

M E M O R A N D U M

DATE: February 21, 2019
TO: Zoning Review Office
FROM: Office of Administrative Hearings
RE: Case No. 2019-0142-X - Appeal Period Expired

The appeal period for the above-referenced case expired on February 19, 2019. There being no appeal filed, the subject file is ready for return to the Zoning Review Office and is placed in the 'pick up box.'

/dlw

c: Case File
Office of Administrative Hearings

IN RE: PETITION FOR SPECIAL EXCEPTION *

(19620 Resh Mill Road)

5th Election District

3rd Council District

Javid Shafi, M.D., *Legal Owner*

Kerri Neary, *Lessee*

Petitioners

BEFORE THE OFFICE OF

ADMINISTRATIVE HEARINGS

FOR BALTIMORE COUNTY

Case No. 2019-0142-X

* * * * *

OPINION AND ORDER

This matter comes before the Office of Administrative Hearings (OAH) for Baltimore County as a Petition for Special Exception filed for property located at 19620 Resh Mill Road. The Petition was filed on behalf of the legal owner of the subject property, Javid Shafi, M.D. and Kerri Neary, lessee ("Petitioners"). The special exception petition seeks relief pursuant to Section 4F-101 *et. seq.* of the Baltimore County Zoning Regulations ("BCZR") for a proposed solar facility.

Although the public hearing was scheduled for January 17, 2019, Petitioners' counsel, Timothy M. Kotroco, Esq. submitted a written request (a copy of which is in the case file) that the Petition be withdrawn. As such, the hearing in the above-captioned case will be canceled and this case will be dismissed as requested by Petitioners.

THEREFORE, IT IS ORDERED, this 17th day of **January, 2019**, by the Administrative Law Judge for Baltimore County, that the Petition for Special Exception filed in the above case be and is hereby DISMISSED without prejudice.

ORDER RECEIVED FOR FILING

Date 1-18-19

By Sen

Any appeal of this decision must be made within thirty (30) days of the date of this Order.



JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB:slh

ORDER RECEIVED FOR FILING

Date 1-18-19

By Den



PETITION FOR ZONING HEARING(S)

To be filed with the Department of Permits, Approvals and Inspections

To the Office of Administrative Law of Baltimore County for the property located at:

Address 19620 Resh Mill Rd, Hampstead MD 20174 which is presently zoned RC2
 Deed References: 05768/00369 10 Digit Tax Account # 0 5 0 3 0 4 7 7 0 0
 Property Owner(s) Printed Name(s) Javid Shafi MD

(SELECT THE HEARING(S) BY MARKING **X** AT THE APPROPRIATE SELECTION AND PRINT OR TYPE THE PETITION REQUEST)

The undersigned legal owner(s) of the property situate in Baltimore County and which is described in the description and plan attached hereto and made a part hereof, hereby petition for:

1. a **Special Hearing** under Section 500.7 of the Zoning Regulations of Baltimore County, to determine whether or not the Zoning Commissioner should approve
2. **X** a **Special Exception** under the Zoning Regulations of Baltimore County to use the herein described property for The Hampstead 875 kilowatt (kW) alternating current (AC) Photovoltaic (PV) Array. The proposed PV Solar Facility would be situated on a small portion of a larger parcel of privately owned land.
3. a **Variance** from Section(s)

of the zoning regulations of Baltimore County, to the zoning law of Baltimore County, for the following reasons:
(Indicate below your hardship or practical difficulty or indicate below "TO BE PRESENTED AT HEARING". If you need additional space, you may add an attachment to this petition)

Property is to be posted and advertised as prescribed by the zoning regulations.

I, or we, agree to pay expenses of above petition(s), advertising, posting, etc. and further agree to and are to be bounded by the zoning regulations and restrictions of Baltimore County adopted pursuant to the zoning law for Baltimore County.

Legal Owner(s) Affirmation: I / we do so solemnly declare and affirm, under the penalties of perjury, that I / We are the legal owner(s) of the property which is the subject of this / these Petition(s).

Contract Purchaser/Lessee:

Kerri Neary
 Name- Type or Print
Kerri Neary
 Signature
1400 Wilson Blvd., Suite 800 Arlington Virginia
 Mailing Address City State
22201 / 484-554-3453 / kneary@srenergy.com
 Zip Code Telephone # Email Address

Attorney for Petitioner:

Name- Type or Print
 Signature
 Date
1-18-19
Den
 Mailing Address City State
 By
 Zip Code Telephone # Email Address

Legal Owners (Petitioners):

Javid Shafi MD
 Name #1 - Type or Print Name #2 - Type or Print
 Signature #1 Signature #2
 Mailing Address City State
 Zip Code Telephone # Email Address
omer@shafi.com

Representative to be contacted:

Jodi Hunt
 Name - Type or Print
Jodi Hunt
 Signature
1200 Scottsville Road, Building C, Suite 181, Rochester, NY
 Mailing Address City State
14624 / 585-417-4007 / jodi.hunt@tetrattech.com
 Zip Code Telephone # Email Address

CASE NUMBER 2019-0142-X Filing Date 10/24/18 Do Not Schedule Dates: Reviewer JF



PETITION FOR ZONING HEARING(S)

To be filed with the Department of Permits, Approvals and Inspections

To the Office of Administrative Law of Baltimore County for the property located at:

Address 19620 Resh Mill Rd, Hampstead MD 20174 which is presently zoned RC2
 Deed References: 05-166 / 00369 10 Digit Tax Account # 0 5 0 3 0 4 7 7 0 0
 Property Owner(s) Printed Name(s) Javid Shafi MD

(SELECT THE HEARING(S) BY MARKING **X** AT THE APPROPRIATE SELECTION AND PRINT OR TYPE THE PETITION REQUEST)

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 (Indicate below your hardship or practical difficulty or indicate below "TO BE PRESENTED AT HEARING". If you need additional space, you may add an attachment to this petition)

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Legal Owner(s) Affirmation: I / we do so solemnly declare and affirm, under the penalties of perjury, that I / We are the legal owner(s) of the property which is the subject of this / these Petition(s).

Contract Purchaser/Lessee:

Kerri Neary
 Name- Type or Print
 Signature
1400 Wilson Blvd., Suite 800 Arlington Virginia
 Mailing Address City State
22201 / 484-554-3453 / kneary@srenergy.com
 Zip Code Telephone # Email Address

Attorney for Petitioner:

 Name- Type or Print
 Signature

 Mailing Address City State
 / /
 Zip Code Telephone # Email Address

Legal Owners (Petitioners):

Javid Shafi MD
 Name #1 - Type or Print Name #2 - Type or Print

 Signature #1 Signature #2

 Mailing Address City State
 / / omer@shafi.com
 Zip Code Telephone # Email Address

Representative to be contacted:

Jodi Hunt
 Name - Type or Print
 Signature
1200 Scottsville Road, Building C, Suite 181, Rochester, NY
 Mailing Address City State
14624 / 585-417-4007 / jodi.hunt@tetrattech.com
 Zip Code Telephone # Email Address

CASE NUMBER 2019-0142-X Filing Date 10/30/18 Do Not Schedule Dates: Reviewer JF

ZONING PROPERTY DESCRIPTION FOR RESH MILL ROAD, HAMPSTEAD, MD

Beginning at a point, 55 feet on the west side of Resh Mill Road, which is 12.75 ft wide at a distance of 309 feet north west of the centerline of the nearest improved intersecting street, Grave Run Road which is 18 feet wide. Thence the following courses and distances: (1st Point of Call – "POC") S32 07' 41" E. 289.30', (2nd POC) S40 19' 56" W. 553.32', (3rd POC) N70 11' 50" W. 589.09', (4th POC) N19 17' 23" E. 23.00', (5th POC) S71 17' 15" E. 42.18', (6th POC) N78 18' 05" E. 17.73', (7th POC) N19 35' 51" E. 42.78', (8th POC) N0 00' 00" E. 136.01', (9th POC) N90 00' 00" E. 39.62', (10th POC) S71 46' 39" E. 225.28', (11th POC) N32 02' 01" E. 66.42', (12th POC) N62 41' 11" E. 111.02', (13th POC) S24 19' 41" E. 28.44', (14th POC) N61 43' 01" E. 73.69', (15th POC) N56 51' 29" E. 16.90', (16th POC) N34 07' 32" E. 29.65', (17th POC) N38 06' 35" E. 33.03', (18th POC) N41 19' 00" E. 81.94', (19th POC) N39 28' 07" E. 59.24', (20th POC) N43 12' 01" E. 54.70', (21st POC) N47 09' 04" E. 20.77', (22nd POC) N57 54' 33" E. 23.11', back to the point of beginning as described, containing 6.0 acres. *This does not include a portion of the access road.* Located in the 5th Election District and 3rd Council District.

Property descriptions taken from publicly available mapping. Final property descriptions to be determined by a Maryland Professional Land Surveyor and field verified.



Professional certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland, license no. 41078, expiration date: 9/14/19.

HAMPSTEAD SOLAR

19620 Resh Mill Rd
Hampstead, MD 21074

Project Phase:
Discretionary Permitting



ICFTS MD SOLAR, LLC
1401 WILSON BLVD. SUITE 800
ARLINGTON, VA. 22209



Item # 0142

JB 1-17-19
1:30 PM

Debra Wiley

From: Larry Pilson <lpilson@hotmail.com>
Sent: Saturday, January 12, 2019 3:41 PM
To: Administrative Hearings; Stephanie Sienkowski
Subject: 2019-0142-X Recert
Attachments: Hampstead Solar Recert.pdf; ATT00001.htm; DSC_0762.JPG; ATT00002.htm; DSC_0763.JPG; ATT00003.htm



CERTIFICATE OF POSTING

Date: 1-12-19

RE: Case Number: 2019-0142-X RECERT

Petitioner/Developer: Kerri Neary

Date of Hearing/Closing: Thurs Jan 17, 2019 1:30PM

This is to certify under the penalties of perjury that the necessary sign(s) required by law were posted conspicuously on the property located at 19620 Resh Hill Rd

The sign(s) were posted on RECERT 1-12-19
(Month, Day, Year)

J. Lawrence Pilson
(Signature of Sign Poster)

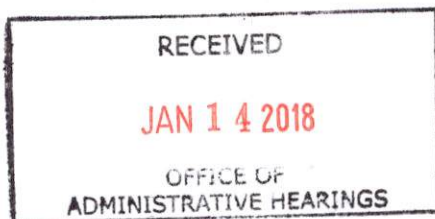
J. LAWRENCE PILSON
(Printed Name of Sign Poster)

ATTACH PHOTOGRAPH

1015 Old Barn Road
(Street Address of Sign Poster)

Parkton, MD 21120
(City, State, Zip Code of Sign Poster)

410-343-1443
(Telephone Number of Sign Poster)



