 identifies the following information on this application:

<u>Requirement</u>	<u>Required</u>	<u>Proposed</u>
Minimum tract area:	20-acres	130.76-acres
Minimum open lands (50% gross tract area):	65.38-acres	70.00-acres
Minimum unconstrained tract area (30% of tract within 50% open lands):	21.18-acres	21.74-acres

- b. **A calculation should be provided identifying constrained areas and unconstrained lands in accordance with §132-4. Definitions.**
- c. Portions of tract area within the 50’ setback to be occupied by the landscaped buffer are included in the open lands shown on the plan (Sheet 2). **The landscaped buffer is a required component of the facility and should not be counted toward unconstrained land in the open lands calculation.**
- d. Sheet 2 includes two notes that identify a “Deed Restriction Line.” **A note should be added indicating that these areas will be permanently deed restricted from further development.** The “Deed Restriction Line” notation should be added to Sheets 3, 4 and 5.

7. §132-102.P.(3) permits solar facilities and structures to be located within certain regulated areas provided that their location is authorized by a permit issued by NJDEP. These areas include NJDEP designated floodplains, flood hazard areas, wetlands, wetland transition areas or riparian corridors. The ordinance requires an applicability determination from the NJDEP to document the presence and/or absence of these regulated areas. The ordinance requires a 300 foot buffer between NJDEP designated Category One waters and solar facility structures.

- a. Phase 2 includes solar panel arrays and security fencing within areas designated wetlands, wetlands transition area and a 300' riparian zone.
- b. Note 7 on Sheet 1 states that the wetlands and transition area lines were verified by NJDEP on 1/13/09. The note states that "Wetlands permits are required for Phase 2 construction only for:
 A.) Filling of an isolated wetland and
 B.) Installation of solar panels in an agricultural wetland."
- c. Note 1 on Sheet 2 states that portions of the project are contained within disturbed, farmed wetlands and wetlands buffers and require a freshwater wetland individual permit. Phase 2 cannot proceed until issuance of the freshwater wetlands individual permit.

Submission of the individual permits should be made a condition of any Phase 2 disturbance and construction.

- d. On Sheet 4, a small portion of the proposed 8' high black vinyl chain link fence is proposed within the 50' wetland transition area designated on the plan.

Applicant should state whether NJDEP approval is required for this condition.

- e. Note 8 on Sheet 1 states that the flood hazard area limit lines were verified by NJDEP on 6/17/09, and states that "Solar panels and fences are permitted in the riparian zone by a FHAC Permit-by-rule 7:13-7.2.(B)9 and Permit by rule 7:13-7.2.(B)5 respectively."

The citations should read: 7:13-7.2(b)9. and 5. **Demonstrating consistency with all requirements for each of these permits by rule to the satisfaction of the Township Engineer should be required** as a condition of any Phase 2 disturbance and construction.

The Board should require submission of NJDEP line verifications for Planning Board Engineer review.

J. Guinco stated the applicant will comply with all DEP requirements. R. Roseberry stated the property has an LOI from January of 2009.

- 8. §132-102.P.(4) requires all facilities and structures to conform to principal building setbacks, and be set back not less than 50' where setbacks require less than 50'. Plans indicate that no facilities and structures are located within the required 50' setback. **R. Roseberry stated the applicant plans to comply.**
- 9. §132-102.P.(5) requires that major solar and photovoltaic energy facilities and structures shall not be visible from adjoining residential uses, at a height 30 feet above ground level or residential zones and shall be screened by a combination of berm(s) landscaping and fencing. Fencing or a barrier shall be installed behind the required berm(s) and landscaping.
 - a. Landscaping with no berm is provided adjacent to residential properties (see Sheets 6 and 7). There is visibility into the site from adjoining residential properties that are situated along CR 519 northwest of the tract where solar panel arrays, inverters and the proposed transformer are located. **A design exception for no berm is requested in accordance with §132-61.A.(5),**

which permits such relief “Where it can be demonstrated . . . that the use of natural topography . . . proposed or existing vegetated areas will sufficiently screen solar and photovoltaic energy facilities and structures from view. . .”

- b. The panel arrays are to be approximately 4-1/2’ maximum height. The inverters are shown in plan details at approximately 7-3/4’ in height. No dimensions are provided for the transformer to be located in the northwest corner of the property near adjoining residential properties where interconnection to the grid is proposed.
- c. No sight line analyses appear to be provided demonstrating whether the solar panels, inverters or transformer will be visible to adjoining residential dwellings and should be provided to demonstrate consistency with §132-102.P.(5) & §132-61.A.(3) & (4). **Sight line analyses should be provided in connection with the design exception request for the required berm and for the Board to determine consistency with this section of the ordinance (Block 23, Lots 6.01, 10, 10.01, 10.02, 10.04, 10.05 & 11.01).**
- d. **Landscaping enhancements or some other form of screening may be required to effectively screen any off site view of the proposed transformer.**
- e. **A partial berm may be required along property boundaries with adjoining residential properties located at Block 23, Lots 6.01, 10, 10.01, 10.02, 10.04, 10.05 & 11.01 to achieve the visibility and screening requirements of §132-102.P.(5) & §132-61.A.(3) & (4).**
- f. **In addition to the need for partial berming, the height of plant material proposed within the landscaped buffer may not be of sufficient height to achieve the visual screening objectives of the ordinance. For example, the landscaping plan proposes typical planting heights of 6’ – 7’ for evergreen trees proposed.**

