

BEFORE THE CHATHAM COUNTY

BOARD OF COMMISSIONERS

September 15, 2014

**CONDITIONAL USE PERMIT
APPLICATION
FOR A SOLAR FARM**

No.: PL20140960

STRATA SOLAR

HEARING EXHIBITS

BEFORE THE CHATHAM COUNTY

BOARD OF COMMISSIONERS

September 15, 2014

**CONDITIONAL USE PERMIT
APPLICATION
FOR A SOLAR FARM**

STRATA SOLAR

HEARING EXHIBITS

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STATE OF NORTH CAROLINA
COUNTY OF CHATHAM

BEFORE THE CHATHAM COUNTY
BOARD OF COMMISSIONERS

CONDITIONAL USE PERMIT)
APPLICATION FOR A SOLAR)
FARM)

AFFIDAVIT SAM JUDD

NOW COMES the undersigned Affiant, who, being first duly sworn deposes and says:

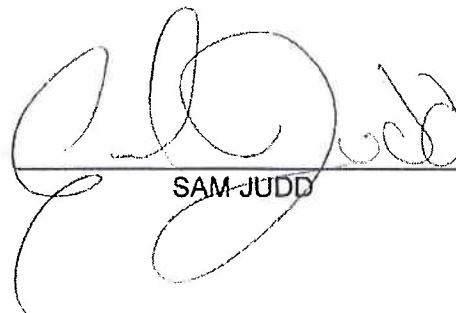
1. I am over eighteen (18) years of age and competent to testify to the matters set forth in this Affidavit.
2. I am a development associate for Strata Solar. In this capacity I identify sites for solar facilities and support land use permitting for Strata's solar farms across North Carolina.
3. Strata Solar is the largest solar developer in North Carolina and the 6th largest solar developer in the United States. Strata Solar is headquartered in Chatham County. Strata Solar operates fifty 5 megawatt farms in North Carolina and expects to complete construction of 40 new farms by the end of 2015.
4. I am familiar with the proposed solar farm use, including the conditional use permit request. I assisted in preparation of the application and related documents for the permit.
5. Strata Solar proposes to construct a solar farm on approximately 48 acres on the south side of Hillside Dairy Road and north side of US Highway 64 in Siler City owned by Swannie Ann Clark and Richard Clark. Photographs of a typical 5 megawatt solar farm are attached as **Hearing Exhibit 1**.
6. The solar farm will be interconnected to Duke Energy Progress for delivery of the power generated to the electric grid.
7. The proposed use is among those listed as an eligible conditional use in the R-1 district where a 23.3 acre portion of the property is located. The remainder of the property is unzoned.
8. Under North Carolina Senate Bill 3 (G.S. 62-133.8), it is the public policy of the State to promote renewable energy. Under State law electric utilities are required to purchase an increasing amount of renewable energy. Under the law solar energy is defined as a renewable energy resource. The proposed solar farm is being developed under this policy. In December 2012, under rules promulgated by the North Carolina Utilities Commission ("Commission"), Strata Solar filed a Report of Proposed Construction for the proposed solar farm at Vickers Road. This filing is required under State law before construction of an electric generating facility of this size can begin. On August 13, 2014, the Commission issued an Order accepting the registration of the proposed solar farm as a new renewable energy facility. A copy of the Order is attached as **Hearing Exhibit 2**.

9. There are other instances of solar farms in Chatham and surrounding counties. Strata has another operating solar farm in Chatham County and surrounding county locations including Governors Village, Moncure, Vickers and White Cross.
10. The proposed project will produce approximately \$10,000 in annual property tax payments to the County.
11. The proposed solar electric power plant will generate electricity to meet consumer needs in the local area with safe, clean, renewable energy with no fuel consumption or emissions.
12. The proposed plant requires no public improvements or services.
13. Construction of the solar farm will create approximately 110 temporary construction jobs over a two month period. Also, Strata Solar maintains an average of 1,000 jobs across North Carolina including approximately 100 professional engineering, project management, and legal and accounting staff in Chatham County and 1400 construction jobs across the state.
14. For the reasons stated above, granting this conditional use permit application is desirable for the public convenience and welfare.
15. The proposed solar farm complies with the Chatham Land Use Plan in form and spirit. Specifically, the land use plan calls for "benefits and burdens" of growth to be shared. As I have already noted the tax receipts from this solar farm to the county will be in the neighborhood of \$10,000. Also, the use has been identified as appropriate for "agriculturally" zoned lands by means of the specific solar text change approved in 2012.
16. The use "ensures the long-term quality" of surface water resources. This particular use likely will provide less nitrogen and other run-off effects than the adjoining farms, which frequently need fertilizer, tilling, etc. Finally, the solar farm can be removed at completion and returned to farming which "preserves opportunities to farm".
17. The proposed solar farm is consistent with the residential and agricultural land uses that exist in the area. The area surrounding the site is rural and sparsely developed. There is a significant tree buffer surrounding almost all of the site. **Hearing Exhibit 3** is a copy of the site plan overlaid on an aerial photograph of the site. This exhibit illustrates the extensive buffer around this site. The visual impact of the site is expected to be minimal.
18. The proposed solar farm meets several of the defined policies of the Land Conservation and Development Plan:
 - The surrounding area is rural and sparsely populated.
 - The project ensures long-term quality and availability of groundwater and surface water resources due to a small impervious surface percentage and replanted ground cover.

- The surrounding area is rural and sparsely populated. The project establishes electrical infrastructure that supports economic development.
19. The proposed solar farm meets the requirements of the Watershed Protection Ordinance by providing all required buffers and by having and built-upon area below the strictest threshold.
 20. The project meets the requirements of the Flood Damage Prevention Ordinance by being located out of a flood hazard area and by being designed to prevent water damage to electrical and structural components.
 21. For these reasons, it is my professional opinion that the proposed solar farm will be consistent with the objectives of the Land Conservation and Development Plan.

Further the Affiant Sayeth Not.

This the 9th day of September, 2014.


SAM JUDD

ACKNOWLEDGMENT

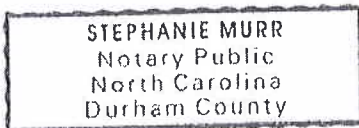
STATE OF NORTH CAROLINA

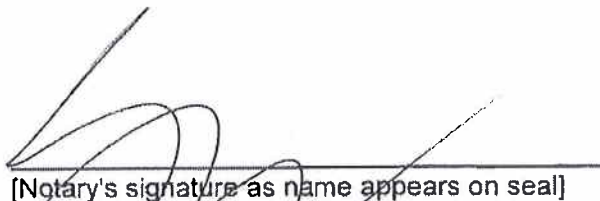
COUNTY OF Chatham

I certify that the following person(s) personally appeared before me this day, each acknowledging to me that he signed the foregoing document: Sam Judd

Date:

September 9, 2014




[Notary's signature as name appears on seal]

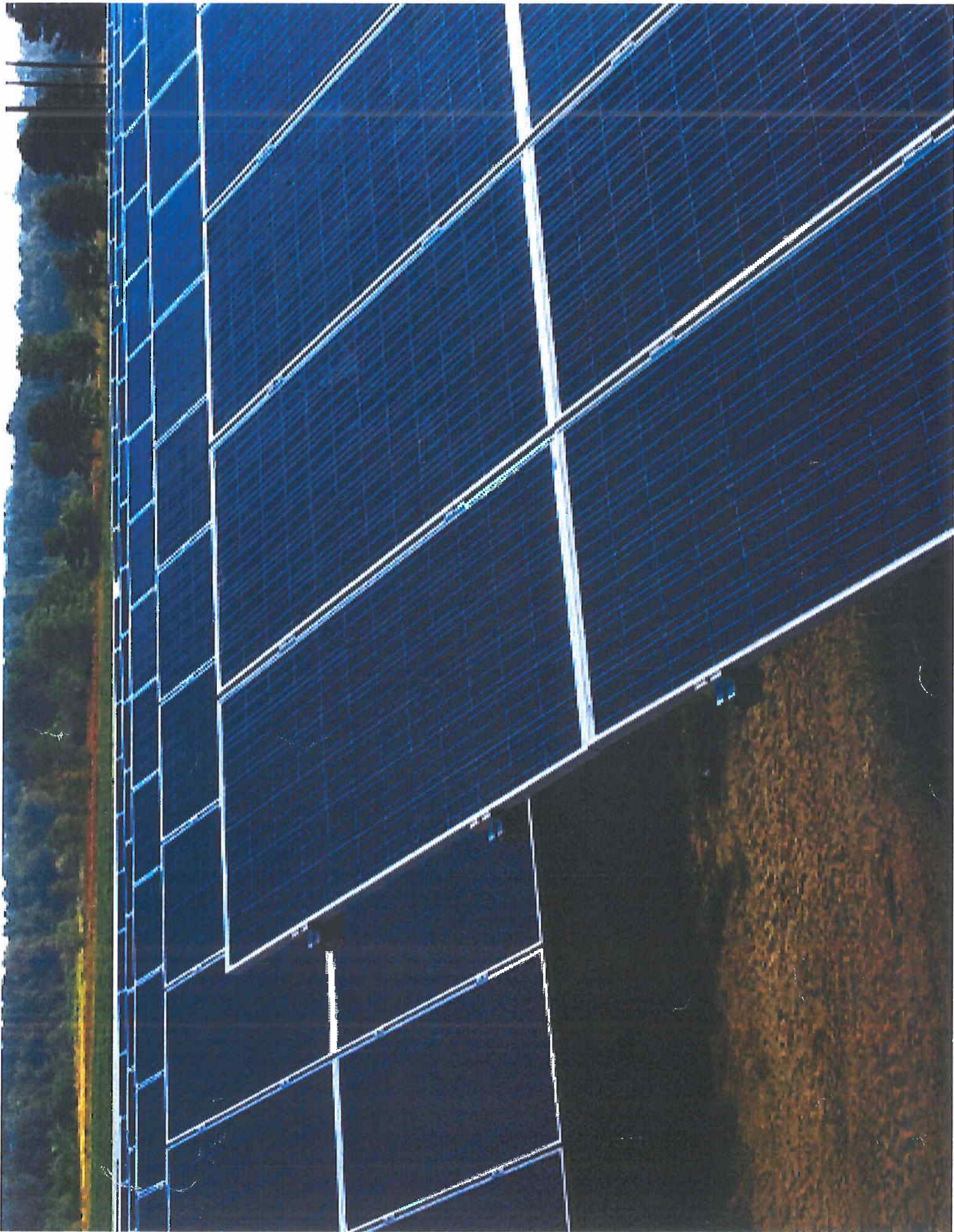
Stephanie Murr, Notary Public
[Notary's printed name as name appears on seal]

(SEAL)

My commission expires: 7/11/16







**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. SP-3673, SUB 0

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of Application of Pit 64 Farm, LLC, for a Certificate of Public Convenience and Necessity to Construct a 5-MW Solar Facility in Chatham County, North Carolina)))))	ORDER ISSUING CERTIFICATE AND ACCEPTING REGISTRATION OF NEW RENEWABLE ENERGY FACILITY
--	-----------------------	--

BY THE COMMISSION: On May 13, 2014, Pit 64 Farm, LLC (Applicant), filed an application seeking a certificate of public convenience and necessity pursuant to G.S. 62-110.1(a) for construction of a 5-MW_{AC} solar photovoltaic electric generating facility to be located south of Hillside Dairy Road, north of US 64 West, and west of Buckner Clark Road, Pittsboro, Chatham County, North Carolina. The Applicant plans to sell the electricity to Duke Energy Progress, Inc. (DEP).