ZONING NOTICE

CASE # 2017-0142-K

A PUBLIC HEARING WILL BE HELD BY
IN TOWSON, MD

PLACE: JEFFERSON FIELD, TOWSON AREA
104 W. C. FOSTER AVE. ROOM 205

DATE AND TIME: THURSDAY JAN 12, 2017 1:30 PM

REQUEST: SPECIAL EXCEPTION FOR THE PROPOSED
200 KILOWATT (KW) ALTERNATIVE FUEL MILESTONE

(4) BERRY THE TOWSON PI. TOWSON AREA
CONVERTED TO A SMALL RAIL CAR RAILROAD

PROPOSED RAILROAD

POSTPONEMENTS DUE TO WEATHER OR OTHER CONDITIONS ARE SUBJECT TO DISCRETION
OF CERTAIN HEARING CASE OFFICIALS
THIS SIGN AND POST UNTIL OUT OF READING UNDER PENALTY OF LAW
ADDED: ACCESSIBLE

ZONING NOTICE

CASE # 2017-0142-X

A PUBLIC HEARING WILL BE HELD BY

ADMINISTRATIVE BOARD

IN TOWSON, MD

JEFFERSON ELLIOTT C. 1115

PLACE: 105 W. CHESTNUT AVE. TOWSON, MD 21204

DATE AND TIME: TUE. JAN. 17, 2017 1:30 PM

REQUEST: SPECIAL EXCEPTION FOR THE PROPOSED

815 KILOWATT (KW) ALTERNATIVE CURRENT (AC)

PHOTOVOLTAIC (PV) ARRAY. THE PROPOSED PV ARRAY

FACILITY WOULD BE SITUATED ON A SHADE TOLERANT

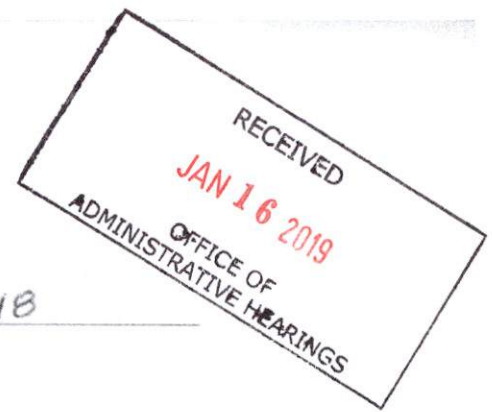
LARGER PORTION OF THE LOT.

POSTPONEMENTS DUE TO WEATHER OR OTHER CONDITIONS ARE SOMETIMES NECESSARY
IN CONCORDANCE WITH THE ZONING CODE

DO NOT REMOVE THIS SIGN AND POST UNTIL END OF HEARING, WHEN PERMIT OF 400
HANDICAPPED ACCESSIBLE

CERTIFICATE OF POSTING

Date: 12-26-18



RE: Case Number: 2019-0142-X

Petitioner/Developer: Kerri Neary

Date of Hearing/Closing: 1-17-19 1:30 PM

This is to certify under the penalties of perjury that the necessary sign(s) required by law were posted conspicuously on the property located at 19620 Rest Hill Rd

The signs(s) were posted on 12-26-18
(Month, Day, Year)

J. Lawrence Pilson
(Signature of Sign Poster)

J. LAWRENCE PILSON
(Printed Name of Sign Poster)

ATTACH PHOTOGRAPH

1015 Old Barn Road
(Street Address of Sign Poster)

Parkton, MD 21120
(City, State, Zip Code of Sign Poster)

410-343-1443
(Telephone Number of Sign Poster)

ZONING NOTICE

CASE # 2019-0142-X

**A PUBLIC HEARING WILL BE HELD BY
THE ZONING COMMISSIONER
IN TOWSON, MD**

JEFFERSON BLDG, TOWSON 21204

PLACE: 105 W CHESAPEAKE AVE, ROOM 205

DATE AND TIME: THURS. JAN 17, 2019, 1:30 PM

REQUEST: SPECIAL EXCEPTION FOR THE HAMPSHIRE

875 KILOWATT (KW) ALTERNATING (AC) PHOTOVOLTAIC

(PV) ARRAY. THE PROPOSED PV SOLAR FACILITY WOULD BE

SITUATED ON A SMALL PORTION OF A LARGER PARCEL OF
PRIVATELY OWNED LAND.

POSTPONEMENTS DUE TO WEATHER OR OTHER CONDITIONS ARE SOMETIMES NECESSARY.
TO CONFIRM HEARING, CALL 887-3391

DO NOT REMOVE THIS SIGN AND POST UNTIL DAY OF HEARING, UNDER PENALTY OF LAW.

HANDICAPPED ACCESSIBLE

ZONING NOTICE

CASE # 2019-0142-X

**A PUBLIC HEARING WILL BE HELD BY
THE ZONING COMMISSIONER
IN TOWSON, MD**

JEFFERSON BUILDING - RM205
TOWSON 21204

PLACE: 105 W. CHESAPEAKE AVE.

DATE AND TIME: THURS. JAN. 17, 2019 1:30 PM

REQUEST: SPECIAL EXCEPTION FOR THE HAMPSTEAD

875 KILOWATT (KW) ALTERNATING CURRENT (AC)

PHOTOVOLTAIC (PV) ARRAY. THE PROPOSED PV SOLAR

FACILITY WOULD BE SITUATED ON A SMALL PORTION OF A

LARGER PARCEL OF PRIVATELY OWNED LAND

POSTPONEMENTS DUE TO WEATHER OR OTHER CONDITIONS ARE SOMETIMES NECESSARY
TO CONFIRM HEARING CALL 887-3391

THIS SIGN AND POST UNTIL DAY OF HEARING, UNDER PENALTY OF LAW
UNLAWFULLY REMOVED OR DAMAGED ACCESSIBLE

RE: PETITION FOR SPECIAL EXCEPTION	*	BEFORE THE OFFICE
19620 Resh Mill Road; SW/S Resh Mill	*	OF ADMINSTRATIVE
Road and Grove Run Road	*	HEARINGS FOR
5 th Election & 3 rd Councilmanic Districts	*	BALTIMORE COUNTY
Legal Owner(s): Javid Shafi, M.D.	*	2019-142-X
Contract Purchaser(s): Kerri Neary		
Petitioner(s)		

* * * * *

ENTRY OF APPEARANCE

Pursuant to Baltimore County Charter § 524.1, please enter the appearance of People's Counsel for Baltimore County as an interested party in the above-captioned matter. Notice should be sent of any hearing dates or other proceedings in this matter and the passage of any preliminary or final Order. All parties should copy People's Counsel on all correspondence sent and all documentation filed in the case.

RECEIVED
NOV 15 2018

Peter Max Zimmerman

PETER MAX ZIMMERMAN
 People's Counsel for Baltimore County

Carole S. Demilio

CAROLE S. DEMILIO
 Deputy People's Counsel
 Jefferson Building, Room 204
 105 West Chesapeake Avenue
 Towson, MD 21204
 (410) 887-2188

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 15th day of November, 2018, a copy of the foregoing Entry of Appearance was mailed to Jodi Hunt, 1200 Scottsville Road, Building C, Suite 181, Rochester, NY 14624, Representative for Petitioner(s).

Peter Max Zimmerman

PETER MAX ZIMMERMAN
 People's Counsel for Baltimore County

The Daily Record

11 East Saratoga Street
Baltimore, MD 21202-2199
(443) 524-8100

<http://www.thedailyrecord.com>

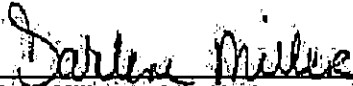
Order #: 11665735
Case #: 2019-0142-X
Description:

NOTICE OF ZONING HEARING CASE NUMBER: 2019-0142-X

PUBLISHER'S AFFIDAVIT

We hereby certify that the annexed advertisement was published in **The Daily Record**, a daily newspaper published in the State of Maryland 1 times on the following dates:

12/28/2018



Darlene Miller, Public Notice Coordinator
(Representative Signature)

Baltimore County

NOTICE OF ZONING HEARING

The Administrative Law Judge of Baltimore County, by authority of the Zoning Act and Regulations of Baltimore County, will hold a public hearing in Towson, Maryland on the property identified herein as follows:

CASE NUMBER: 2019-0142-X

18620 Resh Mill Road

SW/s Resh Mill Road and Grove Run Road

5th Election District - 3rd Councilmanic District

Legal Owners: Javid Shaif, MD

Contract Purchaser/Lessee: Kerri Neary

Special Exception for the Hampstead 875 kilowatt (kW) alternating current (AC) Photovoltaic (PV) array. The proposed PV Solar Facility would be situated on a small portion of a larger parcel of privately owned land.

Hearing: Thursday, January 17, 2019 at 1:30 p.m. in Room 205, Jefferson Building, 105 West, Chesapeake Avenue, Towson 21204

Arnold Jablon

Director of Permits, Approvals and Inspections for Baltimore County

NOTES: (1) HEARINGS ARE HANDICAPPED ACCESSIBLE; FOR SPECIAL ACCOMODATIONS, PLEASE CONTACT THE ADMINISTRATIVE HEARINGS OFFICE AT 410-887-3368.

(2) FOR INFORMATION CONCERNING THE FILE AND/OR HEARING, CONTACT THE ZONING REVIEW OFFICE AT 410-887-3301.

d28



JOHN A. OLSZEWSKI, JR.
County Executive

DIRECTOR
*Department of Permits,
Approvals & Inspections*

December 14, 2018

NOTICE OF ZONING HEARING

The Administrative Law Judge of Baltimore County, by authority of the Zoning Act and Regulations of Baltimore County, will hold a public hearing in Towson, Maryland on the property identified herein as follows:

CASE NUMBER: 2019-0142-X

19620 Resh Mill Road
SW/s Resh Mill Road and Grove Run Road
5th Election District – 3rd Councilmanic District
Legal Owners: Javid Shafi, MD
Contract Purchaser/Lessee: Kerri Neary

Special Exception for the Hampstead 875 kilowatt (kW) alternating current (AC) Photovoltaic (PV) array. The proposed PV Solar Facility would be situated on a small portion of a larger parcel of privately owned land.

Hearing: Thursday, January 17, 2019 at 1:30 p.m. in Room 205, Jefferson Building,
105 West Chesapeake Avenue, Towson 21204

A handwritten signature in black ink, appearing to read "Arnold Jablon".