R. Roseberry indicated the landscaping plan has been revised to increase the height of the landscaping.

- 10. In response to §132-102.P.(5)(i.) for a landscaping maintenance plan, the applicant has submitted a proposed maintenance plan for the facility, which includes scheduled maintenance activities for inverters, the substation, solar arrays and for ground cover landscaping. The vegetation maintenance plan does not specifically call out for vegetated buffer inspections and replacement of dead or dying trees.
 - a. The **maintenance plan should state that perpetual maintenance of the vegetated buffer** trees and plantings is required and that dead and dying tree and shrub species will be replaced when such conditions are observed and on an as needed basis.
 - b. The Board should require that all **tree and shrub buffer and native grass ground cover landscaping be maintained on an ongoing basis as a condition of approval.**
- 11. §132-102.P.(5)(ii.) requires a seed mixture of native, non-invasive shade tolerant grasses for ground cover. Alternatively, a non-native, non-invasive seed mix may be used where it can be demonstrated that such an alternative may be better sustained over time. **Applicant should provide testimony regarding the proposed permanent ground cover seed mixture identified on Sheet 11 relative to the ordinance requirements of this section.**

Testimony has been provided.

- 12. §132-102.P.(5)(iii.) requires the maintenance of drainage ditches, brooks, streams and drainage swales in their natural condition. Where these features lack suitable stabilized vegetation, the Board may require stream corridor restoration. **Applicant should provide testimony regarding the condition of these**

features and explain whether stream corridor restoration is recommended in connection with the Lockatong Creek.

R. Roseberry stated he walked the stream corridor and the Lockatong Creek. It is a very pristine creek. Stream bank erosion does occur in some areas due to fallen trees. The application is improving the situation and thereby does not warrant them going through the permitting.

13. §132-102.P.(6) requires that the landscaped berm, where provided, maintain existing natural drainage patterns of stormwater. If the Board requires the applicant to provide a berm or partial berm, a grading and drainage plan will be required along with stormwater calculations to demonstrate that existing preconstruction stormwater drainage velocities shall not be exceeded in the post development condition. Testimony should be provided.

14. §132-102.P.(7) requires that solar and photovoltaic energy facilities and structures shall not result in reflective glare as viewed from a height 30 feet above ground level on residential properties. **Applicant's submission states that a visibility and glare report will be provided to the Board. Testimony should be provided.**

Testimony has been provided.

15. §132-102.P.(9) prohibits displaying any advertising except for reasonable identification of the manufacturer or operator of the system. Applicant proposes a sign to be located within the access strip between Lots 6.01 and 7. Applicant states that the sign is a requirement of the Kingwood Volunteer Fire Company to clearly mark the address of the site. **Applicant should identify the proposed site identification sign setback from the edge of pavement of CR 519 and review the proposed sign detail with the Board.**

R. Roseberry stated the applicant is flexible on the sign. The sign will identify the facility with the site address and contact information. The sign was moved back a little to within the easement area and is technically offsite. J. Giunco stated the sign will be fully in conformance in size and message.

16. §132-102.P.(10) permits a maximum solar panel array height of 12'. Applicant proposed a maximum height of 4-1/5'.

17. §132-102.P.(11) requires that all components of the facility be designed to withstand a ground level wind velocity of 90 mph or greater or in accordance with wind loading guidelines established in the Uniform Construction Code whichever is greater. **Note 23 on Sheet 1 states that all components of the solar energy facility will be designed to withstand a ground level wind velocity of 90 mph or greater. This should be made a condition of approval subject to verification by the construction code official.**

Testimony has been provided.

18. §132-102.P.(12) requires buildings enclosing inverters and switchgear to be include at least two (2) means of ingress and egress for emergency response. A note on Sheet 12 under the inverter detail states that inverter sheds will have the required two means of ingress and egress. **Applicant should state whether inverter sheds or any buildings are proposed as part of this application.**

R. Roseberry indicated there are no sheds or buildings proposed. The inverters are in a manufactured cabinet.

Supplemental Design Standards - §132-61.A. Solar Energy Facilities and Structures

19. In accordance with §132-61.A.(1), Note 26 on Sheet 1 states that there will no removal of soil from the site. Note 27 on Sheet 1 states that no concrete footings for the solar racking system shall placed in Prime Agricultural Soils and Soils of Statewide Significance. These should be made a condition of any approval that may be granted.

Testimony has been provided.

20. §132-61.A.(2) and (3) requires that solar facilities and structures shall not be visible from the public traveled way or from adjoining residential dwellings, and requires a combination of berms, landscaping and fencing to screen the facility from view. **Testimony should be provided with particular emphasis on site visibility from adjoining residential dwellings.** Buffer planting are required in accordance with §132-54.A. This section of the ordinance requires a minimum of two rows of plant material, staggered and grouped, planted not more than 15’ apart, and an additional row of plantings where necessary.

- a. **With particular regard to Block 23, Lots 6.01, 10, 10.01, 10.02, 10.04, 10.05 & 11.01, a supplemental row of plantings may be required with a higher concentration of evergreen species to achieve the visual screening objectives of this section of the ordinance. In addition to the tree and shrub species proposed, we recommend that supplemental plantings include additional non-native, deer resistant evergreen species to better achieve the visibility screening objectives of this section of the ordinance.**
- b. **A cost estimate should be provided in accordance with §132-61.A.(4)(d) should be required as a condition of approval.**

Testimony has been provided.

21. Applicant is requesting a design exception from the requirement for a berm within the landscaped buffer. In accordance with §132-61.A(5), the Board may grant such relief “Where it can be demonstrated to the satisfaction of the reviewing Board that the use of natural topography and siting behind proposed or existing vegetated areas will sufficiently screen solar and photovoltaic energy facilities and structures from view as required . . .”