Contemporaneously with the application, the Applicant filed a registration statement for a new renewable energy facility. The registration statement included certified attestations that: (1) the facility is in substantial compliance with all federal and state laws, regulations, and rules for the protection of the environment and conservation of natural resources; (2) the facility will be operated as a new renewable energy facility; (3) the Applicant will not remarket or otherwise resell any renewable energy certificates sold to an electric power supplier to comply with G.S. 62-133.8; and (4) the Applicant will consent to the auditing of its books and records by the Public Staff insofar as those records relate to transactions with North Carolina electric power suppliers.

On May 22, 2014, the Commission issued an Order Requiring Publication of Notice, which required the Applicant to (1) publish notice of the application as required by G.S. 62-82(a) and file an affidavit of publication with the Commission, (2) mail a copy of the application and notice, no later than the first date that such notice is published, to the electric utility to which the Applicant plans to sell and distribute the electricity, and (3) file a certificate of service of such mailing to the utility. The Order also specified that if a complaint was received within 10 days after the last date of the publication of the notice, the Commission would schedule a public hearing to determine whether a certificate of public convenience and necessity should be awarded. The Order further specified that if the Commission received no complaints within the time specified above and if the Commission did not order a hearing upon its own initiative, it would enter an order awarding the certificate.

On June 18, 2014, the Applicant filed a certificate of service stating that the public notice and a copy of the application were provided to DEP.

On July 11, 2014, the State Clearinghouse filed comments. Because of the nature of the comments, the cover letter indicated that no further State Clearinghouse review action by the Commission was required for compliance with the North Carolina Environmental Policy Act.

On July 17, 2014, the Applicant filed an affidavit of publication stating that the publication of notice was completed on July 3, 2014. No complaints have been received.

The Public Staff presented this matter to the Commission at its Regular Staff Conference on August 11, 2014. The Public Staff recommended that the Commission approve the application, issue the requested certificate, and accept the registration statement.

After careful consideration, the Commission finds good cause to approve the application and issue the attached certificate of public convenience and necessity for the proposed solar photovoltaic electric generating facility. The Commission further finds good cause, based upon the foregoing and the entire record in this proceeding, to accept registration of the facility as a new renewable energy facility. The Applicant shall annually file the information required by Commission Rule R8-66 on or before April 1 of each year and will be required to participate in the NC-RETS REC tracking system (<http://www.ncrets.org>) in order to facilitate the issuance of RECs.

IT IS, THEREFORE, ORDERED as follows:

1. That the application filed by Pit 64 Farm, LLC, for a certificate of public convenience and necessity shall be, and is hereby, approved.
2. That Appendix A shall constitute the certificate of public convenience and necessity issued to Pit 64 Farm, LLC, for the 5-MW_{AC} solar photovoltaic electric generating facility to be located south of Hillside Dairy Road, north of US 64 West, and west of Buckner Clark Road, Pittsboro, Chatham County, North Carolina.
3. That the registration statement filed by Pit 64 Farm, LLC, for its solar photovoltaic facility located in Chatham County, North Carolina, as a new renewable energy facility shall be, and is hereby, accepted.

4. That Pit 64 Farm, LLC, shall annually file the information required by Commission Rule R8-66 on or before April 1 of each year.

ISSUED BY ORDER OF THE COMMISSION.

This the 13th day of August, 2014.

NORTH CAROLINA UTILITIES COMMISSION

Gail L. Mount

Gail L. Mount, Chief Clerk

Commissioner Bryan E. Beatty did not participate in this decision.

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. SP-3673, SUB 0

Pit 64 Farm, LLC
50101 Governors Drive, Suite 280
Chapel Hill, NC, 27517

is hereby issued this

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY
PURSUANT TO G.S. 62-110.1

for a 5-MW_{AC} solar photovoltaic electric generating facility

located

south of Hillside Dairy Road, north of US 64 West, and
west of Buckner Clark Road, Pittsboro,
Chatham County, North Carolina,

subject to all orders, rules, regulations and conditions
as are now or may hereafter be lawfully made
by the North Carolina Utilities Commission.

ISSUED BY ORDER OF THE COMMISSION.

This the 13th day of August, 2014.

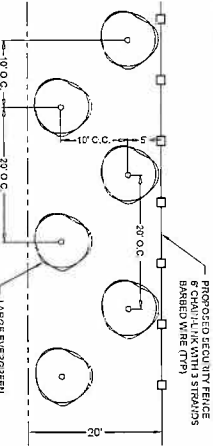
NORTH CAROLINA UTILITIES COMMISSION

Gail L. Mount

Gail L. Mount, Chief Clerk



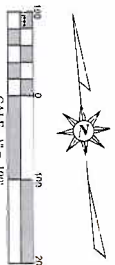
Table 1. Regression parameter estimates				
	Model 1 (all variables)	Model 2 (all variables)	Model 3 (all variables)	Model 4 (all variables)
Intercept	1.00	1.00	1.00	1.00
Gender (male = 1, female = 0)	0.00	0.00	0.00	0.00
Age (years)	0.00	0.00	0.00	0.00
Height (cm)	0.00	0.00	0.00	0.00
Weight (kg)	0.00	0.00	0.00	0.00
Adjusted R^2 (all variables)	0.00	0.00	0.00	0.00



- NOTES**
1. PLANTING AREA WILL BE APPROXIMATELY 20' WIDE
2. LARGE EVERGREEN SCREENING SPECIES
- ILEX VOILANTIA SHADOW'S FEMALE VANDERHOLLY
KALMIA LATIFOLIA WAX MYRTLE
JUNIPERUS VIRGINICA EASTERN WHITE CEDAR
- (ALL PLANTS TO BE PLANTED IN 5 GALLON CONTAINERS)

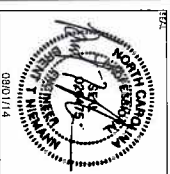
8713	1-471	SAVING MEAT CLARK	PREC0113	PRECASE	4787AT05	12/501	VANANT
PIN	007816		00090	PARCEL	USE		
SUN PROGRESS, US & W CHINA, INC							
WATERGARDEN, CLARK 150K							
PULMUS BACK REQUIREMENTS:							
EXISTING		UNZONED		CU SOLAR 480V + 2 ACS			
FOOTIT	40'	NA				100'	
GRID	15'	NA				60'	
HEAR	35'	NA				50'	

- [illegible]



REVISIONS	
DATE	DESCRIPTION
1	
2	
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DO NOT SCALE DRAWINGS. USE
FIGURED DIMENSIONS ONLY.
COPYRIGHT © 2011 STRATA COILS, LLC



DATE	08/01/2014
UNIT TO RECEIVE	
PRODUCT CODE	C-322-P64
STATIONARY	PIT 64
FLOWER	5.00 MWp AC
CHUCKER	BTN
CRANK BY	BTN
	RBJ

PIT 64 SOLAR ELECTRIC
POWER PLANT
U.S. 64 W., SILER CITY, NC
CHATHAM COUNTY



**STRATA
SOLAR**
5011 Governors Drive, Suite
Chapel Hill, NC 27517
919-960-6015
www.stratasolar.com
NC License No. DA-233

DEVELOPMENT / CONSUMPTION

PRELIMINARY SITE PLAN

SCALE
1" = 100'

$$\frac{C}{2}$$

STATE OF NORTH CAROLINA

BEFORE THE CHATHAM COUNTY

COUNTY OF CHATHAM

BOARD OF COMMISSIONERS

CONDITIONAL USE PERMIT
APPLICATION FOR A SOLAR
FARM

)
)
)

**AFFIDAVIT OF
BRENT NIEMANN, P.E.**

NOW COMES the undersigned Affiant, who, being first duly sworn, deposes and says:

1. I am over eighteen (18) years of age and competent to testify to the matters set forth in this Affidavit.
2. I am a licensed North Carolina professional engineer employed by Strata Solar.
3. Strata Solar proposes to construct a solar farm on approximately 48 acres owned by Swannie Ann Clark and Richard Clark. The property is located on the south side of Hillside Dairy Road and north side of US Highway 64 in Siler City.
4. I am familiar with the proposed solar farm, including the conditional use permit request. I have personally toured the property and specifically inspected the location of the proposed project. I assisted in preparation of the application and related documentation for submittal to the county, and it is my professional opinion that the application package is complete.
5. The solar farm will contain rows of photovoltaic cell solar panels mounted to steel and aluminum racking that is mechanically driven in the ground. The site will be constructed in one phase. The solar cell configuration contains no moving parts. The electric components will have an Underwriters Laboratories (UL) listing and the facility will comply with the edition of the National Electrical Code adopted at the time of construction.
6. The only sound generated by the solar farm is the quiet hum of the inverter and transformer during daylight hours. This equipment is centrally located within the solar array. This hum dissipates as you move away from the equipment and will not exceed the ambient background noise level of a typical rural area at the property line.
7. Similar facilities are already located in residential neighborhoods to deliver power to homes. Solar panels are designed to absorb rather than reflect light. The solar farm will not have any lighting and no chemicals or hazardous substances will be utilized on the site.
8. The solar panels will be less than ten feet (10') in height as measured from the grade to their highest point, much lower than the typical house.
9. The site is appropriately located to be served by fire, police and emergency services, if needed.

10. The area beneath the solar panels will be planted with grass or other vegetation to stabilize the soil. The active area of the solar farm will be enclosed by a six foot (6') high chain link fence with 3 strands of barbed wire along the top of the fence to prevent unauthorized access to the site.
11. The solar farm will not be staffed daily. Employees will visit the site weekly, or less frequently, to maintain the equipment and for vegetation management. Therefore, traffic will be minimal and will not negatively impact the surrounding area.
12. For these reasons stated above, it is my professional opinion that the proposed solar farm will not impair the integrity or character of the surrounding or adjoining districts or materially endanger the public health or safety.
13. The site will not require water or sewer.
14. Primary access to the site for construction traffic and routine maintenance will be from a new driveway on Hillside Dairy Road. A secondary entrance is proposed on U.S. Highway 64, only for use by the utility to maintain their interconnection equipment. Driveway Permit applications will be submitted to the North Carolina Department of Transportation for the driveways shown on the submitted site plan. I do not anticipate that any changes to the speed limit or any modifications to the road system will be required to serve the solar farm.
15. The proposed solar farm will generate almost no traffic. I am familiar with the principles of traffic engineering. The Institute of Transportation Engineers Trip Generation Manual 8th Edition reports that the average single-family housing unit will produce an average of 9.57 trips on a weekday. The proposed solar farm will generate far fewer daily trips than one average single-family detached home. For these reasons, it is my professional opinion that the proposed solar farm has adequate utilities, access roads and other necessary facilities consistent with the county's plans and policies.
16. The site plan reflects the setbacks required by the County Zoning Ordinance.
17. A Modified Type 'B' Landscape Buffer, as indicated on the submitted site plan, will be provided around the perimeter of the solar farm where existing landscaping does not provide adequate screening from adjacent properties. Existing landscaping may be augmented using the same Modified Type 'B' Landscaping Buffer design included on the Conditional Use Site Plan.
18. Strata Solar will obtain an erosion control permit from Chatham County before starting construction on the proposed solar farm.

