HISTORIC PRESERVATION COMMISSION STAFF REPORT

Address: 13 Columbia Ave., Takoma Park
Resource: Non-Contributing Resource
Takoma Park Historic District
Review: HAWP
Case Number: 37/03-17EEEEE
Applicant: Neal Cohen
Proposal: Roof Solar Installation

Meeting Date: 12/06/17
Report Date: 11/29/17
Public Notice: 11/22/17
Staff: Dan Bruechert

STAFF RECOMMENDATION:
Staff recommends that the HPC approve the HAWP application.

PROJECT DESCRIPTION

SIGNIFICANCE: Non-Contributing Resource to the Takoma Park Historic District
STYLE: Colonial Revival
DATE: c.1940-1950

The subject property at 13 Columbia Ave. is a two-story side gable house, three bays wide, with a full-width front porch. The lower level of the house is brick, with a Hardi-clad second floor. A two-story rear addition was approved by the HPC in September 2016.

PROPOSAL
The applicant proposes to install 45 flush-mounted solar photovoltaic panels on the rear of the house.

APPLICABLE GUIDELINES:

When reviewing alterations and additions for new construction within the Takoma Park Historic District, decisions are guided by the Takoma Park Historic District Design Guidelines (Design Guidelines) and Montgomery County Code Chapter 24A (Chapter 24A).

Takoma Park Historic District Design Guidelines
There are two very general, broad planning and design concepts which apply to all categories. These are:

The design review emphasis will be restricted to changes that are at all visible from the public right-of-way, irrespective of landscaping or vegetation (it is expected that the majority of new additions will be reviewed for their impact on the overall district), and,
The importance of assuring that additions and other changes to existing structures act to reinforce and continue existing streetscape, landscape, and building patterns rather than to impair the character of the district.

Alterations to features that are not visible from the public right-of-way should be allowed as a matter of course.

Non-Contributing/Out-of-Period Resources should receive the most lenient level of design review. Most alterations and additions to Non-Contributing/Out-of-Period Resources should be approved as a matter of course. The only exceptions would be major additions and alterations to the scale and massing of Non-Contributing/Out-of-Period Resources which affect the surrounding streetscape and/or landscape and could impair character of the district as a whole.

Montgomery County Code; Chapter 24A-8(b)

(b) The commission shall instruct the director to issue a permit, or issue a permit subject to such conditions as are found to be necessary to insure conformity with the purposes and requirements of this chapter, if it finds that:

1) The proposal will not substantially alter the exterior features of an historic site or historic resource within an historic district; or

2) The proposal is compatible in character and nature with the historical, archeological, architectural or cultural features of the historic site or the historic district in which an historic resource is located and would not be detrimental thereto or to the achievement of the purposes of this chapter; or

STAFF DISCUSSION

The applicant is proposing to install a large number of solar panels (45) on the roof. These photovoltaic panels will be installed in four arrays of various sizes. The panels will face east, south, and west and are all to the rear of the front gable.

Because of the placement of these panels at the rear of the house, most of the panels will not be visible from the public right of way. Due to the large shared driveway, some of the panels on the southeast corner of the roof may be visible (Staff believes that no more than three panels will be visible from the public right-of-way), however, they will have a minimal impact on the surrounding streetscape and will not affect the scale or massing of the resource. The Design Guidelines state that changes to out-of-period resources that do not affect the streetscape and do not impair the character of the district as a whole should be approved as a matter of course. Staff supports approval of this HAWP.

STAFF RECOMMENDATION:

Staff recommends that the Commission approve the HAWP application as being consistent with Chapter 24A-8 and the Takoma Park Historic District Design Guidelines; and with the general condition applicable to all Historic Area Work Permits that the applicant will present 3 permit sets of drawings to HPC staff for review and stamping prior to submission for permits (if applicable). After issuance of the Montgomery County Department of Permitting Services (DPS) permit, the applicant will arrange for a field inspection by calling the DPS Field Services Office at 240-777-6370 prior to commencement of work and not more than two weeks following completion of work.
HISTORIC PRESERVATION COMMISSION
301/563-3400

APPLICATION FOR
HISTORIC AREA WORK PERMIT

Contact Name: NEALSCOHEN@GMAIL.COM
Contact Person: NEAL S. COHEN
Daytime Phone No.: 301.504.7504