- a. Applicant should address this request for a design exception in connection with their testimony in connection with Comment # 9 and #20 above and Comment # 26 below:

22. §132-61.A.(7) (c) requires a 20’ wide access road, reinforced or suitably improved to provide access to all components of the facility. Turning areas are required at each bend or turn in the access road with an adequate turning radius for firefighting apparatus maneuvering. It appears that this requirement is not met. **Applicant to provide testimony. Design exception may be required.**

23. §132-61.A.(7) (d) requires an exterior electrical disconnect / emergency shutoff which de-energizes the system shall be provided, which shall be plainly marked with a reflective placard identification. Note 33 on Sheet 1 indicates that the applicant will comply with this requirement. **Applicant should provide**

testimony explaining where this shut off is to be provided in the design of the facility for access by 1st responders.

R. Roseberry has agreed to provide the information to the satisfaction of the first responders and professionals.

24. §132-61.A.(7) (e) - Site labeling – Each site containing a solar or photovoltaic energy facility shall include a sign indicating that the energy facility exists on site, indicating whether the system is a roof or ground mounted system. Such sign shall be conspicuously mounted at the driveway entry to the site. A sign is proposed at the along the main access road to be located where the existing driveway is located on the north 50’ wide access stem to County Route 519. The sign indicates that it is a ground mounted facility.
 - a. **Applicant should review the proposed location of this sign with the Board.**
 - b. **Board should determine whether this information should be added to the site identification sign to be posted to the 8’ high gate to the facility compound.**
 - c. **Board should determine whether the CR 519 sign details should be limited to the name of the operator and the street address of the facility.**

25. The Board should condition approval upon the applicant complying with the remaining requirements of §132-61.A.(7) to the satisfaction of the Board Engineer and the Township’s First Responders.

26. §132-61.A.(11) identifies the Open Lands Guidelines for major solar facilities and structures. These include:
 - (f) – The solar facility and facilities portion of the tract of land shall be buffered and screened from view from the open lands required.
Buffering and screening is not provided as required.
 - (g) – Open lands shall be bordered on no more than two sides of the solar energy system and facilities situated on the tract.
Proposed open lands do not appear to meet this requirement as the narrow strips of open lands proposed along with other isolated portions of open lands provided appear to border the facility on more than two sides.
 - (g)1.(a) – open lands shall be configured in such a manner as to facilitate agricultural use. The ability to create large contiguous tracts of open lands or farmland, maximizing separation between the solar energy facility and existing offsite residential units;
Open lands provided do not appear to be configured to create large contiguous tracts of open lands or farmland and proposed open lands do not maximize separation between the solar energy facility from offsite residential units;
 - (g)1.(b) – locating open lands should be configured in such manner as to preserve scenic vistas and preserve the rural character of farmsteads, barns and homesteads after development;
Proposed open lands are fragmented and the applicant proposes to demolish, rather than preserve the existing farmstead and barns on the property.
 - (g)1.(c) – where tracts include existing farmland operations, designate open lands to preserve such uses to the greatest extent possible to facilitate the continuation of farming.
Applicant should provide testimony explaining how the configurations of proposed open lands are designated to preserve farmlands and the continuation of farming to the greatest extent possible.
 - (g)1.(d) – adequate access must be provided to the open lands area.

Applicant should identify access to proposed open lands.

The open lands should be reconfigured to address the design guidelines in the ordinance, including retention of the farmstead and configuring open lands in such a manner as to facilitate the continuation of farming, consistent with the intent and requirements of the ordinance. Suitably improved access to the open lands should be provided.

27. §132-61.A(12) identifies the requirements for a decommissioning plan. Applicant's Decommissioning Plan, dated March 30, 2011, last revised June 29, 2011 responds to the ordinance requirements for a decommissioning plan. The Board should condition approval upon the applicant complying with decommissioning plan requirements of this section of the ordinance or local, county, state or federal decommissioning requirements that may be applicable to this facility.
28. Plan details do not appear to provide a construction detail for the proposed 18' wide access road. A detail is provided for the stabilized construction entrance, and a note is included on Sheet 11 that "individual lot access points may require stabilization," but no details are provided.

The Board should require a stone access road detail be provided to the satisfaction of the Board Engineer.

29. The phasing plan identified on Sheet 2 identifies construction and demolition activities proposed for each phase. The farm dwelling, barns and agricultural structures are to be removed as part of Phase 2, however it appears that the scope of these demolition activities may require access greater than the "20' min" typical access ways shown on the plan.

Applicant should explain this in testimony to the Board, and whether the two phases will ultimately be combined and constructed as a single phase once NJDEP regulatory approvals are secured. If this is the case, explanatory notes should be added to the plan.

Testimony has been given that DEP approval has not been secured by the applicant for Phase 2. R. Roseberry stated the applicant intends to start Phase 1 this year and then Phase 2 after they have obtained the DEP permits.

R. Roseberry stated 20' is the width of a two lane road. During construction they expect to encounter some shale and will reinforce the road. J. Giunco stated the circulation plan indicates a full size fire truck can go through the facility.

30. The phasing plan should be revised to identifying staging areas, security and lighting requirements, and parking details. This should include areas for material delivery and distribution on the site, construction personnel parking, the maximum number of anticipated construction personnel that are anticipated to be on site at any given time and the days of the week and hours of the day that construction activities will be conducted. Security lighting requirements should be identified with a lighting plan, subject to approval by the Township Engineer.
31. Applicant should add a note to the plan that any damage to public roads, storm drains, curbs or similar infrastructure or private property shall be restored by the applicant at the applicant's sole cost and expense. The Board should condition approval upon the timely repair or replacement of any such damage, subject to

approval by the Township Engineer, and subject to the issuance of a stop work order at the discretion of the Township Engineer.