Further the Affiant Sayeth Not.

This the 8 day of September, 2014.


BRENT NIEMANN

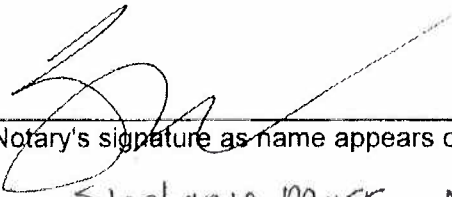
ACKNOWLEDGMENT

STATE OF NORTH CAROLINA

COUNTY OF Chatham

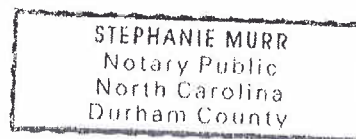
I certify that the following person(s) personally appeared before me this day, each acknowledging to me that he or she signed the foregoing document: Brent Niemann.

Date: September 8, 2014


[Notary's signature as name appears on seal]
Stephanie Murr, Notary Public
[Notary's printed name as name appears on seal]

(SEAL)

My commission expires: 7/11/18



STATE OF NORTH CAROLINA
COUNTY OF CHATHAM

BEFORE THE CHATHAM COUNTY
BOARD OF COUNTY COMMISSIONERS

CONDITIONAL USE PERMIT
APPLICATION FOR A SOLAR
FARM

)
)
)

**AFFIDAVIT OF
RICHARD C. KIRKLAND, MAI**

NOW COMES the undersigned Affiant, who, being first duly sworn deposes and says:

1. I am over eighteen (18) years of age and competent to testify to the matters set forth in this Affidavit.
2. I am a licensed North Carolina real estate appraiser with an MAI Designation, actively practicing in North Carolina for 14 years.
3. I was engaged by Strata Solar to conduct an analysis to determined the impact of Strata's proposed solar farm on the south side of Hillside Dairy Road and north side of US Highway 64 in Siler City on the integrity and character of the surrounding area.
4. A copy of my report, including my and qualifications, is attached to this affidavit as Exhibit A.
5. Strata Solar proposes to construct a solar farm on approximately 48 acres owned by Swannie Ann Clark and Richard Clark.
6. The solar farm will consist of fixed solar panels that generate no noise, no smell and less traffic than one typical residential dwelling. The solar panels will be approximately ten feet (10') in height, much lower than the typical house.
7. I inspected the property and the immediate neighborhood as a part of my evaluation. The area surrounding the site of the proposed solar farm is rural and sparsely developed. There is a significant tree buffer around most of the site with new tree buffers proposed the northern and southern boundaries and the southwest corner.
8. The solar farm will not generate noise or odor. The facility will not be staffed daily, and employees will visit the site weekly or less frequently, and, therefore, the solar farm will not generate traffic.
9. For the reasons sited above, it is my professional opinion that the proposed solar farm will be in harmony and in character with the surrounding area.
10. I also conducted a detailed study of the impact of solar farms on the value of surrounding property. In my study I considered more than 20 solar farms across North Carolina.

11. For my report in this case I conducted a series of matched pair analyses. A matched pair analysis considers sales of two similar properties where there is only one difference between the properties. This analysis enables one to determine whether that one difference has any impact on value. In this case the difference was presence of an adjoining solar farm.
12. Among the matched pairs I examined were residential properties adjoining solar farms compared to comparable properties that do not adjoin solar farms. I also included matched pairs of vacant residential and agricultural land.
13. In all instances, my analysis revealed that there was no impact on the price paid for real estate that adjoins a solar farm versus property that does not.
14. My analysis of solar farms across North Carolina showed that in the majority of instances the adjoining land was used for residential and/or agricultural uses. The data and analysis supporting my opinion is contained in my report attached to this affidavit.
15. Based on the data and analysis included in my report, it is my professional opinion, the proposed solar farm will not substantially injure the value of adjoining or abutting property.

Further the Affiant Sayeth Not.

This the 8 day of September, 2014.


RICHARD C. KIRKLAND

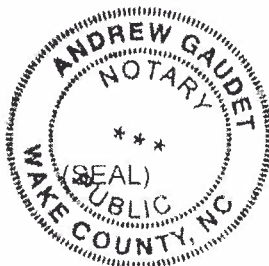
ACKNOWLEDGMENT


STATE OF NORTH CAROLINA

COUNTY OF Wake

I certify that the following person(s) personally appeared before me this day, each acknowledging to me that he signed the foregoing document: Richard C. Kirkland.

Date: September 8, 2014




[Notary's signature as name appears on seal]
Andrew Gaudet, Notary Public
[Notary's printed name as name appears on seal]

My commission expires: 3-23-2019



Kirkland Appraisals, LLC

Richard C. Kirkland, Jr., MAI
5029 Hilltop Needmore Road
Fuquay Varina, North Carolina 27526
Phone (919) 285-2951
rkirkland2@gmail.com
www.kirklandappraisals.com

July 24, 2014

Mr. Louis Iannone
Strata Solar
Suite 101
1119 US 15-501 Hwy South
Chapel Hill, North Carolina 27517

Dear Mr. Iannone:

At your request, I have considered the likely impact of a solar farm to be located on 47.92 acres on the south side of Hillside Dairy Road and north side of US Highway 64, Siler City, North Carolina.

The scope of this assignment is to address the likely impact this may have on adjoining properties. To this end I have researched and visited existing and proposed solar farms, researched articles through the Appraisal Institute and other studies, as well as discussed the likely impact with other real estate professionals. I have not been asked to assign any value to any specific property.

This letter is a limited report of a real property appraisal consulting assignment and subject to the limiting conditions attached to this letter. My client is Strata Solar represented to me by Mr. Louis Iannone. The intended use is to assist in the Special Use Permit application. The effective date of this consultation is July 23, 2014, the date of my inspection of the property and surrounding area.

Proposed Use Description

The property is located on 47.92 acres on the south side of Hillside Dairy Road and north side of US Highway 64, Siler City, North Carolina. The property is currently owned by Swannic Ann Clark.

Adjoining land is used primarily for agriculture and some low density residential uses.

The solar farm will consist of fixed solar panels that will generate no noise, no odor, and less traffic than a residential subdivision. The appearance will all be panels less than 10 feet in height that will be located behind a chain link fence.

Existing tree buffers run along most of the property lines based on the project map with new landscaped buffers proposed for the northern and southern boundaries, as well as along the southwest corner.

The property has 13 parcels that adjoin the parent tract of the subject property. I have numbered the parcels as shown on the following map. The adjoining uses are predominately agriculture by acreage and by number of parcels. This is very similar to the areas where solar farms are typically located with a mix of residential and agricultural uses.



Adjoining Use Breakdown

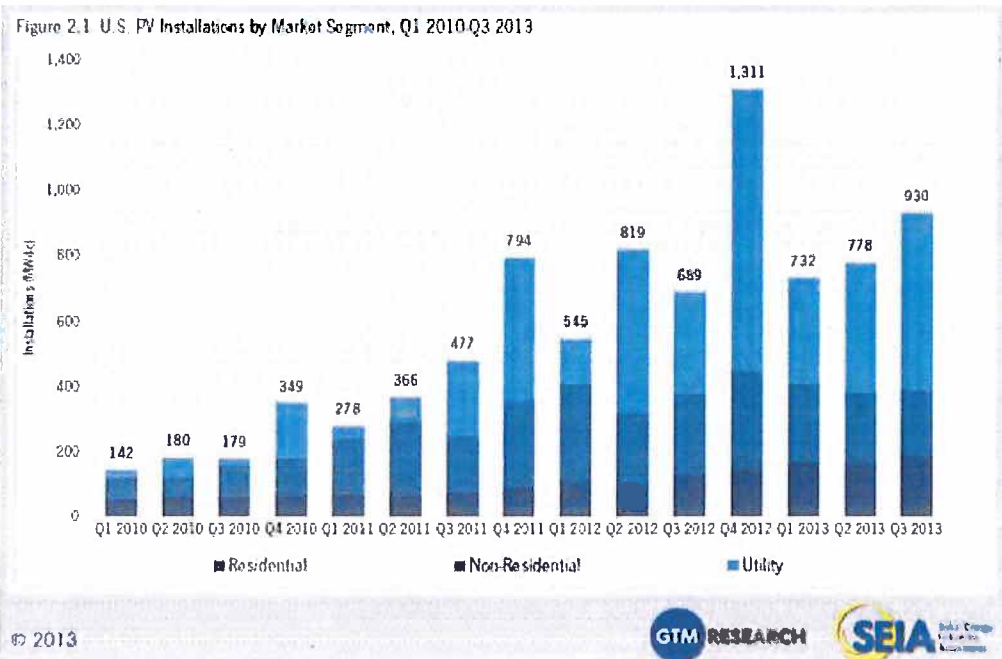
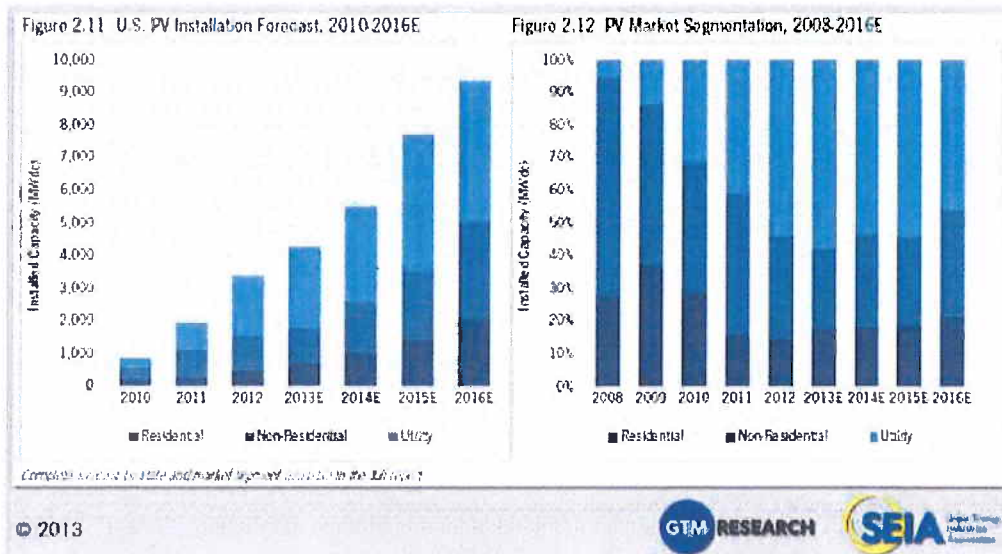
	Acreage	Parcels
Agricultural	46.79%	23.53%
Residential	9.55%	64.71%
Res/Agri	43.66%	11.76%
Total	100.00%	100.00%