Tax Account No.: 01069418

Name of Property Owner: NEAL S. COHEN
Daytime Phone No.: 917.405.2939 (C)

Address: 13 COLUMBIA AVE, TAKOMA PARK, MD 20912

Contractor: SOLAR ENERGY WORLD
Phone No.: 410.579.2009

Contractor Registration No.: 

Agent for Owner: ERIC WINKLER
Daytime Phone No.: 301.928.7722

LOCATION OF BUILDING PREMISES

House Number: 13
Street: COLUMBIA AVE,

Town/City: TAKOMA PARK
Nearest Cross Street: PINE

Lot: 17
Block: 18
Subdivision: 25

PaTTON - TYPle OF PERMIT AND USE

1. CHECK ALL APPLICABLE:

☐ Construct ☐ Extend ☐ Alter/Remodel ☐ A/C ☐ Shed ☐ Room Addition ☐ Porch ☐ Deck ☐ Story
☐ Move ☐ Install ☐ Window/Door ☐ Solar ☐ Freestanding ☐ Woodstove ☐ Single Family
☐ Revision ☐ Repair ☐ Reversible ☐ Fence/Wall (complete Section 4) ☐ Other:

2. Construction cost estimate: $31,000

3. If this is a renewal of a previously approved active permit, see Permit of

PART II - SPECIFICATIONS FOR CONSTRUCTION AND EXTERNAL ADDITION

2A. Type of sewage disposal: 01 ☐ WSSC 02 ☐ Septic 03 ☐ Other: N/A

2B. Type of water supply: 01 ☐ WSSC 02 ☐ Well 03 ☐ Other: N/A

PART III - COMPLETE CHAIN LINK/RETAINING WALL

3A. Height ______ feet ______ inches

3B. Indicate whether the fence or retaining wall is to be constructed on one of the following locations:

☐ On property line/property line ☐ Entirely on land of owner ☐ On public right of way/intersection

I hereby certify that I have the authority to make the foregoing application, that the application is correct, and that the construction will comply with plant approved by all agencies listed and I hereby acknowledge and accept that it is a condition for the issuance of this permit.

Signature: Thomas M. Lewis
Date: Nov. 14, 2017

SEE REVERSE SIDE FOR INSTRUCTIONS
1. **Written description of the project**
   a. The existing structure was a two-story single-family residence constructed in 1960. It has recently been renovated and modified, by a two-story addition on the rear of the home. The renovation updated the appearance and function of the home, using period appropriate fixtures and finishes. The neighborhood is of the same vintage.
   b. The proposed solar system will be flush-mounted to the rear (south facing) roof of the primary section of the home, and the east- and west-facing roofs of the addition. The addition of solar panels will be primarily on the rear of the building, hence will pose little disruption to the environment of the neighborhood, and will be nearly unnoticeable from the street level.

2. **Site Plan**
   a. Please see attached sheet
   b. 2 copies, 11"x17"

3. **Plans & Elevations**
   a. Please see attached sheet
   b. 2 copies, 11"x17"

4. **Materials Specifications**
   a. Please see attached spec sheets

5. **Photographs**

6. **Tree Survey** – no trees will be disturbed or removed as part of this work

7. **Addresses of Adjacent and Confronting Property Owners**

<table>
<thead>
<tr>
<th>Owner’s mailing address</th>
<th>Owner’s agent mailing address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neal S. Cohen</td>
<td>Solar Energy World</td>
</tr>
<tr>
<td>13 Columbia Ave</td>
<td>5681 Main St.</td>
</tr>
<tr>
<td>Takoma Park, MD 20912</td>
<td>Elkridge, MD 21075</td>
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</table>

<table>
<thead>
<tr>
<th>Adjacent and confronting property owners mailing addresses</th>
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</thead>
<tbody>
<tr>
<td>Lot 18, Block 18  Adjoining</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Lot 16, Block 18  Adjoining</td>
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<tr>
<td></td>
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<tr>
<td></td>
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<tr>
<td>Lot 1, Block 19  Confronting</td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Lot 6, Block 16  Rear-adjoining</td>
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</tbody>
</table>
Historic Area Work Permit Application for a Solar Electric System
on the home of
Neal S. Cohen, 13 Columbia Ave, Takoma Park, MD 20912