32. Any approval by the Board should be conditioned upon approval by any other agency with jurisdiction.

S. McNicol entered the meeting at 9:11 PM.

R. Roseberry stated the staging area will be 200' x 200', not the 400' x 400' indicated in prior testimony. D. Banisch expressed a concern that the 200' x 200' staging area might not be adequate for the construction traffic that will be generated by the facility. He suggested the Board impose a condition, subject to T. Decker's review, that the applicant provides an acre for staging materials and parking. R. Roseberry responded the applicant agrees to the 400' x 400' staging area.

R. Roseberry stated the noise from the inverters is 65 decibels at one meter. The ordinance states it cannot exceed 65 decibels at the property line. The inverters do not work at night. Double the distance and the decibels drop by six. 50' from these inverters, the decibels are 40, which is background noise. They are located 50' from the property line.

D. Pierce stated he had a concern with regard to the scope of the access easement that the applicant plans to use as the primary access to the property. The easement should be revised to provide appropriate access for the applicant's use. The approval should be conditioned on the revision of the access easement for the use of the facility as well as provide access to the public areas in the back.

P. Lubitz stated the applicant's engineer has answered the majority of his questions. The Township has received some complaints about worker's speeding going to and from work. Can there be any assurances of continual monitoring of that issue? J. Giunco stated it will be provided to the contractor and if there are any violations, they will have a contractual clause to have the worker's comply.

In response to a concern by a Board member in regard to a screening of the employees working on the site, J. Giunco stated it will be included in the contract that none of the employees are on Megan's List.

R. Roseberry stated 1 megawatt can be installed in two months with three men. The panels utilized in Phase 2 will be the same height as the panels in Phase 1, 4.5', and will be served by the same interconnect.

In response to a Board members concern regarding the parking for the construction of Phase 2, R. Roseberry responded the parking for Phase 2 will be along the access drive. The applicant is fully committed to no parking on the road.

J. Giunco stated the facility will be known as EffiSolar Kingwood One.

R. Dodds opened the hearing up to the public.

M. Smith, 250 County Road 519, inquired if there were any hazardous materials in the inverters. R. Roseberry responded he was not aware that inverters had any hazardous material within them. The switch gear uses a mineral based oil for cooling. There is no back up power supply. P. Lubitz stated in a previous application, the applicant was requested to provide a MSDS sheets on the panels that showed no hazardous materials in the

panels. R. Roseberry responded he has contacted several companies and they have confirmed there are no MSDS sheets on the panels. He will be able to provide a list of the materials.

S. Doyle, 770 County Road 519, asked for some clarification of the proposed screening for her property. R. Roseberry responded there is a row of large trees. They are proposing to supplement the landscaping on their property underneath those trees. They will be planted 50' off the property line. There will be 20' of separation between the fence and the panels. S. Doyle inquired if the applicant intends to develop the 50' ROW. R. Roseberry indicated the applicant will not install a berm due to the concerns of surface water. The property drains to the south. There will be no additional water from their site to her site. The applicant does not intend to utilize the ROW. S. Doyle commented on the construction schedule and if there will be construction performed on Sunday. J. Giunco stated the applicant would be willing to stipulate no work will be done on Sunday.

M. Ailara, 6 Opdyke Road, commented on the area being a residential area and the proposed use is a non-residential use. She commented on the creeks erosion and that the solar facility will increase the erosion. R. Roseberry stated the property drains to the Locketong Creek. The agricultural uses and the row crops put more stormwater into the creek than their proposed meadow condition. It will reduce the amount of surface runoff which will improve any type of erosion of the stream bank. M. Ailara inquired about the trees being cut down. J. Giunco stated the removals are indicated on Exhibit A-1. M. Ailara stated six months out of the year she can see the barn and blue silo and the engineer testified no additional buffering will be installed. She does not want to sit on her deck and see the panels. R. Roseberry responded there was one sight line done on the residence closest to their property. The closest panels are 1300' away which is a substantial distance. He testified from their site they could not see the residences of this development. He showed M. Ailara the location of the panels. M. Ailara stated the issue is the big blob in the middle on the overhead. She stated it is sunken land. R. Roseberry stated it is a detention basin. M. Ailara stated the detention basin is all recessed and the highest land is the tree line. The basin does not provide any barrier blocking her from seeing through the trees to the solar panels. She stated the detention basin belongs to R. Nicolato. D. Banisch stated R. Roseberry's testimony was that the existing tree line would offer the screening. The applicant should be required to buffer the edge from the open lands through landscaping. J. Giunco stated the applicant is willing to make a buffer but wants to make sure it will work. D. Banisch stated it is fairly extensive. A condition of approval should include a buffering requirement and some supplemental landscaping as a result of the field inspection. R. Roseberry responded the applicant is proposing to install 500 trees. The trees in this section are 60' – 80' tall. R. Roseberry stated 1300' is an extensive distance. The residences on Opdyke Road are viewing the large area of the farm that the applicant is retaining as open. J. Giunco suggested landscaping along the residences in the height of 4'-5'. A height of 13'-14' is not required to block the view. D. Pierce stated part of D. Banisch's review before and during the installation of the landscaping is to recommend the landscaping be modified to provide an adequate buffer. D. Banisch stated it should be modified to show a double row of landscaping along the buffering area. M. Ailara inquired if they are taking down the trees along the stream corridor. R. Roseberry responded the trees are being removed east of the homestead. R. Roseberry stated there is buffering and then there are setbacks. Setbacks are equivalent to buffers. M. Ailara's house is so far away from the site. It is 2100' from her house to the point of the panels. M. Ailara stated she does not want to see the panels from her house. She stated if they landscape Lot 23, the goats will eat it. J. Giunco stated the applicant wants to be reasonable and some balance needs to be found. It would be better if you block the view of the back line from her property. It is not reasonable to put in a double row of landscaping the entire length. The planting of trees will not achieve the blocking of the view. P. Lubitz stated a solution might be that a couple of well-placed trees on the properties in question would work better. M. Ailara stated she was not sure she would like that since it would involve moving a giant swing set but she could not speak for the rest of the street. D. Banisch