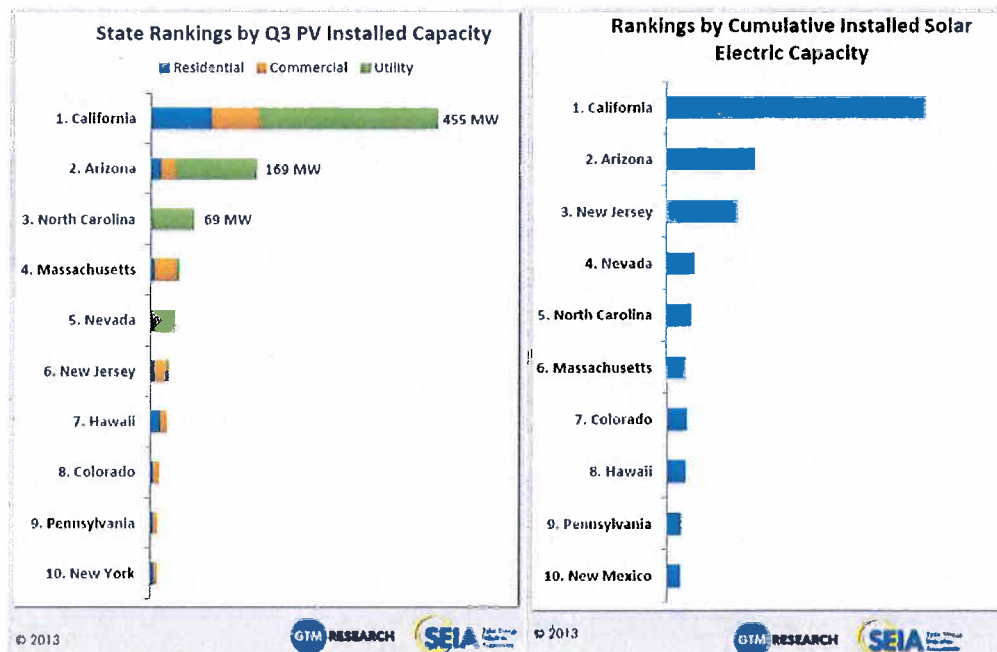
Surrounding Uses

#	MAP ID	Owner	GIS Data		% Adjoining	
			Acres	Present Use	Acres	Parcels
1	9702-95-3491	Brooks	95.410	Agricultural	31.14%	7.69%
2	9712-14-4850	Brooks	2.950	Residential	0.96%	7.69%
3	9712-15-5684	Cheng	12.670	Agri/Res	4.14%	7.69%
4	9712-15-8397	Shelby	5.000	Agri/Res	1.63%	7.69%
5	9712-24-2985	Johnson	9.180	Agri/Res	3.00%	7.69%
6	9712-24-1179	Callaway	6.000	Agricultural	1.96%	7.69%
7	9712-34-0189	Bouldin	59.360	Agri/Res	19.37%	7.69%
8	9712-22-9784	Town & Country	58.040	Agricultural	18.94%	7.69%
9	9712-11-0892	Clark	8.100	Agricultural	2.64%	7.69%
10	9712-12-2469	Payne	6.000	Agri/Res	1.96%	7.69%
11	9712-02-7527	M&M	17.580	Agricultural	5.74%	7.69%
12	9712-03-6623	Clark	24.310	Agricultural	7.93%	7.69%
13	9712-04-7428	Gaines	1.800	Residential	0.59%	7.69%
Total			306.400		100.00%	100.00%

Solar Farms in North Carolina

Across the nation the number of solar installations has dramatically increased over the last few years as the change in the technology and economy made these solar farms more feasible. The charts below show how this market has grown and is expected to continue to grow from 2010 and projections out to 2016. The U.S. Solar Market Insight Reports for 2010 and 2011 which is put out by the Solar Energy Industries Association note that 2010 was a “breakout” year for solar energy and the continued the boom of solar power is shown in the steady growth. North Carolina was ranked as having the 3rd most active photovoltaic installed capacity in 2013.





As shown in the charts above, North Carolina was the third largest installer of solar energy in the third quarter of 2013. North Carolina is the fifth largest installer of solar energy in the United States.

Solar Farm Market Analysis

I have researched a number of solar farms in North Carolina to determine the impact of these facilities on the value of adjoining property. I have provided a breakdown of the adjoining uses to show what adjoining uses are typical for solar farms and what uses would likely be considered consistent with a solar farm use. This breakdown is included in the Harmony of Use section of this report.

I also conducted a series of matched pair analysis. A matched pair analysis is where you consider two similar properties with only one difference of note so that you can determine whether or not that difference has any impact on value. In this case, I have considered residential properties adjoining a solar farm versus similar residential properties that do not adjoin a solar farm. I have also considered some matched pairs of vacant residential and agricultural land.

As outlined in the discussion of each matched pair, I concluded that there is no impact in sale price for residential, agricultural or vacant residential land that adjoins existing or proposed solar farms.

I note that the numbering for the solar farms in the addenda correspond to the charts in the Harmony of Use Tables later in this report.

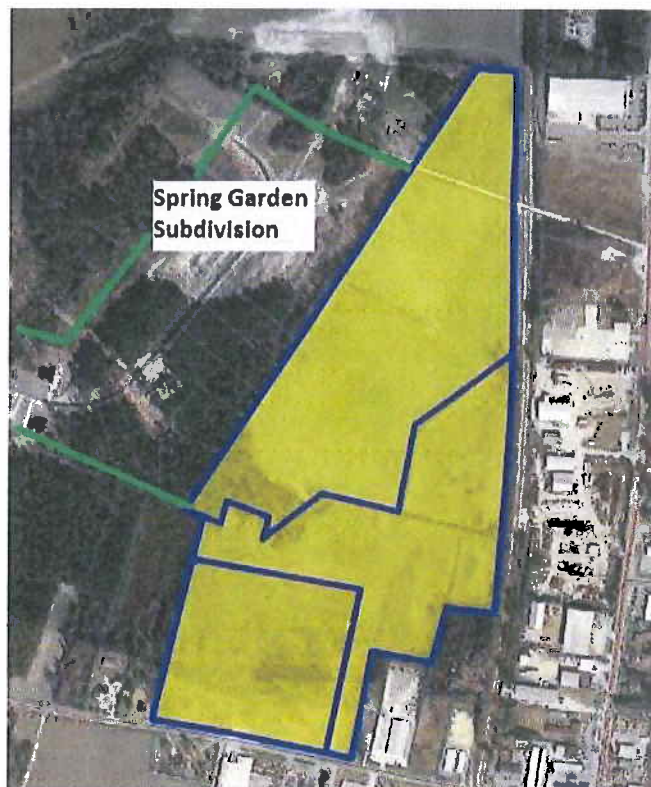
Solar Farm Comparables With Matched Pairs

I have provided more detailed information on a few of the solar farms attached to the addendum of this report to focus on those with matched pairs. These come from a larger set of solar farms that I have researched and summarized in the charts under Harmony of Use/Compatibility of Use.

The sets of matched pairs all support the conclusion that the solar farm has no negative impact on adjacent residential and agricultural properties.

Matched Pair A - AM Best Solar Farm, Goldsboro, NC

This solar farm adjoins Spring Garden Subdivision that has new homes and lots still available for new construction. The recent home sales have ranged from \$200,000 to \$250,000. Currently homes are being listed for \$240,000 to \$260,000. The solar farm is clearly visible especially along the north end of this street where there is only a thin line of trees separating the solar farm from the single family homes.



Homes backing up to the solar farm are selling at the same price for the same floor plan as the homes that do not back up to the solar farm in this subdivision. According to the builder the solar farm has proven to be a complete non-factor. Not only do the sales show no difference in the price paid for the various homes adjoining the solar farm versus not adjoining the solar farm, but there are actually more recent sales along the solar farm than not. From this I conclude that there is no impact on the sellout rate, or time to sell for the homes adjoining the solar farm.

I spoke with a number of owners who adjoin the solar farm and none of them expressed any concern over the solar farm impacting their property value.

The data presented on the following page shows five homes that have sold in 2013 adjoining the solar farm at prices similar to those not along the solar farm. These series of sales provide a strong indication that the solar farm has no impact on the adjoining residential use.



Americana
SqFt. 3,194
Bed / Bath:
3 / 3.5

Price: \$237,900

[View Now »](#)



Washington
SqFt. 3,292
Bed / Bath:
4 / 3.5

Price: \$244,900

[View Now »](#)



Presidential
SqFt. 3,400
Bed / Bath:
5 / 3.5

Price: \$247,900

[View Now »](#)



Kennedy
SqFt. 3,494
Bed / Bath:
5 / 3

Price: \$249,900

[View Now »](#)



Virginia
SqFt. 3,449
Bed / Bath:
5 / 3

Price: \$259,900

[View Now »](#)

AM Best Solar Farm, Goldsboro, NC**Matched Pairs**

As of Date: 3/6/2014

Adjoining Sales After Solar Farm Announced

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
20	3600169964	Peddersen	1.56	Feb-13	\$247,000	2012	3,571	\$69.17	Ranch
21	3600169964	Gentry	1.42	Apr-13	\$245,000	2013	3400	\$72.06	2 Story
	3600195570	Helm	0.76	Sep-13	\$250,000	2013	3292	\$75.94	2 Story
	3600195361	Leak	1.49	Sep-13	\$260,000	2013	3652	\$71.19	2 Story
	3600196656	Hinson	0.75	Dec-13	\$255,000	2013	3453	\$73.85	2 Story
		Average	1.20		\$251,400	2013	3,474	\$72.44	
		Median	1.42		\$250,000	2013	3,453	\$72.06	

Nearby Sales After Solar Farm Completed

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
	3600193710	Barnes	1.12	Oct-13	\$248,000	2013	3,400	\$72.94	2 Story
	3601105180	Nackley	0.95	Dec-13	\$253,000	2013	3,400	\$74.41	2 Story
	3600192528	Mattheis	1.12	Oct-13	\$238,000	2013	3,194	\$74.51	2 Story
		Average	1.06		\$246,333	2013	3,331	\$73.96	
		Median	1.12		\$248,000	2013	3,400	\$74.41	

Adjoining Sales Before Solar Farm Announced

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
22	3600183905	Carter	1.57	Dec-12	\$240,000	2012	3,347	\$71.71	1.5 Story
23	3600193097	Kelly	1.61	Sep-12	\$198,000	2012	2,532	\$78.20	2 Story
24	3600194189	Hadwan	1.55	Nov-12	\$240,000	2012	3,433	\$69.91	1.5 Story
		Average	1.59		\$219,000	2012	2,940	\$74.95	
		Median	1.59		\$219,000	2012	2,940	\$74.95	

Nearby Sales Before Solar Farm Announced

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
	3600191437	Thomas	1.12	Sep-12	\$225,000	2012	3,276	\$68.68	2 Story
	3600087968	Lilley	1.15	Jan-13	\$238,000	2012	3,421	\$69.57	1.5 Story
	3600087654	Burke	1.26	Sep-12	\$240,000	2012	3,543	\$67.74	2 Story
	3600088796	Hobbs	0.73	Sep-12	\$228,000	2012	3,254	\$70.07	2 Story
		Average	1.07		\$232,750	2012	3,374	\$69.01	
		Median	1.14		\$233,000	2012	3,349	\$69.13	

AM Best Solar Farm, Goldsboro, NC



View of home in Spring Garden with solar farm located through the trees and panels visible.