Arnold Jablon
Director

AJ:kl

C: Kerri Neary, 1400 Wilson Point Blvd., Ste. 800, Arlington VA 22201
Jodi Hunt, 1200 Scottsville Road, Building C, Ste. 181, Rochester NY 14624

- NOTES: (1) **THE PETITIONER MUST HAVE THE ZONING NOTICE SIGN POSTED BY AN APPROVED POSTER ON THE PROPERTY BY FRIDAY, DECEMBER 28, 2018.**
- (2) **HEARINGS ARE HANDICAPPED ACCESSIBLE; FOR SPECIAL ACCOMMODATIONS PLEASE CALL THE ADMINISTRATIVE HEARINGS OFFICE AT 410-887-3868.**
- (3) **FOR INFORMATION CONCERNING THE FILE AND/OR HEARING, CONTACT THE ZONING REVIEW OFFICE AT 410-887-3391.**

TO: THE DAILY RECORD
Friday, December 28, 2018 - Issue

Please forward billing to:

Kerri Neary
1400 Wilson Point Blvd., Ste. 800
Arlington, VA 22201

484-554-3453

NOTICE OF ZONING HEARING

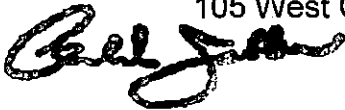
The Administrative Law Judge of Baltimore County, by authority of the Zoning Act and Regulations of Baltimore County, will hold a public hearing in Towson, Maryland on the property identified herein as follows:

CASE NUMBER: 2019-0142-X

19620 Resh Mill Road
SW/s Resh Mill Road and Grove Run Road
5th Election District – 3rd Councilmanic District
Legal Owners: Javid Shafi, MD
Contract Purchaser/Lessee: Kerri Neary

Special Exception for the Hampstead 875 kilowatt (kW) alternating current (AC) Photovoltaic (PV) array. The proposed PV Solar Facility would be situated on a small portion of a larger parcel of privately owned land.

Hearing: Thursday, January 17, 2019 at 1:30 p.m. in Room 205, Jefferson Building,
105 West Chesapeake Avenue, Towson 21204



Arnold Jablon
Director of Permits, Approvals and Inspections for Baltimore County

- NOTES: (1) HEARINGS ARE HANDICAPPED ACCESSIBLE; FOR SPECIAL ACCOMODATIONS, PLEASE CONTACT THE ADMINISTRATIVE HEARINGS OFFICE AT 410-887-3868.
- (2) FOR INFORMATION CONCERNING THE FILE AND/OR HEARING, CONTACT THE ZONING REVIEW OFFICE AT 410-887-3391.

**BALTIMORE COUNTY, MARYLAND
INTER-OFFICE CORRESPONDENCE**

DATE: October 30, 2018

TO: John E. Beverungen, Administrative Law Judge
Office of Administrative Hearings

FROM: Jun Fernando, Planner II, Zoning Review Office
Department of Permits, Approvals and Inspections

SUBJECT: Recommendation for Zoning Case # 2019-0142-X

Pursuant to Section 4F-102.B.4, BCZR:

"Upon reaching the threshold of 10 solar facilities in a councilmanic district, no additional permits shall be issued for a solar facility in that district unless an existing facility previously approved under this article has been removed pursuant to Section 4F-107."

Since this case would be the "thirteenth" petition filed in the 3rd Councilmanic District, the Zoning Review Office recommends that an advisory statement (i.e., a restriction) be included in any order granting the special exception that states:

"The granting of this special exception by the ALJ or the Board of Appeals upon appeal, does not guarantee that a building permit will ultimately be available for construction of this solar facility, pursuant to Section 4F-102.B.4, BCZR."

If you have any questions, please feel free to contact me at extension 3391.

**DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS
ZONING REVIEW OFFICE**

ADVERTISING REQUIREMENTS AND PROCEDURES FOR ZONING HEARINGS

The Baltimore County Zoning Regulations (BCZR) require that notice be given to the general public/neighboring property owners relative to property which is the subject of an upcoming zoning hearing. For those petitions which require a public hearing, this notice is accomplished by posting a sign on the property (responsibility of the legal owner/petitioner) and placement of a notice in a newspaper of general circulation in the County, both at least twenty (20) days before the hearing.

Zoning Review will ensure that the legal requirements for advertising are satisfied. However, the legal owner/petitioner is responsible for the costs associated with these requirements. The newspaper will bill the person listed below for the advertising. This advertising is due upon receipt and should be remitted directly to the newspaper.

OPINIONS MAY NOT BE ISSUED UNTIL ALL ADVERTISING COSTS ARE PAID.

For Newspaper Advertising:

Case Number: 2019-0142-X

Property Address: 19620 Resh mill Road

Property Description: _____

Legal Owners (Petitioners): Shafi Javid MD

Contract Purchaser/Lessee: ICFTS MD SOLAR

PLEASE FORWARD ADVERTISING BILL TO:

Name: Kerri Neary

Company/Firm (if applicable): ICFTS MD SOLAR

Address: 1401 Wilson Blvd. Suite 800
Arlington, VA 22201

Telephone Number: 484-554-3453

Revised 7/9/2015

BALTIMORE COUNTY, MARYLAND
OFFICE OF BUDGET AND FINANCE
MISCELLANEOUS CASH RECEIPT

No. **177106**

Date: **10/30/18**

PAID RECEIPT

BUSINESS ACTUAL TIME DRW
 10/31/2018 10/30/2018 10:40:20 3

REC W503 WALKIN CAM
 >>RECEIPT# 795575 10/30/2018 OFLN

Fund	Dept	Unit	Sub Unit	Rev Source/Obj	Sub Rev/Obj	Dept Obj	BS Acct	Amount	Dept	Obj	BS Acct	Amount
001	806	0000		6150				\$450	5	528	ZONING VERIFICATION	\$450.00

Total: **\$450⁰⁰**

Rec From:

For: **# zoning hearing - case #2019-0141-X**

DISTRIBUTION

WHITE - CASHIER PINK - AGENCY YELLOW - CUSTOMER GOLD - ACCOUNTING
 PLEASE PRESS HARD!!!!

**CASHIER'S
 VALIDATION**



JOHN A. OLSZEWSKI, JR.
County Executive

DIRECTOR
Department of Permits,
Approvals & Inspections

January 15, 2019

Kerri Neary
1400 Wilson Boulevard, Ste. 800
Arlington, VA 22201

RE: Case Number: 2019-0142-X, Address: 19620 Resh Mill Road

To Whom It May Concern:

The above referenced petition was accepted for processing **ONLY** by the Bureau of Zoning Review, Department of Permits, Approvals, and Inspection (PAI) on October 30, 2018. This letter is not an approval, but only a **NOTIFICATION**.

The Zoning Advisory Committee (ZAC), which consists of representatives from several approval agencies, has reviewed the plans that were submitted with your petition. All comments submitted thus far from the members of the ZAC are attached. These comments are not intended to indicate the appropriateness of the zoning action requested, but to ensure that all parties (zoning commissioner, attorney, petitioner, etc.) are made aware of plans or problems with regard to the proposed improvements that may have a bearing on this case. All comments will be placed in the permanent case file.

If you need further information or have any questions, please do not hesitate to contact the commenting agency.

Very truly yours,

A handwritten signature in dark ink, appearing to read "W. Carl Richards, Jr.", is written over a circular stamp.

W. Carl Richards, Jr.
Supervisor, Zoning Review

WCR: kll

Enclosures

c: People's Counsel
Jodi Hunt, 1200 Scottsville Road, Bldg. C, Ste. 181, Rochester NY 14624

Date: 11/15/18

Ms. Kristen Lewis
Baltimore County Office of
Permits and Development Management
County Office Building, Room 109
111 West Chesapeake Avenue
Towson, Maryland 21204

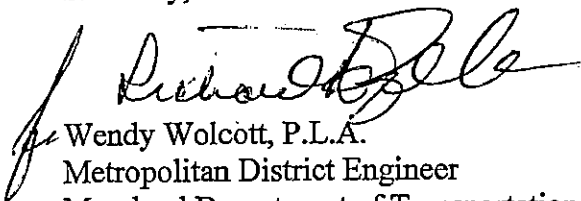
Dear Ms. Lewis:

Thank you for the opportunity to review your referral request on the subject of the Case number referenced below. We have determined that the subject property does not access a State roadway and is not affected by any State Highway Administration projects. Therefore, based upon available information this office has no objection to Baltimore County Zoning Advisory Committee approval of Case No. 2019-0142-X.

*Special Exception
David Shafi MD
19620 Resh Mill Road.*

Should you have any questions regarding this matter, please contact Mr. Richard Zeller at 410-229-2332 or 1-866-998-0367 (in Maryland only) extension 2332, or by email at (rzeller@sha.state.md.us).

Sincerely,



Wendy Wolcott, P.L.A.
Metropolitan District Engineer
Maryland Department of Transportation
State Highway Administration
District 4 - Baltimore and Harford Counties

WW/RAZ

BALTIMORE COUNTY, MARYLAND

INTER-OFFICE MEMORANDUM

TO: Arnold Jablon
Deputy Administrative Officer and
Director of Permits, Approvals and Inspections

DATE: 12/4/2018

FROM: Andrea Van Arsdale
Director, Department of Planning

SUBJECT: ZONING ADVISORY COMMITTEE COMMENTS
Case Number: 19-142



INFORMATION:

Property Address: 19620 Resh Mill Road
Petitioner: Javid Shafi M.D.
Zoning: RC 2
Requested Action: Special Exception

The Department of Planning has reviewed the petition for a special exception to use the property for a solar facility.

A site visit was conducted on 11/20/2018. Grave Run Road is a Baltimore County Master Plan designated scenic road presenting an "expansive view" as defined in the Comprehensive Manual of Development Policies (CMDP pg.177). The solar facility as proposed will be visible from Grave Run Road. When developing on a scenic route, CMDP development guidelines instructs one to "*maintain a buffer between the road and the new development*" (CMDP pg. 180).

- The Department supports the Baltimore County Landscape Architect in planting requirements deemed necessary to include interior contour screening and other planting schemes that will mitigate the visual impact of the special exception proposal upon the scenic route.

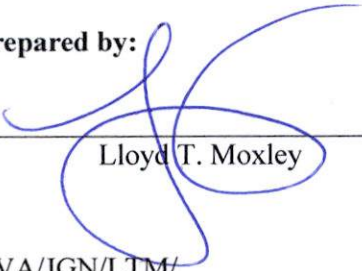
The Department has no objection to granting the petitioned zoning relief conditioned upon the following:

- Eliminate the access road along Resh Mill Road and Grave Run Road.
- Limit soil disturbance to the very minimum necessary to install the facility.
- Proposed perimeter fence shall be black vinyl coated chain-link fence.
- Pursuant to BCZR §502.1.A, petitioners shall demonstrate to the satisfaction of the Administrative Law Judge that the facility will not be detrimental to the adjacent residential properties as a result of glare emanating from the facility.
- Petitioners shall note on the plan that the proposed solar facility will be subject to BCZR §4E-107.
- Petitioners shall certify by note on the plan that the proposed solar facility will not exceed the maximum permitted number of facilities allowed in its respective councilmanic district. If approved, Petitioners shall submit to this Department at the time of building permit application the final fixed location and area of the facility by coordinate data so that an inventory may be kept.