stated, if the neighbors would concede to allow it, the closer the buffer the better the visual screening. J. Giunco stated the applicant would plant the trees and they would be under their bond. The owners of the properties would be able to maintain the trees how they would like. M. Ailara stated the engineer testified to providing an access back there. She inquired if they do put an access back there, how are they going to prevent it from becoming a hangout? Who is going to monitor it? J. Mathieu responded he was going to suggest it not be public access but the same concept of someone walking up the stream. The applicant can install the road and as soon as the panels have been installed provide a turnaround for the public safety. P. Lubitz stated it would be an easement but not an access. D. Banisch suggested, for the road, a gate and a hammer head turnaround at the end. M. Ailara inquired about the life of the solar panels. R. Roseberry stated the applicant has provided a decommissioning plan which will require, if the solar facility is abandoned or the power produced is reduced to a certain level which warrants its removal, a demolition permit will be obtained and the site restored to the pre-existing condition. J. Giunco stated the scrap value is very substantial. M. Ailara inquired what the Township is getting out of these solar panels. D. Pierce stated the benefit the Township gets is twofold: One pursuant to the ordinance, the open lands are dedicated to open lands and agricultural that could have been developed as part of a subdivision if done the right way and the Township will receive some tax revenue from these facilities. The amount of tax revenue is unsettled and not decided as yet. M. Ailara inquired if it will reduce her property taxes. D. Pierce stated he wishes he could say yes, but he does not know. The power is not going to go to the residents of Kingwood but going to grid where it will be allocated to where it needs to be allocated. M. Ailara inquired who will be getting the financial benefit of the sale of the energy generated. D. Pierce stated the owner of the facility. He stated it will be taxed as commercial land operated as a commercial enterprise. The only thing that can be taxed is the value of the land and the value of the supports of the racking system, inverters and transformers. He stated the panels are not permanently fixed so they are not taxable. J. Giunco stated the Township will generate roll back taxes for the change of use of the property. D. Pierce stated M. Ailara is requesting him to quantify it and he cannot. M. Ailara stated she had read in the Democrat that Route 12 generated \$23,000 in taxes. D. Pierce stated he has no personal knowledge of that fact.

E. Johnson, 14 Opdyke Road, requested the engineer show him the angles at which the panels will sit. R. Roseberry stated the applicant provided two details. The panels will be at a 15 to 20 degree angle, due south. They will face towards 14 Opdyke Road. E. Johnson requested the engineer provide the elevation difference between his property and the field. R. Roseberry responded he doesn't think he can provide it exactly but can approximate it. He stated he does not have topography extending to Opdyke Road but it is relatively the same, even. E. Johnson he can see the homestead six months out of the year. He has a great concern with that fact. The secondary windows will see nothing but panels. R. Roseberry stated the trees are 60'-80' in height and the assessment was in summer months. E. Johnson stated his concern is when the trees lose their leaves. He will see it all. E. Johnson was concerned about the potential glare from the panels. R. Roseberry responded the rising sun is from east to west and the panels are at a 15 degree angle. It is geometrically impossible for the panels to have an impact. The panels are light absorbing and not high reflecting. E. Johnson stated to finish up, it is an awesome thing to make public access but out of sight is out of mind. He has a concern that it will never be out of sight. Hopefully the Board can address the visual effect on these properties. He stated he applauds the Board for the open land and thinks it is phenomenal.

E. John, 8 Opdyke Road, stated he backs up to the retention basin. For six months, from ground level, you can see the farmhouse, silo and everything on the property. The property is level at the base but then rises up a little bit. The panels are something that goes up. There will be 62 acres of solar panels and the Township had 5" of rain in the last month. The water will hit the panel and pool. The same piece of ground is getting a lot of water. Has the applicant analyzed the potential impact for the people who are downstream to the Locketong? R. Roseberry stated they have prepared a stormwater management plan which indicates the rate of runoff and

infiltration. It has been approved by the Township and Hunterdon County. It has been submitted to the canal commission. E. John inquired if, in regard to the reflection, has an analysis of glare been done below 50'? The example provided by the applicant was 400' above the panels. Can one be analyzed and assessed before installation? R. Roseberry responded the applicant would do an assessment if there was potential of glare. The areas to the south would not be impacted at all. E. John stated he wants to be assured they will not encounter a glare problem. R. Roseberry testified, the sun at all times of the year, would be at an angle well above vertical.