View from vacant lot at Spring Garden with solar farm panels visible through trees.

Matched Pair B – O2 Solar Farm, Zebulon, NC

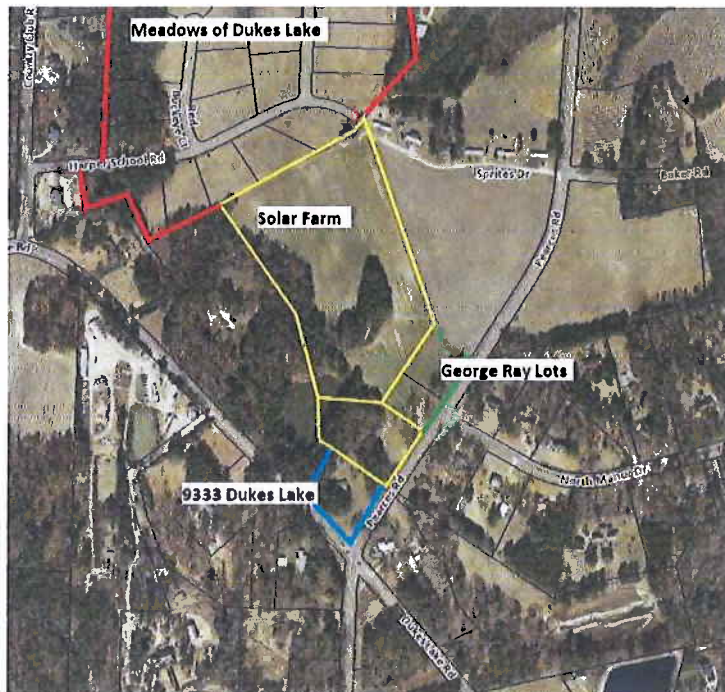
A new solar farm was approved near Zebulon off Pearces Road, but the approval apparently is being appealed and the solar farm has not yet been constructed. This is not a Strata Solar project.

The owner of this land, George Ray, also owns two adjoining lots that back up to this property and he intends to build spec homes on those lots in the future.

Lots adjoining this property to the north were owned by Dukes Lake Properties, LLC and are part of the Meadows of Dukes Lake. This subdivision was developed in 2007/2008 and only one lot has been sold and no homes built since that time due to the recession. Initially, the developer intended to build \$350,000 homes with lots priced around \$60,000, or 17% of the finished home price.

All of the unsold lots at Meadows of Dukes Lake sold in December 2013 to Wynn Construction for \$25,000 per lot for 22 lots.

Typically, a bulk sale of lots will be discounted off the individual lot price. This is similar to comparing the cost of a can of coke purchased by the can or by the case. There is always a big discount for the price per can if purchased by the case. Typically, for a subdivision that is projected to do well with a strong sellout this discount will run anywhere from 10% to 30%. Troubled subdivision lots such as the Meadows of Dukes Lake will see a discount of 30% to 60%. The projected lot price for this subdivision is clearly not \$60,000 as no lots were sold from 2008 through 2012 when there was no word of any solar farm project. There were a great many troubled subdivisions in similar rural locations that got caught in the recession and lots just could not be sold at almost any price. This difficulty in lot sales was not attributable to the solar farm as the solar farm was not announced until late 2012.



Furthermore, I considered the bulk sale of lots in the nearby subdivision of Wakefield Manors. This subdivision is located to the south with better proximity to highways. A total of 63 lots were sold in April 2013 for \$15,000 per lot. These lots were in a development where homes were previously selling for over \$400,000 in 2006, though the most recent sales are closer to \$300,000. These lots are in a superior subdivision where higher priced homes have been built and are projected to be built. The location is better, but there are a larger number of lots. The bulk discount on these lots is substantially greater than that at the subject property which attests to the difficulty in the market. However, Wakefield Manors has no solar farm and the bulk lot sale was significantly lower than the Meadows of Dukes Lake bulk lot sale. This strongly shows that no additional impact is attributable to the potential solar farm.

I also considered a bulk lot sale of lots at Brighton of Wendell. This is another subdivision with a better location and within an ongoing subdivision with existing home sales. A total of 55 lots were sold by Jim Hoffman Lake Lots, LLC out of this subdivision on June 28, 2012 for \$700,000, or \$12,727 per lot. Retail lot prices were offered at \$19,900 to \$25,900, suggesting a 50% discount for the bulk lot purchase. Homes in this neighborhood were selling for \$220,000 to \$250,000 prior to the downturn in the market with the most recent home sale being \$171,000. Again, this comparable sale shows a lower price per lot for a similar subdivision. These lots sold for half the amount of the lots that are proposed to adjoin the solar farm. Again, this matched pair strongly shows no additional impact attributable to the solar farm. If anything these two matched pairs show that the lots at the Meadows of Dukes Lake are selling at a higher price point than these other two recent bulk lot sales.

Matched Pair C – White Cross Solar Farm, Chapel Hill, NC

A new solar farm was built at 2159 White Cross Road in Chapel Hill, Orange County in 2013. After construction, the owner of the underlying land sold the balance of the tract not encumbered by the solar farm in July 2013 for \$265,000 for 47.20 acres, or \$5,606 per acre. This land adjoins the solar farm to the south and was clear cut of timber around 10 years ago. I compared this purchase to a nearby transfer of 59.09 acres of timber land just south along White Cross Road that sold in November 2010 for \$361,000, or \$6,109 per acre. After purchase, this land was divided into three mini farm tracts of 12 to 20 acres each. These rates are very similar and the difference in price per acre is attributed to the timber value and not any impact of the solar farm.

I consider this matched pair to strongly support the assertion that adjacency to a solar farm has no impact on adjoining residential/agricultural land.

Harmony of Use/Compatibility of Use

I have visited a number of existing and proposed solar farms to determine what uses are compatible with a solar farm. The data strongly supports adjoining agricultural and residential uses. While I have focused on adjoining uses, I note that there are many examples of solar farms being located within a quarter mile of residential developments, including such notable developments as Governor's Club in Chapel Hill, which has a nearby Strata Solar Farm. Governor's Club is a gated golf community with homes selling for \$300,000 to over \$2 million.

The matched pair subdivisions noted above also show an acceptance of residential uses adjoining solar farms as a compatible or harmonious use.

Beyond these anecdotal references, I have quantified the adjoining uses for a number of solar farm comparables that are included in my files to derive a breakdown of the adjoining uses for each solar farm. The chart below shows the breakdown of adjoining uses by total acreage.

Percentage By Adjoining Acreage								All Res	All Comm
	Res	Ag	Res/AG	Park	Sub	Comm	Ind	Uses	Uses
1 Goldsboro	35%	23%	0%	0%	3%	2%	37%	61%	39%
2 Willow Springs	8%	26%	66%	0%	0%	0%	0%	100%	0%
3 Kings Mtn	3%	12%	4%	0%	0%	0%	82%	18%	82%
4 White Cross	5%	51%	44%	0%	0%	0%	0%	100%	0%
5 Two Lines	3%	87%	8%	0%	3%	0%	0%	100%	0%
6 Strata	0%	0%	0%	100%	0%	0%	0%	100%	0%
7 Avery	13%	40%	47%	0%	0%	0%	0%	100%	0%
8 Mayberry	24%	51%	0%	0%	0%	4%	20%	76%	24%
9 Progress I	0%	45%	4%	0%	0%	0%	50%	50%	50%
10 Progress II	1%	99%	0%	0%	0%	0%	0%	100%	0%
11 Sandy Cross	0%	0%	100%	0%	0%	0%	0%	100%	0%
12 Zebulon	47%	0%	53%	0%	0%	0%	0%	100%	0%
13 Baldenboro	18%	59%	22%	0%	0%	0%	0%	100%	0%
14 Dement	33%	40%	27%	0%	0%	0%	0%	100%	0%
15 Vale Farm	1%	13%	86%	0%	0%	0%	0%	100%	0%
16 Eastover	0%	0%	0%	0%	0%	0%	0%	0%	0%
17 Wagstaff	7%	89%	4%	0%	0%	0%	0%	100%	0%
18 Roxboro	1%	93%	5%	0%	0%	0%	1%	99%	1%
19 McCallum	5%	93%	1%	0%	0%	0%	0%	100%	0%
20 Vickers	21%	58%	13%	0%	0%	2%	6%	92%	8%
21 Stout	52%	38%	0%	0%	0%	0%	10%	90%	10%
22 Mile	0%	20%	54%	0%	0%	0%	25%	75%	25%
Average	13%	43%	24%	5%	0%	0%	11%	85%	11%
Median	5%	40%	6%	0%	0%	0%	0%	100%	0%
High	52%	93%	100%	100%	3%	4%	82%	100%	82%
Low	0%	0%	0%	0%	0%	0%	0%	0%	0%

Res = Residential, Ag = Agriculture, Sub = Substation, Com = Commercial, Ind = Industrial.

I have also included a breakdown of each solar farm by number of adjoining parcels by parcel instead of acreage. Using both factors provides a better concept of what the neighboring properties consist.

Percentage By Number of Parcels Adjoining								All Res	All Comm
		Res	Ag	Res/AG	Park	Sub	Comm	Ind	Uses
1	Goldsboro	0%	0%	0%	0%	0%	0%	0%	0%
2	Willow Springs	42%	37%	21%	0%	0%	0%	0%	100%
3	Kings Mtn	40%	30%	10%	0%	0%	0%	20%	80%
4	White Cross	33%	20%	40%	0%	7%	0%	0%	100%
5	Two Lines	38%	46%	8%	0%	8%	0%	0%	100%
6	Strata	71%	0%	14%	14%	0%	0%	0%	100%
7	Avery	50%	38%	13%	0%	0%	0%	0%	100%
8	Mayberry	42%	8%	0%	0%	0%	25%	25%	50%
9	Progress I	0%	50%	25%	0%	0%	0%	25%	75%
10	Progress II	20%	80%	0%	0%	0%	0%	0%	100%
11	Sandy Cross	17%	0%	83%	0%	0%	0%	0%	100%
12	Zebulon	90%	0%	10%	0%	0%	0%	0%	100%
13	Bladenboro	62%	28%	7%	0%	3%	0%	0%	100%
14	Dement	83%	6%	11%	0%	0%	0%	0%	100%
15	Vale Farm	10%	20%	70%	0%	0%	0%	0%	100%
16	Eastover	0%	0%	0%	0%	0%	0%	0%	0%
17	Wagstaff	65%	30%	3%	0%	0%	0%	3%	98%
18	Roxboro	33%	50%	8%	0%	0%	0%	8%	92%
19	McCallum	77%	15%	4%	0%	0%	0%	4%	96%
20	Vickers	47%	32%	5%	0%	0%	5%	11%	84%
21	Stout	78%	6%	0%	0%	0%	0%	17%	83%
22	Mile	0%	36%	45%	0%	0%	0%	18%	82%
Average		41%	24%	17%	1%	1%	1%	6%	84%
Median		41%	24%	9%	0%	0%	0%	0%	99%
High		90%	80%	83%	14%	8%	25%	25%	100%
Low		0%	0%	0%	0%	0%	0%	0%	0%

Res = Residential, Ag = Agriculture, Sub = Substation, Com = Commercial, Ind = Industrial.