- Lighting shall be limited to what is required for security purposes only and will be sited in such a way as to have minimal spillage onto neighboring properties.
- Signage shall be limited to that which is necessary for safety and security purposes.
- No deliveries or outdoor maintenance which may generate excessive noise may occur on-site between the hours of 6 P.M. through 6 A.M.

For further information concerning the matters stated herein, please contact Joseph Wiley at 410-887-3480.

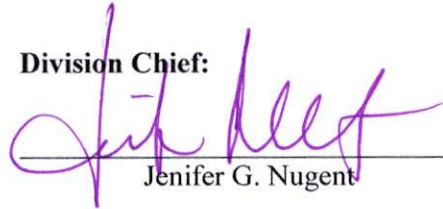
Prepared by:



Lloyd T. Moxley

AVA/JGN/LTM/

Division Chief:



Jenifer G. Nugent

c: Joseph Wiley
James Hermann, R.L.A., Department of Permits, Approvals and Inspections
Jodi Hunt
Office of the Administrative Hearings
People's Counsel for Baltimore County

1-17

BALTIMORE COUNTY, MARYLAND

Inter-Office Correspondence



TO: Hon. Lawrence M. Stahl; Managing Administrative Law Judge
Office of Administrative Hearings

FROM: Jeff Livingston, Department of Environmental Protection and
Sustainability (EPS) - Development Coordination

DATE: November 29, 2018

SUBJECT: DEPS Comment for Zoning Item # 2019-0142-X
Address 19620 Resh Mill Road
(Shafi, MD Property)

Zoning Advisory Committee Meeting of **November 19, 2018**.

- X The Department of Environmental Protection and Sustainability offers the following comments on the above-referenced zoning item:
- X Development of the property must comply with the Regulations for the Protection of Water Quality, Streams, Wetlands and Floodplains (Sections 33-3-101 through 33-3-120 of the Baltimore County Code).
- X Development of this property must comply with the Forest Conservation Regulations (Sections 33-6-101 through 33-6-122 of the Baltimore County Code).

Additional Comments:

There appear to be extensive streams and wetlands onsite. All streams, wetlands, and Forest Buffer Easements (FBE) must be delineated and approved by EPS. A variance is required impact the FBE as proposed. There is no guarantee of variance approval.

Reviewer: Glenn Shaffer

BALTIMORE COUNTY, MARYLAND

INTEROFFICE CORRESPONDENCE

TO: Arnold Jablon, Director
Department of Permits, Approvals
And Inspections

FROM: Vishnu Desai, Supervisor
Bureau of Development Plans Review

SUBJECT: Zoning Advisory Committee Meeting
For November 12, 2018
Item No. 2019-0142-X

DATE: December 5, 2018

The Bureau of Development Plans Review has reviewed the subject zoning items and we have the following comments

If Special Exception is granted a landscape plan is required per the requirements of the Landscape Manual, Bill No. 37-17 and the CMDP. Specific landscape comments:

1. Grave Run Road is a Baltimore County Scenic Route,
2. Perimeter landscape buffers are required,
3. Must minimize tree and vegetation removal,
4. Perimeter landscape buffers required along Resh Mill Road and Grave Run Road.
5. The planting needs to be set back from the existing overhead power lines to allow the diversity of screen plant materials to mature and not be effected by standard vegetation maintenance typically associated with existing overhead power line. This planting should also be located and follow higher contours to capitalize and maximize screening potential.
6. Perimeter landscape buffers need to be designed to include a diversity of plant materials.
7. Solar panels are considered a utility and should be designed and located to harmonize with the surroundings and to create the least visual impact.
8. Proposed perimeter fence shall be black vinyl-coated chain-link fence,
9. Perimeter landscape buffers should address adjacent property views to provide maximum screening potential when it relates to the proposed solar facility. Including but not limited to 19600, 19406 and 19408 Grave Run Road.
10. Proposed access road(s) may need to have a chicane or bends to assure screening of the solar array field from Resh Mill & Grave Run Roads views if landscape screening does not,
11. More comments may be rendered during review of the landscape plan,

The on-site access road back from Resh Mill Rd. back to the equipment pad shall be dustless and durable.

Owner to dedicate highway widening along Grave Run Road to Baltimore County as part of the development process.

* * * * *

VKD: can
cc: file

BALTIMORE COUNTY, MARYLAND

Inter-Office Correspondence



TO: Hon. Lawrence M. Stahl; Managing Administrative Law Judge
Office of Administrative Hearings

FROM: Jeff Livingston, Department of Environmental Protection and
Sustainability (EPS) - Development Coordination

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Additional Comments:

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Reviewer: Glenn Shaffer

Sherry Nuffer

From: Sherry Nuffer
Sent: Friday, January 18, 2019 9:13 AM
To: 'kathie@stoneponyrestoration.com'
Subject: 2019-0142-X 19620 Resh Mill Road
Attachments: 20190118091019443.pdf

Ms. Pieper,

Attached please find a Motion to Dismiss without prejudice for the above mentioned case.

Should you have any questions please feel free to contact our office.

Thank you,

Sherry

TIMOTHY M. KOTROCO, Esq.

305 Washington Avenue, Suite 502

Towson, Maryland 21204

410-299-2943

Tkotroco@gmail.com

January 17, 2019

The Honorable John E. Beverungen
Administrative Law Judge for Baltimore County
105 West Chesapeake Avenue, Suite 103
Towson, Maryland 21204

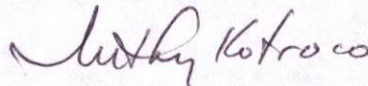
Re: Case No. 2019-0142-X, 19620 Resh Mill Road
Request for withdrawal of petition without prejudice

Dear Judge Beverungen:

The applicants in the above-referenced case, Javid Shafi, M.D., Owner and Kerri Neary, Lessee hereby request to withdraw their petition for Special Exception that is pending before your office. My clients wish to withdraw and dismiss their petition without prejudice at this time but would like to reserve the right to re-file this special exception request in the future.

Thank you for your consideration of this request.

Very truly yours,



Timothy M. Kotroco

TMK/eak
Cc: Kerri Neary

Debra Wiley

From: Debra Wiley
Sent: Wednesday, January 16, 2019 12:42 PM
To: 'Virginia Terhune'
Cc: Timothy M. Kotroco Esq. (tkotroco@gmail.com)
Subject: Case Nos. 2019-0141-X and 2019-0142-X (Jan. 17th)

Good Afternoon,

In reference to your inquiry regarding the above hearings scheduled for tomorrow, Jan. 17th, please be advised that they have both been postponed. Counsel for Petitioners, Timothy Kotroco, Esq., will let you and Ms. Pieper know when they have been rescheduled.

Thank you.

From: Mike Mohler
Sent: Friday, January 11, 2019 1:12 PM
To: John E. Beverungen <jbeverungen@baltimorecountymd.gov>; Kathleen Pieper <kathie@stoneponyrestoration.com>
Cc: Debra Wiley <dwiley@baltimorecountymd.gov>; Kristen L Lewis <klewis@baltimorecountymd.gov>; tkotroco@wtplaw.com
Subject: RE: Administrative Hearings Confusion

Ms. Pieper and Judge Beverungen,
I have researched the issue and you are correct there was an issue with the posting as required by law. We had an issue in our OIT department which we are working on to correct. I apologize on behalf of the department and hope we have corrected the issue.

Given that I have decided that the cases be "opened and continued" to a later date. It will be necessary for at least 1 person to attend BOTH hearings. As we discussed there may be an individual that was scheduled to be at both hearings negating you or your representative having to be in Towson all day.

We will post the new hearing date as soon as scheduled and will contact you via e-mail to ensure all are notified.

I thank the community and Judge Beverungen for your understanding.

From: John E. Beverungen
Sent: Thursday, January 10, 2019 11:00 AM
To: Kathleen Pieper <kathie@stoneponyrestoration.com>
Cc: Mike Mohler <mmohler@baltimorecountymd.gov>; Debra Wiley <dwiley@baltimorecountymd.gov>; Kristen L Lewis <klewis@baltimorecountymd.gov>
Subject: RE: Administrative Hearings Confusion

Ms. Pieper,

I am in receipt of your motion for postponement in the captioned zoning cases, which you filed on January 8, 2019. Since the request was filed more than 5 business days prior to the hearing, the Zoning Commissioner's Rules specify the Director of PAI (who is copied on this email) shall consider the request.

C H E C K L I S TComment
ReceivedDepartmentSupport/Oppose/
Conditions/
Comments/
No Comment

12/5

DEVELOPMENT PLANS REVIEW
(if not received, date e-mail sent _____)

Comment

11/29

DEPS
(if not received, date e-mail sent _____)

Comment

12/4

FIRE DEPARTMENT

PLANNING
(if not received, date e-mail sent _____)

Comment

11/15

STATE HIGHWAY ADMINISTRATION

TRAFFIC ENGINEERING

NO Obj

COMMUNITY ASSOCIATION

ADJACENT PROPERTY OWNERS

10/30 Memo JUN Fernando

ZONING VIOLATION (Case No. _____)

PRIOR ZONING (Case No. _____)

NEWSPAPER ADVERTISEMENT

Date: 12/28/18

SIGN POSTING (1st)

Date: 12/26/18

by Pulson

SIGN POSTING (2nd)