D. Ortega, 9 Opdyke Road, stated she has solar panels. Kingwood is wet. The water will run someplace. She was told if she put concrete around the pool, water would be running into her basement. A lot of the land is being covered up and going into smaller concentrated areas. They are land locked in a bad rainfall. R. Roseberry stated the legislature passed a law stating the panels are not impervious. The calculations are based upon the ground surface conditions and not the elevated panels. There is a separation distance between each panel. D. Ortega stated there are 35 kids on her street. The kids in Kingwood are looking for things to do. What is going to prevent a 10 year old boy, she knows because used to visit the cemetery, from climbing over the fences, no matter what is said on the signs? J. Giunco stated the fencing is there and it will be straight. It is a deterrent. He stated what attracts a child is the cemetery. There is nothing interesting about the panels. Can someone enter the facility? Can we make the fence higher? The applicant is trying to balance between a fence and a deterrent. There cannot be a guarantee that no one can access the facility. R. Roseberry stated the inverter cabinets are relatively failsafe. If you pry open the cabinet door, the system shuts down. If you break one panel, it breaks the whole string. Any problems will be reported to the monitoring company. The wiring is in conduit under the panels. There are combining boxes. The wiring for the panels is not producing any electricity when pulled off. R. Roseberry stated they will yank on each conduit and make sure it is secure. J. Giunco stated their concern is someone taking the panels rather than someone getting hurt. D. Ortega stated in Newark they steal the copper pipes from the buildings. What is to prevent them from stealing the panels? Will they get shocked? What is the temperature of the panel itself? R. Roseberry stated he could not tell her the exact temperature of the panel but he has put his hand on it during the summer. It is not generating heat but absorbing it. It is similar to putting your hand on a glass surface in the summer. D. Ortega stated she was told that type of mass solar panels would create a hotter atmosphere in the area. She inquired who would be watering the vegetation and replanting it. R. Roseberry stated the vegetation is going to be watered naturally. The question about a "heat island" has been evaluated and they cool the ground underneath. There is not sufficient mass to create a "heat island" effect. The net heat loss is converted to electricity. J. Giunco stated the plants and vegetation are covered under the performance and maintenance guarantees. D. Pierce stated the applicant has a maintenance plan to perpetually maintain the plantings and landscaping. R. Roseberry stated with the facilities that are in operation, there is no problem with the grass growing but they are having a problem with the invasive species.

P. Francescone, 774 County Road 519, stated his property is located next to the other access road. He has a concern of where the applicant is not going to build the road. It is a very wet area. Is it possible the applicant can solve the water problem? R. Roseberry responded the area is in a 250' wetlands buffer area and it is a regulated area. The applicant's site will not impact the current conditions on the access road.

J. Giller, 26 Thatcher Road, inquired if the public access is the same as for Kingwood park. D. Pierce responded public access is open to the public, anyone can access it. He inquired about the overall size of the project. R. Roseberry responded it is 14.5 megawatts. He inquired about the name brand of the inverters, panels and racking. R. Roseberry stated the manufacturers are not known until the award a bid. J. Giller asked about the life of a panel. R. Roseberry stated the life span of the panel itself is 25 years. It will produce

electricity longer than that but that is what the applicant is relying on for financing. J. Giller stated he knows of life spans of ones that are 40 years old.

E. Davis, 776 County Road 519, stated the applicant is opening up a can of worms. He does not know if he is putting his foot into his mouth. He stated the prior owner was trying to put in houses. They went to H. Vamis and got a ROW. They wound up conning H. Vamis to sign over the ROW. It was originally a 12' ROW. The public access to get to the woodland area would require driving over private property to get to it. J. Giunco stated the access to the woodland area is private. The Township open land will be open to the public. The owner grants the right to the public. I. Perrotti will be selling the property to Effisolar after approvals have been obtained. Effisolar would own the property and grant the easement. It will be the applicant's obligation as per their approval. It would be preferable not to have the public going there. E. Davis inquired about the ranch house on the driveway. J. Giunco stated the farmhouse will be demolished and the seller will own the ranch house. E. Davis stated five or six years ago it was only a 12' ROW. Where is the applicant going to put the snow? Is the applicant going to do away with the little driveway and come out at P. Francescone's house? Will the people in the little ranch house go through the development to get to Route 519? How many tractor trailers will there be? R. Roseberry responded there will be a lot of tractor trailers. J. Giunco stated construction will be spread out over 9 months. E. Davis stated the facilities on Route 12 are parking on Route 12. He saw an accident today at Quality Packaging. He was curious how much traffic would be generated. D. Pierce responded, to the 12' ROW, it was an easement for access with a 12' improved access area. T. Decker stated the ROW is 25'. R. Roseberry stated it is a 25' easement with an 18' improved driveway. J. Giunco ratified that there will be no offsite parking of any kind. The staging area will be sized large enough to accommodate the incoming traffic. There will be no idling permitted. E. Davis stated there are a lot of deer going through that area. What is going to happen to the deer on the farm? What will happen to the wildlife? J. Giunco stated, on the applicant's property, there will be a 50' separation from the property line to where the fence will be installed around the perimeter. If the deer do not want to jump over the fence, they can go around it. The public access area will be a thoroughfare. The wildlife will modify their pattern a little to keep them out of the field. E. Davis inquired if the property will revert back to farmland if it is abandoned. D. Pierce stated the Board cannot require a bond for decommissioning. There is no guarantee that they will be in a financial position to decommission the facility. There is no requirement for any commercial property that a bond be provided at the time of approval for the decommissioning of the building. E. Davis stated the fence will go up first and then the landscaping. R. Roseberry stated yes unless it is winter. P. Lubitz inquired if the housing development for that property is still valid. T. Decker responded yes. D. Banisch stated the proposal was for 13 new lots and the existing farmhouse. They would have abandoned the access easement. R. Dodds stated if this facility is approved, the approval for the major subdivision becomes invalid. J. Giunco stated his client, Effisolar, has contracted to purchase the property.

T. Decker inquired if there would be any gate which would impede the access to the site by the delivery trucks. R. Roseberry responded the main driveway will be fenced on both sides. The truck management will depend on the site. There will be a site manager. The materials will be stored at a warehouse and brought when needed.

D. Ortega inquired if there is any guarantee that the approved solar facility, Thebe Solar, will not be constructed at the same time as Effisolar. D. Pierce stated there is no restriction or guarantee that they will not be constructed at the same time. Thebe Solar has received preliminary approval. All of the equipment for that site will be delivered to that site through Barbertown Point Breeze Road to avoid Muddy Run Road. The applicant is responsible to restore any damage to the public road and ROW that occurred during that construction.