Existing Property Condition Photographs

Pre-renovation/addition, East view

Pre-renovation/addition, West view
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![PROPOSED LOCATION OF SOLAR PANELS](image)

Post renovation/addition

![Equipment Location](image)
REC TWINPEAK 2 SERIES

PREMIUM SOLAR PANELS WITH SUPERIOR PERFORMANCE

REC TwinPeak 2 Series solar panels feature an innovative design with high panel efficiency and power output, enabling customers to get the most out of the space used for the installation. Combined with industry-leading product quality and the reliability of a strong and established European brand, REC TwinPeak 2 panels are ideal for residential and commercial rooftops worldwide.

MORE POWER OUTPUT PER M²
IMPROVED PERFORMANCE IN SHAD ED CONDITIONS
100% PID FREE
REDUCES BALANCE OF SYSTEM COSTS
REC TWINPEAK 2 SERIES

17.4% EFFICIENCY
10 YEAR PRODUCT WARRANTY
25 YEAR LINEAR POWER OUTPUT WARRANTY
DUTY-FREE
US IMPORT DUTY FREE

TEMPERATURE RATINGS
- Nominal operating cell temperature (NOCT): 44.5°C (112°F)
- Temperature coefficient of $P_{max}$: 0.39%/°C
- Temperature coefficient of $V_{oc}$: -0.31%/°C
- Temperature coefficient of $I_{sc}$: 0.45%/°C

GENERAL DATA
- Cell type: 120 PERC+ multicrystalline, 6-string, 20 cells
- Glass: 0.19" (4.8 mm) solar glass with antireflective surface treatment
- Backsheet: High-reflective polyester polyethylene construction
- Frame: Anodized aluminum (available for black frames)
- Interconnect: IP67 rated 3-pair with bypass diodes: 12AWG (4.0mm²) PV wire 39 - 47 (500m x 1.2 m)
- Connection: Multi-Contact MC4+V-KBT/P-PV-KBT 12AWG (4.0mm²)

ELECTRICAL DATA @ STC*

<table>
<thead>
<tr>
<th></th>
<th>275 WP</th>
<th>280 WP</th>
<th>285 WP</th>
<th>290 WP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Power - $P_{max}$ (Wp)</td>
<td>275</td>
<td>280</td>
<td>285</td>
<td>290</td>
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<tr>
<td>Watt Class Sorting - W</td>
<td>0/4+5</td>
<td>0/4+5</td>
<td>0/4+5</td>
<td>0/4+5</td>
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<tr>
<td>Nominal Power Voltage - $V_{oc}$ (V)</td>
<td>31.5</td>
<td>31.7</td>
<td>31.9</td>
<td>32.1</td>
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<tr>
<td>Nominal Power Current - $I_{sc}$ (A)</td>
<td>8.74</td>
<td>8.84</td>
<td>8.95</td>
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<tr>
<td>Open Circuit Voltage - $V_{oc}$ (V)</td>
<td>38.2</td>
<td>38.4</td>
<td>38.6</td>
<td>38.8</td>
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<tr>
<td>Short Circuit Current - $I_{sc}$ (A)</td>
<td>9.30</td>
<td>9.39</td>
<td>9.49</td>
<td>9.59</td>
</tr>
<tr>
<td>Panel Efficiency (%)</td>
<td>16.5</td>
<td>16.8</td>
<td>17.1</td>
<td>17.4</td>
</tr>
</tbody>
</table>

*Values at standard test conditions (STC) [air mass AM1.5, irradiance 1000 W/m², cell temperature 25°C].

At low irradiance of 200 W/m² (AM1.5 and cell temperature 25°C) at least 94% of the STC module efficiency will be achieved.

*Product code: REC TwinPeak2, where x is the watt class shown, can be followed by the suffix BLK for black framed modules.