Date: 11/2/19

by Pulson

PEOPLE'S COUNSEL APPEARANCE

Yes



No



PEOPLE'S COUNSEL COMMENT LETTER

Yes



No



Comments, if any: _____

Real Property Data Search

Search Result for BALTIMORE COUNTY

View Map			View GroundRent Redemption			View GroundRent Registration			
Tax Exempt:			Special Tax Recapture:						
Exempt Class:			AGRICULTURAL TRANSFER TAX						
Account Identifier:			District - 05 Account Number - 0503047700						
Owner Information									
Owner Name:			SHAFI JAVAID M TRUSTEE			Use:		AGRICULTURAL	
Mailing Address:			13008 GLEN RD NORTH POTOMAC MD 20878-			Principal Residence:		NO	
						Deed Reference:		/34781/ 00396	
Location & Structure Information									
Premises Address:			19620 RESH MILL RD REISTERSTOWN 21136-5505			Legal Description:		17.552 AC RESH MILL RD 2900 FT N FALLS RD	
Map:	Grid:	Parcel:	Sub District:	Subdivision:	Section:	Block:	Lot:	Assessment Year:	Plat No:
0010	0013	0150		0000				2017	Plat Ref:
Special Tax Areas:					Town:		NONE		
					Ad Valorem:				
					Tax Class:				
Primary Structure Built			Above Grade Living Area		Finished Basement Area		Property Land Area		County Use
1978			2,552 SF				17.5520 AC		33
Stories	Basement	Type	Exterior	Full/Half Bath	Garage	Last Major Renovation			
2	YES	STANDARD UNIT	FRAME	2 full/ 1 half	1 Attached				
Value Information									
			Base Value		Value		Phase-In Assessments		
					As of		As of		As of
					01/01/2017		07/01/2018		07/01/2019
Land:			88,300		88,300				
Improvements			240,500		211,200				
Total:			328,800		299,500		299,500		299,500
Preferential Land:			2,800						2,800
Transfer Information									
Seller: SHAFI MUHAMMAD JAVAID				Date: 03/20/2014			Price: \$0		
Type: NON-ARMS LENGTH OTHER				Deed1: /34781/ 00396			Deed2:		
Seller: THERIT CHARLES M AG USE 83-84				Date: 06/23/1977			Price: \$35,000		
Type: ARMS LENGTH IMPROVED				Deed1: /05768/ 00367			Deed2:		
Seller:				Date:			Price:		
Type:				Deed1:			Deed2:		
Exemption Information									
Partial Exempt Assessments:			Class		07/01/2018		07/01/2019		
County:			000		0.00				
State:			000		0.00				
Municipal:			000		0.00 0.00		0.00 0.00		
Tax Exempt:			Special Tax Recapture:						
Exempt Class:			AGRICULTURAL TRANSFER TAX						
Homestead Application Information									
Homestead Application Status: No Application									
Homeowners' Tax Credit Application Information									
Homeowners' Tax Credit Application Status: No Application						Date:			

Debra Wiley

JB 1-17-19 1:30 PM
(2019-0142-X)

From: Mike Mohler
Sent: Friday, January 11, 2019 1:12 PM
To: John E. Beverungen; Kathleen Pieper
Cc: Debra Wiley; Kristen L Lewis; tkotroco@wtplaw.com
Subject: RE: Administrative Hearings Confusion

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To: Kathleen Pieper <kathie@stoneponyrestoration.com>
Cc: Mike Mohler <mmohler@baltimorecountymd.gov>; Debra Wiley <dwiley@baltimorecountymd.gov>; Kristen L Lewis <klewis@baltimorecountymd.gov>
Subject: RE: Administrative Hearings Confusion

Ms. Pieper,

I am in receipt of your motion for postponement in the captioned zoning cases, which you filed on January 8, 2019. Since the request was filed more than 5 business days prior to the hearing, the Zoning Commissioner's Rules specify the Director of PAI (who is copied on this email) shall consider the request.

The OAH does not yet have the files for these zoning cases; as such, I do not know if an attorney has entered his/her appearance in either or both cases. I would ask Ms. Lewis (also copied on this email) to please ensure the attorney(s) are notified of the Director's decision.

John Beverungen
ALJ

From: Kathleen Pieper [mailto:kathie@stoneponyrestoration.com]
Sent: Tuesday, January 08, 2019 6:47 PM
To: John E. Beverungen <jbeverungen@baltimorecountymd.gov>
Subject: Administrative Hearings Confusion
Importance: High

Judge Beverungen,

This requests that administrative hearings for cases numbered 2019-0141-X and 2019-0142-X be rescheduled due to failure of Baltimore County to properly notify the community.

1. **Bill 6-18: Administrative Hearings Notice** requires Baltimore County to post scheduling information on the Zoning and Development Hearings Calendar and the Community Update Newsletter at least 15 days before the hearing.
 - As you can see from the screen shot below, neither hearing is included on January 17, 2019. Note the screenshot is date stamped in the lower right corner with today's date.
 - Information on the hearings was not included in the most recent Community Update Newsletter for District 3 (Dated January 1, 2019) <https://www.baltimorecountymd.gov/Agencies/communityupdates/d3/190101d3.html>
2. A community member was informed by a Baltimore County official that the hearings are scheduled for January 17, 2019, with 2019-0141-X (15009 Hanover Pike) at 10 am and 2019-0142-X (19620 Resh Road) at 1:30 pm.
3. Information posted on My Neighborhood (<https://bcgis.baltimorecountymd.gov/myneighborhood>) shows both cases scheduled for January 16, 2019 at the same time.

Please advise your decision as quickly as possible so that I can help clear confusion within our community.

Kathleen Pieper
President
North County Community Group

(1 of 4)

Case Number: 2019-0141-X
Petitioner: SHAFI JAVID MD
Property Description: E/S HANOVER PIKE, +/- 600' S OF CENTERLINE EMORY RD.
Violation Cases:
Related Cases: R-1961-5194
Concurrent Cases:
Miscellaneous Notes:
Contract Purchaser: KERRI NEARY 1400 WILSON BLVD., STE 800 ARLINGTON, VA 22201
Attorney:
Petition Filing Date: 10/29/2018, 8:00 PM
Board Of Appeals Case Number:
Board Of Appeals:
Appellant:
Board Of Appeals Description:
Administrative Law Judge Hearing Date: 1/16/2019, 7:00 PM
[Zoom to](#)

(2 of 3)

Case Number: 2019-0142-X
Petitioner: JAVID SHAFI MD
Property Description: SW SIDE OF RESH MILL RD. & GROVE RUN RD,
Violation Cases:
Related Cases:
Concurrent Cases:
Miscellaneous Notes:
Contract Purchaser: KERRI NEARY 1400 WILSON BLVD., STE 800 ARLINGTON, VA 22201
Attorney:
Petition Filing Date: 10/29/2018, 8:00 PM
Board Of Appeals Case Number:
Board Of Appeals:
Appellant:
Board Of Appeals Description:
Administrative Law Judge Hearing Date: 1/16/2019, 7:00 PM
Board Of Appeals Filing Date:
[Zoom to](#)

Development, Zoning Hearings & Meetings

Jan 2019						
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2

Show Events By: [Day](#) [Week](#) [Month](#) [RSS](#)

12:31

Thursday, January 17, 2019

No events today

CALENDAR FILTER

Location:

☐ All Event Locations
 1st Council District
 2nd Council District
 3rd Council District
 4th
 4th Council District
 5th Council District
 6th Council District
 7th

Type:

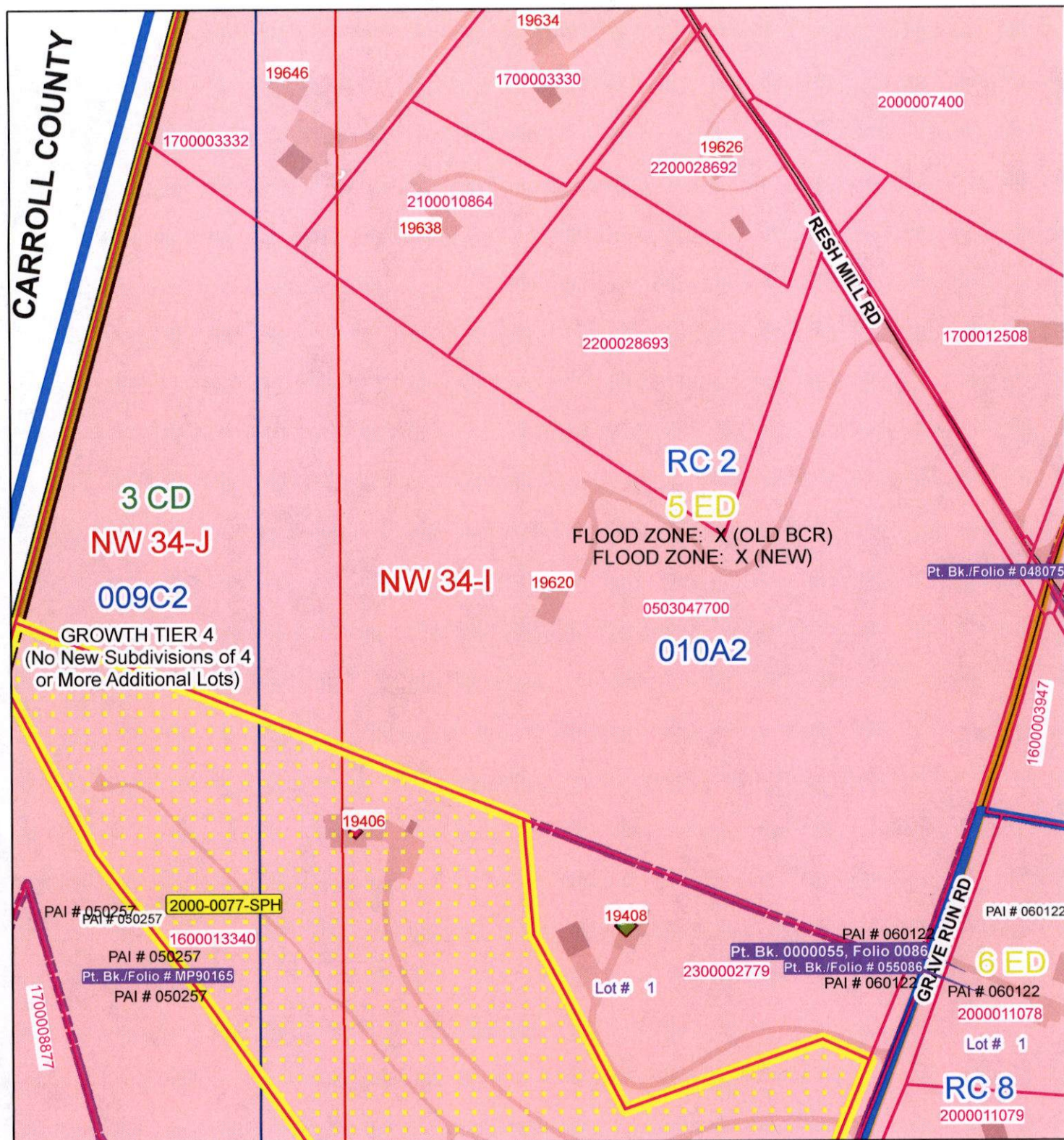
☐ All Event Types
 Event or Activity
 meet
 Meeting
 Meeting or Hearing

Keyword(s):

GO

Revised September 29, 2016

19620 Resh Mill Road, Tax #05-03-047-700



Publication Date: 10/30/2018



Publication Agency: Permits, Approvals & Inspections
Projection/Datum: Maryland State Plane,
FIPS 1900, NAD 1983/91 HARN, US Foot



0 55 110 220 330 440 Feet

1 inch = 200 feet

Real Property Data Search (w3)