S. Doyle inquired if the landscaping is not done to the spring and they will be constructing during winter, all that she will see is the construction. She would like to request that the fence be covered. The construction is 100' from her house. R. Roseberry responded it would be easier to start construction on the other side of the property. J. Giunco stated the applicant can schedule that phase of construction after the landscaping can be installed. J. Giunco stated the applicant will agree to install a dark green canvas to block her view.

I. Smith stated that it is a mandate to allow these facilities. The Township currently has 5 in process. She inquired what the limit was of Kingwood obligation to these facilities. What is the motivation? S. McNicol responded the landowner. R. Dodds indicated there are a lot of things that come into place, such as the power line that goes through the property. J. Giunco stated the facilities need a conduit to transfer the power. It is right along this site and all the proposed sites are along that line. It is a 36KB line. R. Roseberry stated the amount of power is limited by the capacity in the substation. Once capacity is reached, a new substation will have to be built. He does not know the limit. D. Banisch stated the substation is on Sanford Road. R. Dodds stated if there is enough demand and an applicant decided to improve it that can be done. I. Smith inquired if they have a 36KB line, they would not install another 36KB line. J. Giunco stated there are a number which have already been approved around the state. It is a statewide plan to remove the reliance on the national basis of foreign fuel. M. Smith inquired what is to say it will grow larger. J. Giunco stated when there is no more land available, there will be no capacity for facilities. M. Smith inquired how many more can be done in Kingwood. J. Giunco stated, generally, the approved megawatts are 1,000. It requires 6,700 megawatts to serve New Jersey on one day in the summer. He does not know who the contractor will hire. There are some qualifications that the employees are not sex criminals and the workers do not speed. The idea is to avoid police involvement and the applicant can achieve that through their construction contract.

S. Doyle inquired if there will be any requirement to upgrade the poles or wiring to handle the facility. R. Roseberry stated the applicant has not been advised of that requirement. It is not in their jurisdiction. S. Doyle inquired if the public utility would have to come to Kingwood to obtain approval to upgrade their wiring. D. Pierce stated it is a public utility and the Township cannot regulate them.

E. Johnson inquired if there has been any analysis done to determine the increase or decrease in the values of the homes in close proximity to a solar facility. J. Giunco stated none that he is aware of have been done. E. Johnson's property is 1300' away. Anything can affect the value of a property. There are a lot of concerns now that will affect the property. E. Johnson stated he was concerned about the property values. The greatest investment is your home. He suggested some type of analysis should be done and would be a value to all those people who live in close proximity of solar facilities. D. Pierce stated it was not an appropriate consideration to look at property values in connection with an application like this application. Either the application meets the requirements of the ordinance or does not. The ordinance does not have or can require that the application can demonstrate that there is no adverse impact to property values in the area. If they would go for a use variance as a conditional use, it would not be a detriment the Board can acknowledge or characterize.

D. Pierce swore in F. Floyd, Chief of the Kingwood Township Volunteer Fire Company.

F. Floyd testified he had an opportunity to review the plans. The applicant has responded in the plan in a way he has found adequate for the safety of the residents of Kingwood. He inquired where the identification sign would be placed. R. Roseberry responded the applicant originally intended to put the sign at the road but D. Banisch raised the issue that it would be technically offsite. J. Giunco stated the sign can be put on the easement. He stated the construction sign will be installed at the start of construction. R. Roseberry stated the identification sign will contain the name Effisolar and the emergency contact information. In regard to access

to Phase 2 and the public access, R. Roseberry stated the access can be brought around the edge of Phase 1. Once approval for Phase 2 is obtained, the access will be restored to the original location. Public access will be available through the construction of Phase 2. The fences will be relocated. Their transformer is their switch gear. The transformers are on a concrete pad. J. Giunco stated the applicant will install a secondary fence around the transformer in addition to the perimeter fence. F. Floyd stated, through experience, the transformers are put in a shed. The shed has a raised concrete pit which can contain the 600 or 700 gallons of oil in the transformer. J. Giunco stated the applicant does not intend to put the transformer in a building. R. Roseberry stated the oil in the transformer is a mineral oil and an environmentally safe oil. A transformer cannot be put in a building. The containment area will fill with water from the rain. J. Strasser stated a cover can be put on the containment area so no rain water gets into it. The water sheds off. J. Giunco stated the Board is requesting a containment area in the event there is an oil leak. The applicant will develop a methodology to address and design a system to achieve containment. R. Roseberry indicated there will be Knox boxes, training, a layout of the facility and a two tag system with instructions provided to the fire department.

D. Pierce stated R. Roseberry testified that during Phase 2 construction after they remove the temporary staging area, they will have the contractor park along the access drive. D. Pierce asked F. Frank if that was acceptable. F. Frank was concerned about the parking, public access and deliveries. J. Giunco stated the applicant cannot have people traipsing on the property until after it has been constructed. The applicant will open it for public access at the completion of construction and inspections. The applicant will not agree to have members of the public on the property during construction. Only employees, contractors and inspectors would be allowed access to the facility during construction. F. Floyd inquired, of the Board, what their intention was for the public access to the facility. R. Dodds responded the Board will have a discussion on the public access. F. Floyd stated he had a concern if you build an access way deep in the woods people are going to be in there. The Board heard only from a handful of residents who will be bothered by them. How is the liability handled on a private easement? J. Giunco stated it will be an easement open to the public. The panels do not need privacy. The applicant agrees it is their obligation.