Both of the above charts show a marked residential and agricultural adjoining use for most solar farms. In fact every single solar farm considered included an adjoining residential use except for Progress I, which included an adjoining residential/agricultural use. These comparable solar farms clearly support a compatibility with adjoining residential uses along with agricultural uses.

Specific Factors on Harmony and Compatibility of Use

Appearance

Solar farm panels have no associated stigma at this time and in smaller collections are found in yards and roofs in many residential communities. Larger solar farms using fixed panels are a passive use of the land that is considered in keeping with a rural/residential area. Comparing a solar farm to a larger greenhouse as shown below is a very reasonable comparison given that a greenhouse is essentially another method for collecting passive solar energy. The greenhouse use is well received in residential/rural areas and has a similar visual impact as a solar farm.



I note that the fixed solar panels are all less than 10 feet high, which means that the visual impact of the solar panels will be less high than a typical greenhouse or even a single story residential dwelling. This property could be developed with single family housing that would have a much greater visual impact on the surrounding area given that a two-story home with attic could be four times as high as these proposed panels. The panels will be located behind a chain link fence.

The comparable solar farms that I have considered are presented in the addenda and include a variety of photos of solar farms. The photos show that these sites are generally well-maintained and there is no significant negative view.

For the reasons stated above, I conclude that the appearance of the proposed solar farm will maintain or enhance adjoining property values.

Noise

The proposed solar panels will be fixed and will not move to follow the sun. As these are passive, fixed solar panels there is no noise associated with these panels. The transformer reportedly has a hum that can only be heard in close proximity to this transformer and the buffers on the property are sufficient to make this hum inaudible from the adjoining properties.

There will be minimal onsite traffic generating additional noise.

The various solar farms that I have inspected and identified in the addenda were inaudible from the roadways. I heard nothing on any of these sites associated with the solar farm.

For the reasons stated above, I conclude that the lack of any noise associated with the proposed solar farm indicates that this use will maintain or enhance adjoining property values.

Odor

The solar panels give off no odor of which I am aware.

The various solar farms that I have inspected and identified in the addenda produced no noticeable odor off site.

I therefore conclude that odor from the proposed project is not a factor and the project as designed will maintain or enhance the value of contiguous properties.

Traffic

The solar farm will have no onsite employee's or staff. Maintenance of the site is minimal and relative to other potential uses of the site, such as a residential subdivision, the additional traffic on this site is insignificant.

For the reasons stated above, I conclude that the lack of any significant traffic associated with the proposed solar farm indicates that this use will maintain or enhance adjoining property values.

Hazardous material

The solar farm presents no potential hazardous waste byproduct as part of normal operation. Any fertilizer, weed control, vehicular traffic, or construction will be significantly less than typically applied in a residential development or even most agricultural uses.

The various solar farms that I have inspected and identified in the addenda have no known pending environmental impacts associated with the development and operation of those farms.

I therefore conclude that there is no hazardous material concerns associated with the proposed project and therefore the project as designed will maintain or enhance the value of contiguous properties.

Market Commentary

I have surveyed a number of builders, developers and investors regarding solar farms over the last year. I have received favorable feedback from a variety of sources with some examples provided below.

A new solar farm was built on Zion Church Road at the Punch property. After construction of the solar farm in 2013, an adjoining tract of land with 88.18 acres sold for \$250,000, or \$2,835 per acre. This was a highly irregular tract of land with significant tree cover between it and the solar farm. I have compared this to a current listing of 20.39 acres of land that is located southeast just a little ways from this solar farm. This land is on the market for \$69,000, or \$3,428 per acre. Generally, a smaller tract of land would be listed for more per acre. Considering a size adjustment of 5% per doubling in size, and a 10% discount for the likely drop in the closed price off of the asking price, I derive an indicated value per acre of the smaller tract of \$2,777 per acre. This is very similar to the recently closed sale adjoining the solar farm.

I consider this matched pair to strongly support the assertion that adjacency to a solar farm has no impact on adjoining residential/agricultural land.

I spoke with Lynn Hayes a broker with Berkshire Hathaway who sold a home at the entrance to Pickards Mountain where the home exits onto the Pickard Mountain Eco Institute's small solar farm. This home closed in January 2014 for \$735,000. According to Ms. Hayes the buyer was excited to be living near the Eco Institute and considered the solar farm to be a positive sign for the area. There are currently a number of 10 acre plus lots in Pickards Meadow behind this house with lots on the market for \$200,000 to \$250,000.

Rex Vick with Windjam Developers has a subdivision in Chatham County off Mt. Gilead Church Road known as The Hamptons. Home prices in The Hamptons start at \$600,000 with homes over \$1,000,000. Mr. Vick expressed interest in the possibility of including a solar farm section to the development as a possible additional marketing tool for the project.

Mr. Eddie Bacon, out of Apex North Carolina, has inherited a lot of family and agricultural land and he has expressed interest in using a solar farm as a method of preserving the land for his children and grandchildren while still deriving a useful income off of the property. He indicated that he believed that solar panels would not in any way diminish the value for this adjoining land.

I spoke with Carolyn Craig, a Realtor in Kinston, North Carolina who is familiar with the Strata Solar Farms in the area. She noted that a solar farm in the area would be positive. "A solar farm is color coordinated and looks nice." "A solar farm is better than a turkey farm," which is allowed in that area. She would not expect a solar farm will have any impact on adjoining home prices in the area.

Mr. Michael Edwards, a broker and developer in Raleigh, indicated that a passive solar farm would be a great enhancement to adjoining property. "You never know what might be put on that land next door. There is no noise with a solar farm like there is with a new subdivision."

These are just excerpts I've noted in my conversations with different clients or other real estate participants that provided other thoughts on the subject that seemed applicable.

Conclusion

The matched pair analysis shows no impact in home values due to the adjacency to the solar farm as well as no impact to adjacent vacant residential or agricultural land. The solar farm at Pickards Mountain Eco Institute shows no impact on lot and home marketing nearby. The criteria for making downward adjustments on property values such as appearance, noise, odor and traffic all indicate that a solar farm is a compatible use for a rural/residential transition area.

Similar solar farms have been approved adjoining agricultural uses and residential developments. The adjoining residential uses have included single family homes up to \$260,000 on lots as small as 0.74 acres, mobile homes, and apartments. The solar farm at the Pickards Mountain Eco Institute adjoins a home that sold in January 2014 for \$735,000 and in proximity to lots being sold for \$200,000 to \$250,000 for homes over a million dollars. Clearly, adjoining agricultural uses are consistent with a solar farm.

Based on the presented information and my experience in appraising land and residential subdivision developments, I conclude that the proposed solar farm will have no negative impact on the adjoining properties and that this is a compatible and harmonious use with the area.

If you have any further questions please call me any time.

Sincerely,



Richard C. Kirkland, Jr., MAI
State Certified General Appraiser



Limiting Conditions and Assumptions

Acceptance of and/or use of this report constitutes acceptance of the following limiting conditions and assumptions; these can only be modified by written documents executed by both parties.

- ❖ The basic limitation of this and any appraisal is that the appraisal is an opinion of value, and is, therefore, not a guarantee that the property would sell at exactly the appraised value. The market price may differ from the market value, depending upon the motivation and knowledge of the buyer and/or seller, and may, therefore, be higher or lower than the market value. The market value, as defined herein, is an opinion of the probable price that is obtainable in a market free of abnormal influences.
- ❖ I do not assume any responsibility for the legal description provided or for matters pertaining to legal or title considerations. I assume that the title to the property is good and marketable unless otherwise stated.
- ❖ I am appraising the property as though free and clear of any and all liens or encumbrances unless otherwise stated.
- ❖ I assume that the property is under responsible ownership and competent property management.
- ❖ I believe the information furnished by others is reliable, but I give no warranty for its accuracy.
- ❖ I have made no survey or engineering study of the property and assume no responsibility for such matters. All engineering studies prepared by others are assumed to be correct. The plot plans, surveys, sketches and any other illustrative material in this report are included only to help the reader visualize the property. The illustrative material should not be considered to be scaled accurately for size.
- ❖ I assume that there are no hidden or unapparent conditions of the property, subsoil, or structures that render it more or less valuable. I take no responsibility for such conditions or for obtaining the engineering studies that may be required to discover them.
- ❖ I assume that the property is in full compliance with all applicable federal, state, and local laws, including environmental regulations, unless the lack of compliance is stated, described, and considered in this appraisal report.
- ❖ I assume that the property conforms to all applicable zoning and use regulations and restrictions unless nonconformity has been identified, described and considered in this appraisal report.
- ❖ I assume that all required licenses, certificates of occupancy, consents, and other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.
- ❖ I assume that the use of the land and improvements is confined within the boundaries or property lines of the property described and that there is no encroachment or trespass unless noted in this report.
- ❖ I am not qualified to detect the presence of floodplain or wetlands. Any information presented in this report related to these characteristics is for this analysis only. The presence of floodplain or wetlands may affect the value of the property. If the presence of floodplain or wetlands is suspected the property owner would be advised to seek professional engineering assistance.
- ❖ For this appraisal, I assume that no hazardous substances or conditions are present in or on the property. Such substances or conditions could include but are not limited to asbestos, urea-formaldehyde foam insulation, polychlorinated biphenyls (PCBs), petroleum leakage or underground storage tanks, electromagnetic fields, or agricultural chemicals. I have no knowledge of any such materials or conditions unless otherwise stated. I make no claim of technical knowledge with regard to testing for or identifying such hazardous materials or conditions. The presence of such materials, substances or conditions could affect the value of the property. However, the values estimated in this report are predicated on the assumption that there are no such materials or conditions in, on or in close enough proximity to the property to cause a loss in value. The client is urged to retain an expert in this field, if desired.

- ❖ Unless otherwise stated in this report the subject property is appraised without a specific compliance survey having been conducted to determine if the property is or is not in conformance with the requirements of the Americans with Disabilities Act (effective 1/26/92). The presence of architectural and/or communications barriers that are structural in nature that would restrict access by disabled individuals may adversely affect the property's value, marketability, or utility.
- ❖ Any allocation of the total value estimated in this report between the land and the improvements applies only under the stated program of utilization. The separate values allocated to the land and buildings must not be used in conjunction with any other appraisal and are invalid if so used.
- ❖ Possession of this report, or a copy thereof, does not carry with it the right of publication.
- ❖ I have no obligation, by reason of this appraisal, to give further consultation or testimony or to be in attendance in court with reference to the property in question unless further arrangements have been made regarding compensation to Kirkland Appraisals, LLC.
- ❖ Neither all nor any part of the contents of this report (especially any conclusions as to value, the identity of the appraiser, or the firm with which the appraiser is connected) shall be disseminated to the public through advertising, public relations, news, sales, or other media without the prior written consent and approval of Kirkland Appraisals, LLC, and then only with proper qualifications.
- ❖ Any value estimates provided in this report apply to the entire property, and any proration or division of the total into fractional interests will invalidate the value estimate, unless such proration or division of interests has been set forth in the report.
- ❖ Any income and expenses estimated in this report are for the purposes of this analysis only and should not be considered predictions of future operating results.
- ❖ This report is not intended to include an estimate of any personal property contained in or on the property, unless otherwise stated.
- ❖ This report is subject to the Code of Professional Ethics of the Appraisal Institute and complies with the requirements of the State of North Carolina for State Certified General Appraisers. This report is subject to the certification, definitions, and assumptions and limiting conditions set forth herein.
- ❖ The analyses, opinions and conclusions were developed based on, and this report has been prepared in conformance with, our interpretation of the guidelines and recommendations set forth in the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA).
- ❖ This is a Real Property Appraisal Consulting Assignment.