Search Result for BALTIMORE COUNTY

View Map			View GroundRent Redemption			View GroundRent Registration			
Tax Exempt:			Special Tax Recapture:						
Exempt Class:			AGRICULTURAL TRANSFER TAX						
Account Identifier:			District - 05 Account Number - 0503047700						
Owner Information									
Owner Name:		SHAFI JAVAID M TRUSTEE			Use:		AGRICULTURAL		
					Principal Residence:		NO		
Mailing Address:		13008 GLEN RD NORTH POTOMAC MD 20878-			Deed Reference:		/34781/ 00396		
Location & Structure Information									
Premises Address:		19620 RESH MILL RD REISTERSTOWN 21136-5505			Legal Description:		17.552 AC RESH MILL RD 2900 FT N FALLS RD		
Map:	Grid:	Parcel:	Sub District:	Subdivision:	Section:	Block:	Lot:	Assessment Year:	Plat No:
0010	0013	0150		0000				2017	Plat Ref:
Special Tax Areas:				Town:		NONE			
				Ad Valorem:					
				Tax Class:					
Primary Structure Built		Above Grade Living Area		Finished Basement Area		Property Land Area		County Use	
1978		2,552 SF				17.5520 AC		33	
Stories	Basement	Type	Exterior	Full/Half Bath	Garage	Last Major Renovation			
2	YES	STANDARD UNIT	FRAME	2 full/ 1 half	1 Attached				
Value Information									
			Base Value	Value		Phase-in Assessments			
				As of		As of		As of	
				01/01/2017		07/01/2018		07/01/2019	
Land:			88,300	88,300					
Improvements			240,500	211,200					
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Transfer Information									
Seller: SHAFI MUHAMMAD JAVAID				Date: 03/20/2014			Price: \$0		
Type: NON-ARMS LENGTH OTHER				Deed1: /34781/ 00396			Deed2:		
Seller: THERIT CHARLES M AG USE 83-84				Date: 06/23/1977			Price: \$35,000		
Type: ARMS LENGTH IMPROVED				Deed1: /05768/ 00367			Deed2:		
Seller:				Date:			Price:		
Type:				Deed1:			Deed2:		
Exemption Information									
Partial Exempt Assessments:		Class			07/01/2018		07/01/2019		
County:		000			0.00				
State:		000			0.00				
Municipal:		000			0.00 0.00		0.00 0.00		
Tax Exempt:			Special Tax Recapture:						
Exempt Class:			AGRICULTURAL TRANSFER TAX						



Zoning Special Use Application

**OF
Proposed Hampstead Solar Site
19620 Resh Mill Road
Hampstead, Maryland**

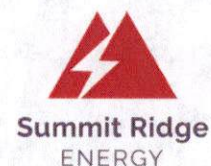
October 30, 2018

Prepared by:



Tetra Tech, Inc.
1200 Scottsville Road, Bldg. C, Suite 181
Rochester, NY 14624
Phone: (585) 417-4007

Prepared for:



ICFTS MD Solar, LLC
1401 Wilson Blvd., Suite 800
Arlington, VA 22201

ZONING SPECIAL USE APPLICATION
Proposed Hampstead Solar Site
Hampstead, Baltimore County, Maryland

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ATTACHMENT A – SITE LOCATION MAP

ATTACHMENT B – SITE PLAN

ATTACHMENT C – LEASE AND EASEMENTS

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ATTACHMENT E – OPERATION & MAINTENANCE PLAN

ATTACHMENT F – SITE EQUIPMENT MANUFACTURER SPECIFICATIONS

ATTACHMENT G – GLARE ANALYSIS

ATTACHMENT H – FEDERAL AVIATION ADMINISTRATION SCREEN

ATTACHMENT I – VEGETATIVE MAINTENANCE PLAN

ATTACHMENT J – DECOMMISSIONING PLAN

1.0 PROJECT OVERVIEW

ICFTS MD Solar, LLC (Summit Ridge) is seeking a Zoning Special Use Permit and Site Plan approval for the construction of the Hampstead Solar approximately 850-kilowatt (kW) alternating current (AC) Photovoltaic (PV) Array located at 19620 Resh Mill Road, Hampstead, Maryland (hereafter referred to as the “Site”). Summit Ridge proposes the development of approximately 6.3 acres of a larger 20.5-acre parcel of private land in Hampstead, Baltimore County into a ground-mounted PV solar energy generating facility.

The proposed project would be capable of delivering approximately 850 kW of AC into the electrical power grid, which is sufficient to provide renewable energy to approximately 150 households. The PV panels proposed for this project are single-axis tracking panels that would be placed on a racking system that is pile driven into the ground surface. The solar panels will be directly interconnected to, and provide energy to, Baltimore Gas and Electric’s local electric distribution grid via an overhead electrical service. Prior to utility interconnection, direct current (DC) electrical power generated by the solar panels will be transformed to AC power and modified as necessary to connect to Baltimore Gas and Electric’s electrical power supply. The project would also include an equipment pad, a gravel access road, a vegetative soil cover, and it will be surrounded by a chain-linked security fence as per the applicable electric building codes and requirements.

The following sections address the Zoning Special Exception Permit/Solar Energy System Development Criteria cited in the Baltimore County, Maryland ordinance, regulating development of solar energy systems (Ordinance Part 4F), The Baltimore County Code Section 33-3-108, and the Zoning Checklist for Non-Residential Permits and/or Zoning Public Hearing Applications.

2.0 *SITE DESCRIPTION*

The Site, located at 19620 Resh Mill Road, Maryland, consists of one tax parcel assigned Tax PIN number 0503047700, totaling an area of approximately 20.5 acres. According to Baltimore County Zoning Maps, the parcel is zoned RC-2 for agricultural use. According to Baltimore County Tax Information, the parcel is located along the Baltimore County line in Hampstead, Maryland and west of the Prettyboy Reservoir. The Site is bounded by residential structures, undeveloped land and Resh Mill Road to the north; Grave Run Road, undeveloped land and residential structures to the east; residential structures and undeveloped land to the south; and undeveloped land to the west. The Prettyboy Reservoir is located approximately two miles east of the Site.

A map showing the location of the Site and adjacent land use is presented in *Attachment A*; A Site plan showing the physical layout is presented in *Attachment B*; A copy of the Lease Agreement is presented in *Attachment C*.

ZONING SPECIAL USE APPLICATION
Proposed Hampstead Solar Site
Hampstead, Baltimore County, Maryland

3.0 COMMUNITY CHARACTER AND SURROUNDING LAND USE

The general area around the Site consists of residential and agricultural development. The portions of the property which are not proposed for solar development are anticipated to be continued to be used as a residential property. The Site is located within a rural area on the western perimeter of Baltimore County. The Site is bounded by residential structures, undeveloped land and Resh Mill Road to the north; Grave Run Road, undeveloped land and residential structures to the east; residential structures and undeveloped land to the south; and undeveloped land to the west.

Table 3-1 Adjacent Properties and Addresses

Tax Account No.	Street Address	Owner	Zoning
1700003332	19646 Resh Mill Road	Samuel M. Farley	RC-2
2100010864	19638 Resh Mill Road	Samuel M. Farley	RC-2
2200028693	Resh Mill Road	Ronald E. Hann	RC-2
1700012508	19600 Grave Run Road	Ronald E. Hann	RC-2
1900003518	19531 Resh Mill Road	Robert E. Smith	RC-2
1600003947	19530 Resh Mill Road	Ronald L. Long	RC-2
2000011078	19521 Grave Run Road	Leslie Chelton	RC-8
2300002779	19408 Grave Run Road	James M. Hairfield	RC-2
1600013340	19406 Grave Run Road	Paul C. Godwin	RC-2
0708023581	3195 Falls Road	Thomas D. King	unknown
0708023573	3197 Falls Road	Robert K. Hubley Sr.	unknown
0708023468	3390 Resh Mill Road	Louis J. Abel	unknown

The installation and operation of a solar facility is consistent with the Baltimore County Comprehensive Plan's (BCCP) goal of encouraging the responsible use of natural resources to meet current needs without degrading the supply and quality of those resources for the future. A specific policy identified in that regard is to continue to adapt to and mitigate impacts of climate change on the environment (BCCP Sustainable Environment).

The proposed project is harmonious with the existing zoning of nearby parcels, will not depreciate or alter those properties' essential character, and presents no conflict with residentially zoned areas of the County. The BCZR (Section 502 Special Exceptions) outlines nine points that determine the nature of consistency between a proposed Special Use and the surrounding area. The standards are represented as follows:

The proposed Special Use shall not be detrimental to the health, safety, or general welfare of the area.

ZONING SPECIAL USE APPLICATION
Proposed Hampstead Solar Site
Hampstead, Baltimore County, Maryland

The proposed project is intended to provide a clean source of green energy into the local electrical power grid. Baltimore County, as well as the State of Maryland have regulations in place to ensure the security of solar facilities including the requirements for perimeter fencing and monitoring. To deter theft, a security fence with barbed wire has been proposed to both deter crime and protect the community. The project is set off the road, with existing vegetative buffers along Grave Run Road to the east, the southern property boundary, the western property boundary and the majority of the northern boundary.

According to the U.S. Department of Energy, few power-generating technologies have as little environmental impact as PV solar panels. The solar panels proposed for this project are made of crystalline silicon, typically from quartz or sand. Crystalline silicon semiconductors are also utilized in the manufacture of integrated circuits and microchips used in personal computers, cellular telephones and other modern electronics.

The outer glass cover constitutes the largest share of the total mass of a finished crystalline photovoltaic module, followed by the aluminum frame, the ethylene vinyl acetate encapsulant, the polyvinyl fluoride substrate, and the junction box. The solar cells themselves only represent about four percent of the mass of a finished module.

Additional materials proposed for the project consist of steel for the panel support (racking) system, powder-coated aluminum for the inverters, a crushed gravel access road, and a standard chain-link security fence pursuant to applicable electrical codes. Additional information on the specifications for the proposed equipment are located in Section 5.0.

The proposed Special Use shall not create congestion in roads, streets, or alleys.

Traffic impacts are generally limited to the project construction period, which is estimated to last approximately 3 to 4 months. Once the facility is operational, traffic is typically limited to less than 10 visits per year to monitor operation, provide maintenance/repair, and maintain vegetation, as necessary.

The proposed Special Use shall not create a potential hazard from fire, panic, or other dangers.

The proposed solar arrays are designed to withstand extreme weather conditions. The risk of a fire associated with electrical equipment is no greater than regular substations. Coordination with emergency services is an important part of any Site development process and this coordination will be conducted as part of Baltimore County Building Permit application process. Local emergency services will be provided with notification that the Site is undergoing review and invited to visit the Site property. Equipment specifications will be provided to responders during the building permit application and implementation process.

The proposed Special Use shall not overcrowd land and cause an undue concentration of population.

The proposed project will be located on approximately 6.3 acres of a larger 20.5-acre parcel of private land. Solar projects of this type are quiet, low-profile and don't contribute to an increase in population or traffic.

The proposed Special Use shall not interfere with adequate provisions for schools, parks, water, sewerage, transportation, or other public requirements, conveniences, or improvements.