A. Belle, Block 23, Lot 17.02, inquired about the public access area. He inquired what the applicant was proposing for the 26 acres of farmland. R. Roseberry stated that area will be retained as an open area on the south side of the property. It contains 24 acres of agricultural land and the stream corridor. The access will be provided through their site to the area in back. A. Belle inquired if the property would be available for passive recreation. D. Banisch stated someone is leasing the property. It will be open for passive recreation but the option to farm will remain. J. Giunco stated the property will be first offered to the farmer who is currently farming the property. He is open to recommendations from the Board. D. Banisch stated the Board would have to decide what kind of public access would be permitted. A. Belle, as a horse owner, was thinking about the perimeter. He has no problem with looking at the panels. He would be interested in being able to travel the perimeter of the property. J. Giunco stated the applicant is obligated to offer the open land for public use. If the applicant opens up the perimeter or the facility, he cannot say if it will create any problems. A. Belle stated horses can go anywhere and can weave trees. He suggested the green area between the fence and area of landscaping. J. Giunco stated it is a matter of private property being available to the public. He would like to limit access to the open land. If the property is farmed, it is not eligible for horse activity. A. Belle inquired if the 50' tree buffer is considered open space and public access. J. Giunco stated there would be a limit and people should not be able to utilize that area.

R. Dodds closed the portion of the public hearing. He stated the outstanding issues are landscaping and access. He asked the applicant how they would propose meeting the ordinance and also the needs of the applicant and people who live in the area. D. Banisch stated buffering is required along the perimeter of the facility along the

open lands. If the Board is to relieve them of that requirement in favor of offsite landscaping, he supposes the Board can offer that relief. If the applicant is willing to go that route with a maintenance guarantee is going to depend on the neighbors allowing that to be a solution. He is not sure the Board heard those sentiments from the residents and if they see it as a solution. D. Pierce stated the Board cannot require the neighboring property owners to allow the landscaping on their property. By comments this evening, one of the property owners was not interested. The only practical alternative is to impose a condition that additional landscaping be provided as D. Banisch indicated along the proposed development to buffer it from the open space and from those properties affected in consultation with D. Banisch which will satisfy the ordinance requirements for visibility. P. Lubitz stated the purpose of the buffering is to block the view and the additional buffering is not going to block the view. It is counter to the intent of the ordinance. D. Pierce stated he is not disagreeing with that fact but that the applicant would have to provide additional landscaping to block the view from those homes. It is a little different to buffer the open lands area from the facility. It is one of the performance standards the Board can grant a waiver. The intention is that the landscaping D. Banisch would approve would be what is necessary to provide a visibility screen from those residences. The performance standards, as the Township saw in the Sundancer application, are that it is not immediately achievable when the facility is put into service. It may require some time for the landscaping to grow in and up to achieve its visibility objective. D. Banisch stated he focused on those properties that were in close proximity to the facility and the applicant responded with larger landscaping. The properties on Opdyke Road are some quite distance from the impact of the property. The visibility impact will be seen right off if construction commences in the fall. In the area along the perimeter of the deciduous tree line adjacent to the drainage basin and the affected properties, it would be possible to get some evergreens established in that general area due to the east exposure. It would involve less landscaping than the alternative. The aforementioned proposal is offsite. D. Banisch stated if the residents were willing to go this route a cluster of plantings between the dwelling and farm might be the applicant's least expensive option. The cluster of landscaping would have the greatest benefit and a more effective solution than landscaping on site. Since the Board cannot mandate it on private property, D. Banisch will conclude the investigations and discuss at the next meeting. M. Ailara stated she has a concern that the people on the other side of the street see a different view. She does not want trees on the back of her property. She would like to put in a pool eventually. There are tremendous water issues and she does not want a mess. Since the area is a C-1 area, D. Banisch will review what plantings the DEP will allow. M. Ailara stated if they did agree with the landscaping on their private properties, who would do the planting. R. Dodds responded the applicant would provide the trees and the planting. D. Banisch stated they would have a 2 year guarantee.

R. Dodds stated a decision cannot be made this evening. D. Banisch and the applicant will review and be ready to discuss at the October meeting.

R. Dodds opened up the discussion with the Board members on public access. D. Pierce stated the applicant is required to provide open space but they do not have to provide public access. After some discussion by the Board members, they indicated they would have no problem with someone walking through the stream on the property. J. Giunco suggested the Board create the easement that would provide for the stream to be accessible but not provide a direct access. A. Belle expressed concern if they offered access to the stream but not direct access, the public would utilize his property to gain access to the creek. D. Pierce stated the Township does not hold access easements. He encourages the property owners to enter into an agreement with the D&R Greenway and/or Hunterdon Land Trust Alliance to hold the easement. He stated being able to connect easements is on the willingness of the other intervening property owners.

It was moved by P. Lubitz, seconded by D. Haywood and carried to adjourn the hearing to October 13, 2011 without further notice. All members voted **AYE** on **ROLL CALL VOTE**, except S. McNicol who **ABSTAINED**.

EffiSolar – Block 38, Lots 17, 18 and 19.01 – Preliminary Approval – Public Hearing

D. Pierce stated the advertised notice was not correct. The applicant had submitted the correct notice in the mailing. The notice in the paper indicated the meeting was on Thursday, September 26. The Board cannot open the hearing and the applicant will have to renotice for the hearing on October 13, 2011.

Request for Special Meeting in October – (Effisolar – Block 38, Lots 17, 18 and 19.01)

After some discussion, it was determined the Board would not be scheduling a special meeting in October at this time.

APPLICATION STATUS

CORRESPONDENCE

PRIVILEGE OF THE FLOOR

A. Belle inquired where the subject of the public access was left. R. Dodds stated it was not decided.

ADJOURNMENT

It was moved by P. Lubitz, seconded by J. Strasser and carried to adjourn the meeting at 11:48 PM. All members voted **AYE**.

Respectfully submitted,

Diane Laudenschick, Secretary