ELECTRICAL DATA @ NOCT

<table>
<thead>
<tr>
<th></th>
<th>275 WP</th>
<th>280 WP</th>
<th>285 WP</th>
<th>290 WP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Power - $P_{max}$ (Wp)</td>
<td>206</td>
<td>210</td>
<td>214</td>
<td>218</td>
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<tr>
<td>Nominal Power Voltage - $V_{oc}$ (V)</td>
<td>29.2</td>
<td>29.4</td>
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<td>29.8</td>
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<tr>
<td>Nominal Power Current - $I_{sc}$ (A)</td>
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<td>7.24</td>
<td>7.32</td>
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<tr>
<td>Open Circuit Voltage - $V_{oc}$ (V)</td>
<td>35.4</td>
<td>35.6</td>
<td>35.8</td>
<td>36.0</td>
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<tr>
<td>Short Circuit Current - $I_{sc}$ (A)</td>
<td>7.52</td>
<td>7.59</td>
<td>7.68</td>
<td>7.75</td>
</tr>
</tbody>
</table>

Nominal operating cell temperature NOCT (800 W/m², AM1.5, wind speed 1 m/s, ambient temperature 25°C).

*Product code: REC TwinPeak2, where x is the watt class shown, can be followed by the suffix BLK for black framed modules.

CERTIFICATIONS

CE
UL 1703, Fire classification Type 2. IEC 61215, IEC 61730, IEC 62708 (Salt Mist - severity level G), IEC 62804 (PID Free), IEC 62715 (Ammonia Resistant, ISO 11859-2: Graftability Class I), UN IATF 3764 (Class A), ISO 9001:2015, ISO 14001, OHSAS 18001

WARRANTY

- 10 year product warranty
- 25 year linear power output warranty
- Max. degradation in performance of 0.7%/a from 97%
- After the first year See warranty conditions for further details.

MAXIMUM RATINGS
- Operating Temperature: -40° to 125°F (-40° to 49°C)
- Maximum system voltage: 1000 V
- Design Loads: +75 lbs/ft² (3600 kg/m²)
- (133 lbs/ft² (6600 kg/m²)) Refer to installation manual
- Max series string rating: 20 A
- Max reverse currents: 20 A

MECHANICAL DATA
- Dimensions: 65.9 x 35.25 x 0.7075 (165 x 907 x 19 mm)
- Area: 1796.16 (167 m²)
- Weight: 35.7 lbs (16 kg)
- Note: Specifications subject to change without notice.

Celebrating its 20th anniversary in 2016, REC is a leading European brand of solar panels. Through integrated manufacturing from polysilicon to wafers, cells, panels and turnkey solar solutions, REC strives to help meet the world's growing energy needs. Founded in 1996, REC is a Bluestar Elkem company with headquarters in Norway and operational headquarters in Singapore. REC concluded 2015 with 2000 employees worldwide, 1.3 GW solar panel production capacity, and annual revenues of USD 755 million.

RECgroup.com
NOTES:
1. THE SYSTEM SHALL INCLUDE [44] REC SOLAR MODULUS IRV MODULES.
2. UNIVAC SOLAR ARRAY WILL BE INSTALLED IN ACCORDANCE WITH UNIVAC INSTALLATION MANUAL 327J.
3. DIMENSIONS MARKED (" ) ARE ALONG ROOF SLOPE.
4. REFER TO STRUCTURAL DRAWING FOR SECTIONS MARKED AND ADDITIONAL NOTES.

SOLAR PANEL LAYOUT
Suits: 1/8" = 1'-0"
NOTES:
1. THE SYSTEM SHALL INCLUDE [44] 360 SOLAR PANELS BUT MARKED.
2. IMPROVED SOLAR ARRAY W/ BE INSTALLED IN ACCORDANCE WITH MOUNTING INSTALLATION MANUAL 237.3.
3. DIMENSIONS MARKED (*) ARE ALONG ROOF SLOPE.
4. REFER TO STRUCTURAL DRAWINGS FOR MARKED AND ADDITIONAL NOTES.
NOTES:
1. UNIVAR SOLAR RAIL SHALL BE INSTALLED IN ACCORDANCE WITH UNIVAR INSTALLATION MANUAL 227.3.
2. "L" FEET SHALL BE SPACED AT A MAXIMUM OF 4" O.C.
3. AN "L" FOOT SHALL BE PLACED WITHIN 25% OF MAXIMUM "L" FOOT SPACING (1' MAX) AT THE COMBINED END OF EACH SECTION OF RAIL.