The proposed project is not expected to incur public expenses for emergency response or other community provisions. Once constructed, the Site will operate without personnel except for site maintenance outlined in the *Vegetative Maintenance Plan (Section 8.0)* and *Operation and Maintenance Plan (Section 9.0)*. Operation of the Site will not require the use of public utilities such as water or sewerage.

The proposed Special Use shall not impair an adequate supply of light and air to adjacent properties.

The proposed solar arrays will not provide shade nor restricted airflow to the surrounding properties. The proposed array panels will not exceed seven feet above ground surface and will be constructed with approximately 18 feet between panel rows to allow sufficient wind passage and the project is approximately 300 feet from the nearest off-site residence.

The proposed Special Use shall not be inconsistent with the spirit and intent of the BCZR.

The proposed solar facility is consistent with the County's intent to permit solar facilities in parts of the rural and commercial areas in a way that balances the benefits of solar energy production with the need to protect the community, agricultural land, forests, waterways and other natural resources. As cited in BCZR Article 4F-101A - Solar Facilities, "Solar energy is recognized as an abundant, renewable, and environmentally sustainable source of electricity generation that will lead to greater local grid resiliency and security, and produce clean, renewable energy and reduce air and water pollution caused by the burning of traditional fossil fuels".

The proposed Special Use shall not be inconsistent with the impermeable surface and vegetative provisions of the BCZR.

The project will be developed in a manner consistent with the BCZR and the Prettyboy Reservoir Watershed Restoration Action Strategy dated January 4, 2018. A Stormwater Pollution Prevention Plan (SWPPP) for the Site will be submitted as required by the County during the building permit process. The SWPPP will include stormwater controls that attenuate runoff generated during 1-, 10-, and 100-year 24-hour rainfall events so that the peak flow at design points on site will not exceed the flow that existed prior to development of the Project. Stormwater is expected to flow off the array panels and infiltrate into surface soils on the Site, not effecting the storm water runoff

ZONING SPECIAL USE APPLICATION
Proposed Hampstead Solar Site
Hampstead, Baltimore County, Maryland

patterns of the surrounding properties. Any site restoration activities required in the SWPPP will include a requirement that use of invasive species is prohibited. Once the project is completed the anticipated storm water runoff will be less than the existing agricultural and residential use of the property.

The proposed Special Use shall not be detrimental to the environmental and natural resources of the Site and vicinity including forests, streams, wetlands, aquifers, and floodplains.

One of the first steps in determining the viability of a potential project location is to screen the property for environmental factors such as soil depth and character, wetlands, waterbodies, endangered/protected species, flood plains and archeological resources. Additionally, the property is screened for community character, local zoning ordinances, visual impact, and glare. As a part of this screening process, numerous Federal, State, and local agencies are consulted for information on the proposed location. Additional information regarding the various agency consultations can be found in Section 4 and Section 5, below.

4.0 NATURAL AND CULTURAL RESOURCES

4.1 Threatened and Endangered Species

Targeted Ecological Areas

Tetra Tech, on behalf of Summit Ridge, reviewed the Baltimore County Geographic Information System's Targeted Ecological Areas (TEA) for the proposed site location. TEAs are defined as lands and watersheds of high ecological value that have been identified as conservation priorities by the Maryland Department of Natural Resources (DNR) for natural resource protection. These areas represent the most ecologically valuable areas in the State. The review concluded that there is no record of State listed TEAs in the vicinity of the Site.

State of Maryland Listed Threatened and Endangered Species

There are 36 listed wildlife species known to occur within Baltimore County. Desktop analysis of land cover data and aerial imagery suggest that 33 of the 36 listed species are unlikely to occur within the Project Site due to lack of adequate on-site or adjacent habitat. Northern harrier, sharp-shinned hawk, and loggerhead shrike could potentially utilize portions of the Site as foraging habitat.

There are 146 state-listed and 1 federally-listed threatened or endangered plants known to occur in Baltimore County. The probability of these species occurring within the Site is low considering that the majority of the Site is has been developed providing little to no undisturbed natural habitat.

Federal Listed Threatened and Endangered Species

Tetra Tech submitted a consultation request to the United States Department of the Interior Fish and Wildlife Service (USFWS) on October 24, 2018. The USFWS responded that there is one threatened species of mammals or plants present in the vicinity of the project Site (Attachment D), the bog turtle (*Clemmys muhlenbergii*). The bog turtle typically prefers wetlands, bogs, marches, and other habitats that provide soft, deep mud used as shelter from predators. The probability of these species occurring within the Site is low considering that the majority of the Site is has been developed providing little to no undisturbed natural habitat. As the project will be primarily located on active agricultural land, it will have no significant impacts on fish, wildlife, animal or plant species or habitats, and will not degrade natural resources or ecosystems. Additional information is provided in Table 4.1, below.

Table 4.1. Potential Federal & State Listed Wildlife Species within in the Project Area¹

English Name	Scientific Name	Federal State Status ²	Species-Habitat Associations	Habitat Present in Project Vicinity	Likelihood of Occurrence ⁴
Northern Harrier	<i>Circus cyaneus</i>	SI	Found in large open areas including marshes, grasslands, and meadows. Foraging range is typically 12 to 15 miles/day but may be up to up to 100 miles/day.	Foraging habitat	Moderate
Sharp-shinned Hawk	<i>Nyctanassa violacea</i>		Found in forests and forest edges, can be found where trees are scarce or scattered during migration. Breed mainly in large stands of deciduous, coniferous, and mixed pine-hardwood forests and pine plantations. Known to forage on songbirds near houses and birdfeeders	Breeding Foraging habitat	Low
Loggerhead Shrike	<i>Lanius ludovicianus</i>	SE	Found in agricultural fields, pastures, and cemeteries. Often seen along mowed roadsides with access to fence lines and utility poles.	Foraging habitat	Low

1. Triangle Floater (*Alasmidonta undulata*), Brook Floater (*Alasmidonta varicosa*), Upland Sandpiper (*Bartramia longicauda*), American Bittern (*Botaurus lentiginosus*), Northern Barrens Tiger Beetle (*Cicindela patruela*), Splendid Tiger Beetle (*Cicindela splendida*), Brown Spiketail (*Cordulegaster bilineata*), Alder Flycatcher (*Empidonax alnorum*), Atlantic Bluethroat (*Enallagma doubledayi*), Mottled Duskywing (*Erynnis martialis*), Bog Turtle (*Glyptemys muhlenbergii*), Rapids Clubtail (*Gomphus quadricolor*), Northern Map Turtle (*Graptemys geographica*), Bald Eagle (*Haliaeetus leucocephalus*), Least Bittern (*Ixobrychus exilis*), Eastern Lampmussel (*Lampsilis radiata*), Black Rail (*Laterallus jamaicensis*), Yellow-sided Skimmer (*Libellula flavida*), Eastern Sedge Barrens Leafhopper (*Limotettix minuendus*), Hooded Merganser (*Lophodytes cucullatus*), Yellow-crowned Night-Heron (*Nyctanassa violacea*), Appalachian Snaketail (*Ophiogomphus incurvatus incurvatus*), Pied-billed Grebe (*Podilymbus podiceps*), Edwards' Hairstreak (*Satyrrium edwardsii*), Northern Oak Hairstreak (*Satyrrium favonius ontario*), Smoky Shrew (*Sorex fumeus*), Southern Pygmy Shrew (*Sorex hoyi winnemana*), A Hydrophilid Beetle (*Sperchopsis tessellatus*), Regal Fritillary (*Speyeria idalia*), Least Tern (*Sternula antillarum*), Pizzini's Cave Amphipod (*Stygobromus pizzinii*), Slender Amphipod (*Stygobromus tenuis tenuis*), and Laura's Clubtail (*Stylurus laurae*) are also documented in the County but are not likely to occur on Project Site due to lack of suitable habitat.

2. FE = Federal Endangered, SE = State Endangered, ST = State Threatened, SI = State In Need of Conservation.

3. S1 = Highly State Rare, S2 = State Rare, S3 = Watchlist, S4 = Apparently Secure, B = Breeding Rank.

Likelihood of Occurrence: Low– species range overlaps with Project Site and marginally suitable habitat in Project vicinity; Moderate– species range overlaps with Project Site and suitable habitat present in Project Site, or species known to occur in habitat similar to Project Site; High– highly suitable habitat present in Project Site, or known populations exist in Project vicinity.

4.2 Cultural Resources

The Baltimore County Historic Preservation online mapping system revealed that the project area is not located within an area designated as sensitive for archaeological sites. In addition, Tetra Tech Tetra Tech, on behalf of Summit Ridge, reviewed the National Register of Historic Places (NRHP) database for previously recorded cultural resources investigations, archaeological sites, historic structures, and historic properties listed within the proposed project site. The background research did not identify the presence of cultural resources on the Site.

5.0 OPERATION AND MAINTENANCE CONSIDERATIONS

Photovoltaic solar facilities of this size are typically considered to be fairly low-maintenance. However, routine O&M services will be done per industry codes and manufacturer's specifications, ensuring the equipment is operating safely and efficiently. The system will be continuously monitored such that unexpected problems can be addressed immediately. An Operation & Maintenance Plan (O&M) is included as *Attachment E* and Manufacturer Specifications for Site Equipment is provided as *Attachment F*.

5.1 Utility Interconnection

In general, the greatest challenge in siting economically viable solar generating facilities is associated with utility interconnection capacity and requirements. Summit Ridge has been working in close coordination with the local utility provider (Baltimore Gas and Electric) and an interconnection evaluation request has been submitted.

5.2 Traffic Impacts

Traffic impacts are generally limited to the project construction period, which is estimated to last approximately three to four months. Once the facility is operational, traffic is typically limited to less than 10 visits per year to monitor operation, provide maintenance/repair, and maintain vegetation, as necessary.

Dust may be generated during the construction process, but it will be temporary in nature. Driveway construction and revegetation of the disturbed portions of the Site will minimize any dust impacts during the facility's operation. The long-term dust generation from the Site will be less than the current agricultural use of the Site since the area will remain vegetated on a year around basis. Maintaining a year-around vegetated area may also reduce soil erosion and sedimentation of nearby existing storm water control features, streams and water bodies.

5.3 Noise

There may be some noise associated with facility construction – truck entry/exit, earthmoving equipment, etc. – but it is expected to be temporary in duration and limited to normal working hours.

The solar collection panels themselves are quiet. The greatest potential source of noise is anticipated to be the power inverters at the Site. The power inverters will be located within the array of solar panels and more than 200 feet from the nearest off-site residential receptor and commercial receptors. Noise levels at a typical inverter will be approximately 55 decibels at a

distance of three feet and the noise will dissipate quickly as distance from the inverter increases. As a point of comparison, engaging in normal face-to-face conversation generates a noise level of approximately 60 decibels, and typical city traffic inside of a car has a noise level of approximately 80 decibels (Center for Disease Control and Prevention, 2017). At a distance of 40 feet, which is much closer than the nearest receptors, the inverter's noise level calculates to approximately 35 decibels, which is comparable to a soft whisper. Thus, noise impacts from the facility's operation are expected to be insignificant.