Certification – Richard C. Kirkland, Jr., MAI

I certify that, to the best of my knowledge and belief:

1. The statements of fact contained in this report are true and correct;
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, unbiased professional analyses, opinions, and conclusions;
3. I have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved;
4. I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment;
5. My engagement in this assignment was not contingent upon developing or reporting predetermined results;
6. My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of the appraisal;
7. The reported analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute;
8. The reported analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice.
9. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives;
10. I have made a personal inspection of the property that is the subject of this report, and;
11. No one provided significant real property appraisal assistance to the person signing this certification.
12. As of the date of this report I have completed the requirements of the continuing education program of the Appraisal Institute;
13. I have not appraised this property within the last three years.

Disclosure of the contents of this appraisal report is governed by the bylaws and regulations of the Appraisal Institute and the National Association of Realtors.

Neither all nor any part of the contents of this appraisal report shall be disseminated to the public through advertising media, public relations media, news media, or any other public means of communications without the prior written consent and approval of the undersigned.



Richard C. Kirkland, Jr., MAI
State Certified General Appraiser



Solar Farm Comparable 1

Name AM Best Farm
Address 2815 N William St
City Goldsboro
County Wayne

Tract Acres 38
Effective Acres 38
Output (MW) 6.65

Remarks:

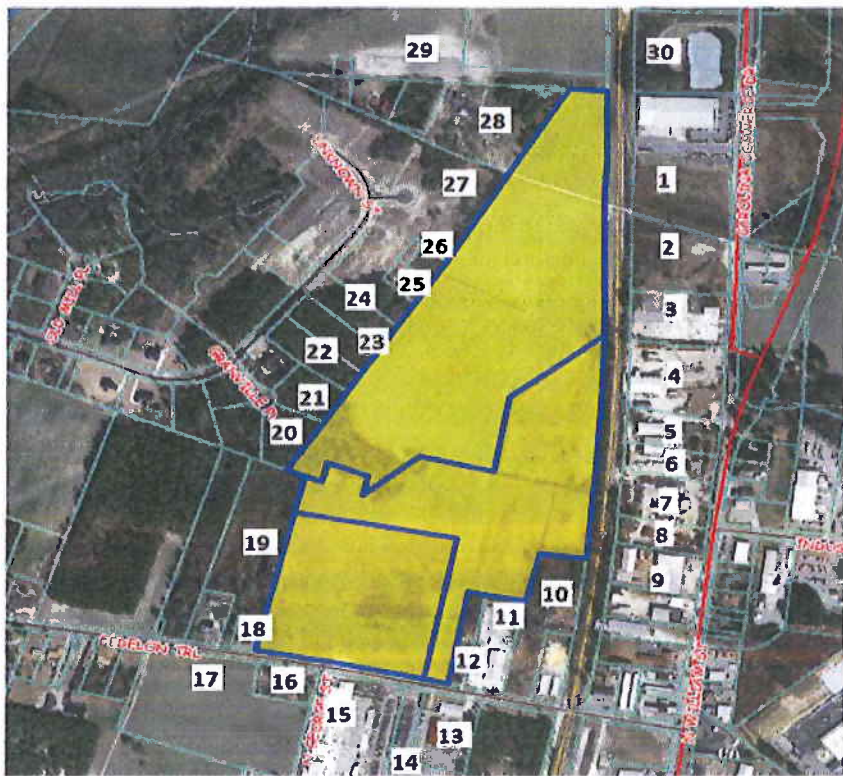
Year Built 2013
SUP Approved Feb-13
Inspection Feb-13



Adjoining Use Breakdown

	Acreage	Parcels
Industrial	37.41%	43.33%
Commercial	1.92%	3.33%
Agriculture	22.69%	3.33%
Substation	2.58%	3.33%
Residential	35.40%	46.67%
Total	100.00%	100.00%

Surrounding Use Map



Matched Pairs

As of Date: 2/11/2014

Adjoining Sales After Solar Farm Announced

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
20	3600169964	Feddersen	1.56	Feb-13	\$247,000	2012	3,571	\$69.17	Ranch
21	3600169964	Gentry	1.42	Apr-13	\$245,000	2013	3400	\$72.06	2 Story
	3600195570	Helm	0.76	Sep-13	\$250,000	2013	3292	\$75.94	2 Story
	3600195361	Leak	1.49	Sep-13	\$260,000	2013	3652	\$71.19	2 Story
	3600196656	Hinson	0.75	Dec-13	\$255,000	2013	3453	\$73.85	2 Story
		Average	1.20		\$251,400	2013	3,474	\$72.44	
		Median	1.42		\$250,000	2013	3,453	\$72.06	

Nearby Sales After Solar Farm Completed

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
	3600193710	Barnes	1.12	Oct-13	\$248,000	2013	3,400	\$72.94	2 Story
	3601105180	Nackley	0.95	Dec-13	\$253,000	2013	3,400	\$74.41	2 Story
	3600192528	Mattheis	1.12	Oct-13	\$238,000	2013	3,194	\$74.51	2 Story
		Average	1.06		\$246,333	2013	3,331	\$73.96	
		Median	1.12		\$248,000	2013	3,400	\$74.41	

Adjoining Sales Before Solar Farm Announced

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
22	3600183905	Carter	1.57	Dec-12	\$240,000	2012	3,347	\$71.71	1.5 Story
23	3600193097	Kelly	1.61	Sep-12	\$198,000	2012	2,532	\$78.20	2 Story
24	3600194189	Hadwan	1.55	Nov-12	\$240,000	2012	3,433	\$69.91	1.5 Story
		Average	1.59		\$219,000	2012	2,940	\$74.95	
		Median	1.59		\$219,000	2012	2,940	\$74.95	

Nearby Sales Before Solar Farm Announced

#	TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
	3600191437	Thomas	1.12	Sep-12	\$225,000	2012	3,276	\$68.68	2 Story
	3600087968	Lilley	1.15	Jan-13	\$238,000	2012	3,421	\$69.57	1.5 Story
	3600087654	Burke	1.26	Sep-12	\$240,000	2012	3,543	\$67.74	2 Story
	3600088796	Hobbs	0.73	Sep-12	\$228,000	2012	3,254	\$70.07	2 Story
		Average	1.07		\$232,750	2012	3,374	\$69.01	
		Median	1.14		\$233,000	2012	3,349	\$69.13	

Solar Farm Comparable 4

Name White Cross
Address 2159 White Cross Rd
City Chapel Hill
County Orange

Tract Acres 121.21
Effective Acres 45
Output (MW) 5

Remarks: Built on land adjoining a mobile home park with the same ownership of the solar farm. Owner also adjoining agricultural land.

Date Built 2013
SUP Approved 2012
Inspection Date 3/26/2012



Surrounding Uses

#	TAX ID	Owner	Acres	Present Use	% Adjoining	
					Acres	Parcels
1	9748456955	Cheek	19.88	Res/Ag	3.59%	6.67%
2	9748652607	Tripp	8.96	Residential	1.62%	6.67%
3	9748656467	Rich	31.76	Res/Ag	5.73%	6.67%
4	9748557159	Cecil	5.52	Residential	1.00%	6.67%
5	9748642712	Cecil	34.69	Res/Ag	6.26%	6.67%
6	9748734645	Barber	143.7	Agriculture	25.92%	6.67%
7	9748535992	Hackney	28.31	Agriculture	5.11%	6.67%
8	9748620795	Hackney	110.62	Agriculture	19.95%	6.67%
9	9748446160	Hackney	3.95	Residential	0.71%	6.67%
10	9748432369	Duke Energy	1.55	Substation	0.28%	6.67%
11	9748431180	Hackney	2.01	Residential	0.36%	6.67%
12	9748320786	Byron	35.8	Res/Ag	6.46%	6.67%
13	9748233155	Goodman	4.95	Residential	0.89%	6.67%
14	9748242720	Bradshaw	95.47	Res/Ag	17.22%	6.67%
15	9748267381	Cecil	27.24	Res/Ag	4.91%	6.67%
Total			554.41		100%	100%

Adjoining Use Breakdown

	Acreage	Parcels
Agricultural	50.98%	20.00%
Res/Ag	44.16%	40.00%
Residential	4.58%	33.33%
Substation	0.28%	6.67%
Total	100.00%	100.00%

Surrounding Use Map



Matched Pairs

As of Date: 2/28/2014

Type	TAX ID	Owner	Acres	Date	Price	\$/Acre	Notes	Conf By
Adjoins Solar	9748336770	Haggerty	47.20	Jul-13	\$265,000	\$5,614	Clear cut	Betty Cross, broker
Not Near Solar	9747184527	Purcell	59.09	Nov-10	\$361,000	\$6,109	Wooded	Dickie Andrews, broker

The difference in price is attributed to the trees on the older sale.

No impact noted for the adjacency to a solar farm.

I looked at a number of other nearby land sales without proximity to a solar farm for this matched pair, but this land sale required the least allowance for differences in size, utility and location.

Solar Farm Comparable 5

Name Two Lines Farm
Address Zion Church Road
City Hickory
County Catawba

Tract Acres 100.56
Effective Acres 100.56
Output (MW) 6.4

Remarks: Owner of solar farm also owns 87% of adjoining acreage and 46% of adjoining parcels. Two large powerline easements cross this property.



Date Built 2013
SUP Approved 2012
Inspection Date 6/4/2012

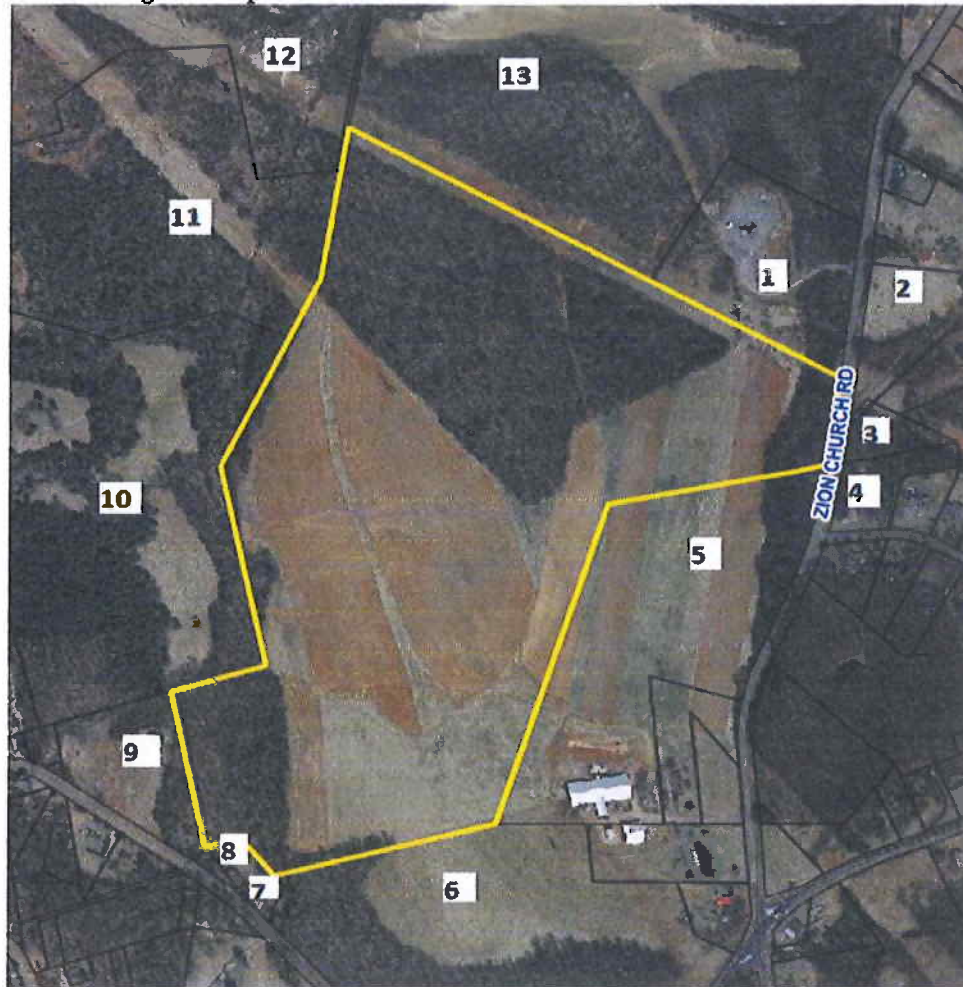
Surrounding Uses

#	TAX ID	Owner	Acres	Present Use	% Adjoining	
					Acres	Parcels
1	700850	Duke Ene	10.46	Substation	2.81%	7.69%
2	1440	Childers	28.7	Res/Ag	7.71%	7.69%
3	1439	Dice	1.4	Residential	0.38%	7.69%
4	1437	Bolick	2.26	Residential	0.61%	7.69%
5	1429	Punch	24.23	Agricultural	6.51%	7.69%
6	1424	Punch	39.52	Agricultural	10.61%	7.69%
7	1426	Ramseur	0.44	Residential	0.12%	7.69%
8	1427	Mungro	0.69	Residential	0.19%	7.69%
9	1905	Alice M R	5.8	Residential	1.56%	7.69%
10	1403	Punch	49.6	Agricultural	13.32%	7.69%
11	1402	Punch	59.35	Agricultural	15.93%	7.69%
12	1401	Punch	61.18	Agricultural	16.43%	7.69%
13	1428	Punch	88.83	Agricultural	23.85%	7.69%
Total			372.46		100%	100%

Adjoining Use Breakdown

	Acreage	Parcels
Agricultural	86.64%	46.15%
Res/Ag	7.71%	7.69%
Residential	2.84%	38.46%
Substation	2.81%	7.69%
Total	100.00%	100.00%

Surrounding Use Map



Matched Pairs

As of Date: 2/11/2014

Type	TAX ID	Owner	Acres	Date	Sales Price	\$/Acre	Size Adj.	Listing Adj.
Adjoins	360904929959	Whisnant	88.18	Apr-13	\$250,000	\$2,835	\$2,835	\$2,835
Not	360904612718	Ruff	20.39	Listing	\$69,900	\$3,428	\$3,085	\$2,777

I adjusted the smaller comp downward by 10% for being less than 1/4th the size of the subject property.

I adjusted the smaller comp downward by 10% for being a listing that will likely close for less.

The adjusted prices are very similar.

No impact indicated by this approach.

Solar Farm Comparable 12

Name Zebulon Solar Farm
Address 2129 Pearces Road
City Zebulon
County Wake

Tract Acres 15.5
Effective Acres 15.5
Output (MW)

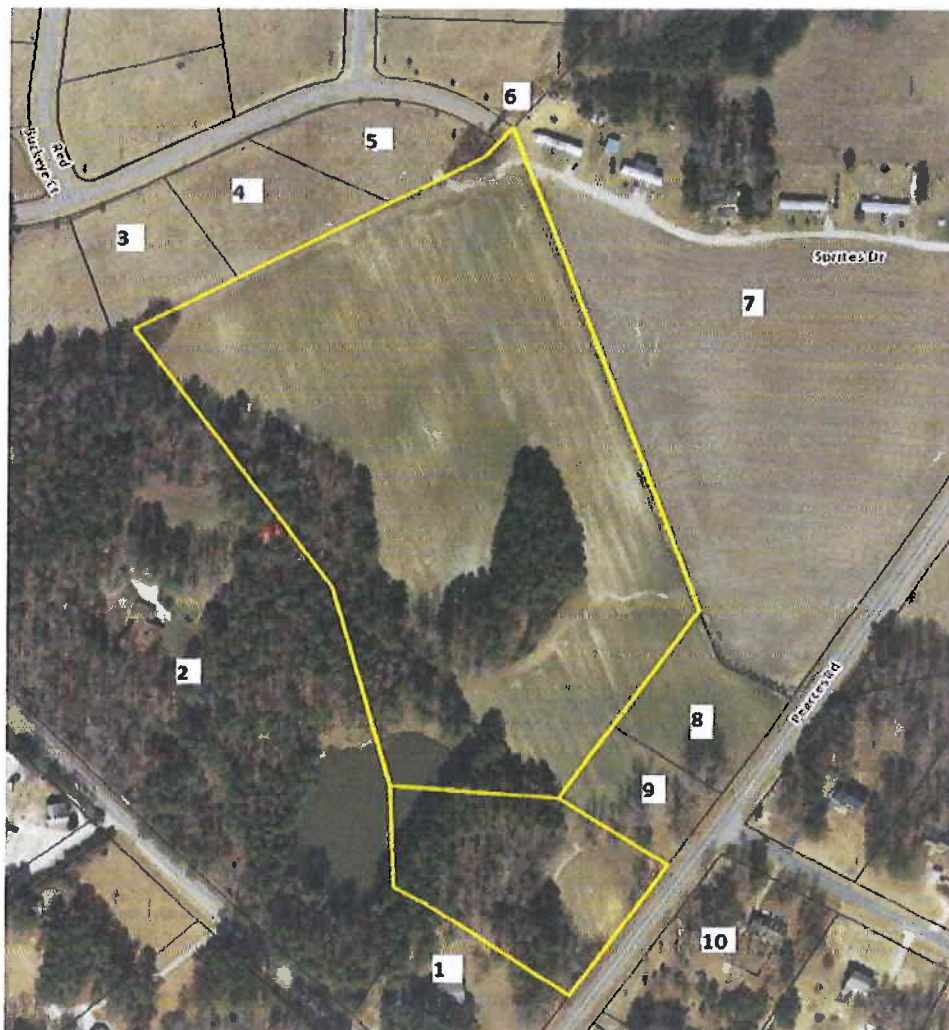
Remarks: Owner plans to
build homes on adjoining lots.

Date Built Proposed
SUP Approved
Inspection Date 1/20/2013

Adjoining Use Breakdown

	Acreage	Parcels
Res/Ag	53.41%	10.00%
Residential	46.59%	90.00%
Total	100.00%	100.00%

Surrounding Use Map



Surrounding Uses

#	TAX ID	Owner	Acres	Present Use	% Adjoining	% Adjoining	Notes
					Acres	Parcels	
1	110351	Fish	1.58	Residential	3.64%	10.00%	
2	338130	Windley	11.04	Residential	25.45%	10.00%	
3	362386	Dukes	1.00	Residential	2.31%	10.00%	
4	362385	Dukes	1.04	Rcsidential	2.40%	10.00%	
5	362384	Dukes	1.00	Residential	2.31%	10.00%	
6	362383	Dukes	1.00	Residential	2.31%	10.00%	
7	22047	Sprite	23.17	Rcs/Ag	53.41%	10.00%	Mobile homes
8	338127	Ray	1.00	Residential	2.31%	10.00%	Owner of farm
9	338128	Ray	0.74	Residential	1.71%	10.00%	Owner of farm
10	145071	McClure	1.81	Residential	4.17%	10.00%	
Total			43.38				

Matched Pairs

As of Date: 2/11/2014

#	TAX ID	Owner	Acres	Present Use	Date Sold	Price	Notes
1	110351	Fish	1.58	Residential	9/17/2012	\$165,000	Owner unaware of proposed solar

The Meadows of Dukes Lake

In December 2013, a total of 22 lots were sold from Dukes Lake Properties to Wynn Construction for \$25,000/lot. These lots were sold in three deeds with no differentiation between the lots adjoining the proposed solar farm and the lots that did not adjoin the proposed solar farm. These lots average 1 acre in size. The only lot that sold in this subdivision was Lot 4 which was 4.64 acres and it sold for \$75,000 in 2010. Wynn Construction is advertising this neighborhood for homes ranging from \$240,000 to \$270,000.

A nearby subdivision, Wakefield Meadows, was acquired by Honeywood Investments, LLC as 63 lots in April 2013 for \$15,000 per lot. Homes are selling for around \$300,000, whereas they were selling for over \$400,000 in 2006.

Both neighborhoods suffered in the downturn and sold bulk lots at significant discounts as shown above. However, the discount at the subdivision not near a solar farm was significantly higher than the discount seen at the Meadows of Dukes Lake.

These collections of lots therefore show no sign that the solar farm impacted the lot values.

Support for Findings Required by Chatham County Ordinance & Application

Pit 64 Conditional Use Permit Application
Strata Solar

Finding 1 (Ordinance §17.1) The use is among those listed as an eligible conditional use in the district in which the subject property is located or is to be located..

- Judd Affidavit ¶ 7

Finding 2 (Ordinance §17.1) The requested conditional use permit or revision to the existing permit is either essential or desirable for the public convenience or welfare.

- Judd Affidavit ¶s 8-14

Finding 3 (Ordinance §17.1) The requested permit or revision to the existing permit will not impair the integrity or character of the surrounding or adjoining districts, and will not be detrimental to the health, safety or welfare of the community.

- Kirkland Affidavit
- Nieman Affidavit

Finding 4 (Ordinance §17.1) The requested permit will be or remain consistent with the objectives of the Land Use Plan.

- Judd Affidavit ¶s 15-17

Finding 5 (Ordinance §17.1) Adequate utilities, access roads, storm drainage, recreation, open space, and other necessary facilities have been or are being provided consistent with the County's plans, policies and regulations.

- Nieman Affidavit ¶s 12-17

Finding 4 (CUP Application) The requested permit will be or remain consistent with the objectives of the Land Conservation and Development Plan.

- Judd Affidavit ¶s 18-21