5.4 Solid Waste

Some minor amount of solid waste generation may occur during the construction process, but it will be disposed of offsite at an appropriate location. Once operational, the facility will not generate an appreciable amount of solid waste.

5.5 Odors

There are no odors generated by the facility's equipment. Odors generated by construction equipment during the construction process will be minor and temporary in nature.

5.6 Glare

With growing numbers of solar energy systems being proposed and installed throughout the United States, the potential impact of glint and glare from photovoltaic modules is receiving increased attention. GlareGauge, the program procured for the glare analysis, is a service distributed by ForgeSolar that uses the SGHT developed by Sandia National Laboratories.

Sandia developed SGHAT v. 3.0, a web-based tool and methodology to evaluate potential glint/glare hazards associated with solar energy installations. The validated tool provides a quantified assessment of when and where glare will occur, as well as information about potential ocular impacts. The tool can also be used for design optimization (tilt and orientation) to evaluate alternative configurations, orientations, and locations of solar installations that not only mitigate the impacts of glint/glare, but also optimize energy production (Sandia Laboratories, 2016).

The SGHAT (GlareGauge) was utilized to evaluate the potential for glare at several locations along nearby roads, residences, and commercial facilities. The panels to be used on the proposed project site are smooth glass surface material with an anti-reflection coating (ARC), which is noted in the glare analysis. The panels will be on an east-facing, single axis tracking array with an approximate height not to exceed seven feet from the ground surface. The panels will have a maximum 60-degree tilt. Two separate glare analyses were conducted for a panel height of seven feet (maximum height) with applicable panel specifications. One analysis was run to simulate a driver's height

above the ground in a standard automobile or in a first-floor building at five feet and six feet respectively. A second analysis was run to simulate a driver's height above the ground in a commercial truck at nine feet or in a second-floor building at 16 feet. The SGHAT Report is included as *Attachment G*.

The Federal Aviation Administration (FAA) Notice Criteria Tool allows the user to determine if a proposed structure would require a formal submission to the FAA under CFR Title 14 Part 77.9 (Safe, Efficient Use, and Preservation of the Navigable Airspace). This online tool was utilized to determine if the proposed solar facility would require formal filing to the FAA. The FAA Notice Criteria Tool Report is included as *Appendix H*.

5.7 Fire Protection and Emergency Access

Coordination with emergency services is an important part of any Site development process and this coordination will be conducted as part of the building permit application process. Local emergency services will be provided with notification that the Site is undergoing review and invited to visit the Site property. Equipment specifications will be provided to responders during the building permit application and implementation process.

The following measures will be taken regarding response to potential emergencies at the proposed facility:

- Local emergency responders will be invited to tour the site during construction and after construction is completed. The site tour will agenda will include descriptions of the system components, emergency shut-down, system isolation, etc.;
- The facility will be provided with a 'Knox-Box' or other similar locking mechanism to provide Site access to emergency responders;
- Emergency telephone numbers will be posted on the perimeter fence;
- System components will be marked in order to provide emergency responders with appropriate warning and guidance with respect to isolating the electrical systems; and
- Site access road will be maintained to allow emergency vehicle access to the Site.

6.0 VEGETATIVE MAINTENANCE PLAN

Following construction of the solar facility, disturbed grounds will be re-established with a non-invasive species, grass seed mixture as ground cover on a year-round basis. The vegetative maintenance contractor will be responsible for inspecting and maintaining the vegetative integrity of the solar facility. The contractor will conduct onsite activities during growing months on an as-needed basis. The site maintenance frequency may be adjusted based on time of year and weather conditions. To avoid rutting, erosion, and soil compaction, weather forecasts will be consulted, and on-site field inspections will be conducted prior to mowing or cutting to ensure that these practices occur when the site is able to withstand this type of activity. Current agricultural practices on the Site remove the vegetation at the end of the growing season. The vegetative maintenance plan will ensure a vegetative ground cover on a year-round basis which will result in less dust and soil erosion than the current site use.

This scope of work covers work along the access road and within the fence line of the project. The full Site Operation and Vegetative Maintenance Plan is included as *Attachment I*.

7.0 DECOMMISSIONING PLAN

The Decommissioning Plan (the “Plan”) describes anticipated activities and process for decommissioning of the proposed facility following its useful life. The purpose of decommissioning is to restore the Site to its original condition for continued use by the landowner.

Decommissioning consists of the removal of above-ground and below-ground facility components, management of excess materials as well as the restoration of Project lands, as applicable. Decommissioning activities are expected to take two to four months to complete. The full Decommissioning Plan is included as *Attachment J*.

8.0 REFERENCES

Adolf Goetzberger and Volker Hoffman (2005). "Photovoltaic Solar Energy Generation." Springer, New York.

The Federal Aviation Administration (FAA) developed *Technical Guidance for Evaluating Selected Solar Technologies on Airports* in 2010

Fthenakis, V.M. (2003). Practical Handbook of Photovoltaics: Fundamentals and Applications: Overview of Potential Hazards. Available at http://www.bnl.gov/pv/files/pdf/art_170.pdf.

U.S. Dept. of Energy (2010). "Photovoltaic Basics." Available at http://www1.eere.energy.gov/solar/pv_basics.html.

Vasilis Fthenakis, Hyung Chul Kim and Erik Alsema (2008). "Emissions from Photovoltaic Life-Cycles." *Environmental Science and Technology* 2008 42 (6):2168-2174. Available at: <http://pubs.acs.org/doi/full/10.1021/es071763q>.

Pretty Reservoir Watershed Restoration Action Strategy (2008). Baltimore County Department of Environmental Protection and Resource Management in consultation with the Prettyboy Reservoir WRAS Steering Committee.

9.0 ATTACHMENTS

ATTACHMENT A – SITE LOCATION MAP

ATTACHMENT B – SITE PLAN

ATTACHMENT C – LEASE AND EASEMENTS

ATTACHMENT D – USFWS THREATENED AND ENDANGERED SPECIES

ATTACHMENT E – OPERATION & MAINTENANCE PLAN

ATTACHMENT F – SITE EQUIPMENT MANUFACTURER SPECIFICATIONS

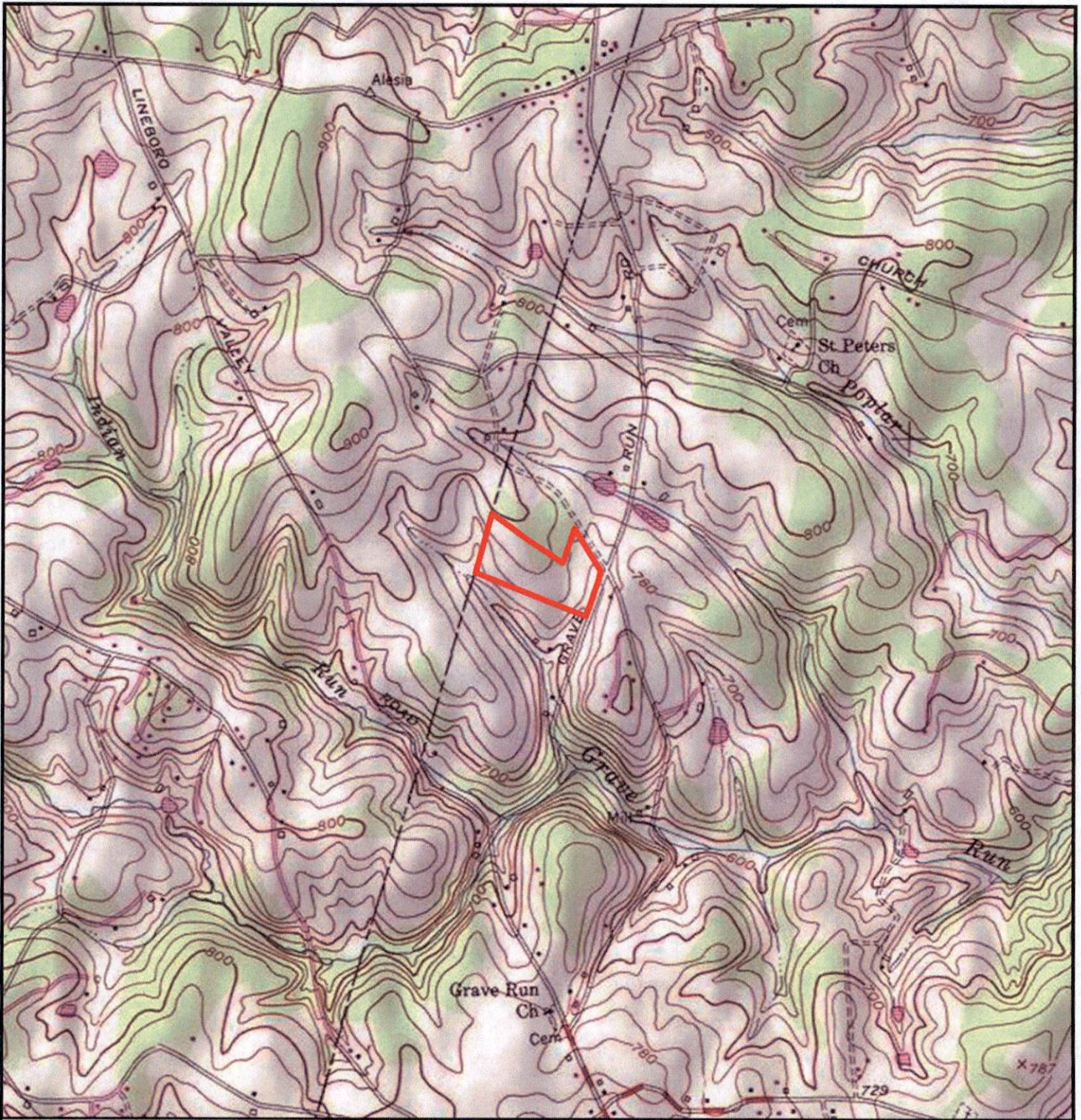
ATTACHMENT G – GLARE ANALYSIS

ATTACHMENT H – FEDERAL AVIATION ADMINISTRATION SCREEN

ATTACHMENT I – VEGETATIVE MAINTENANCE PLAN

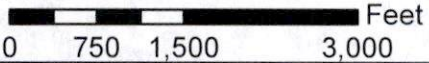
ATTACHMENT J – DECOMMISSIONING PLAN

ATTACHMENT A
SITE LOCATION MAP



Legend

 Approximate property boundary

Approximate Scale:
 Feet



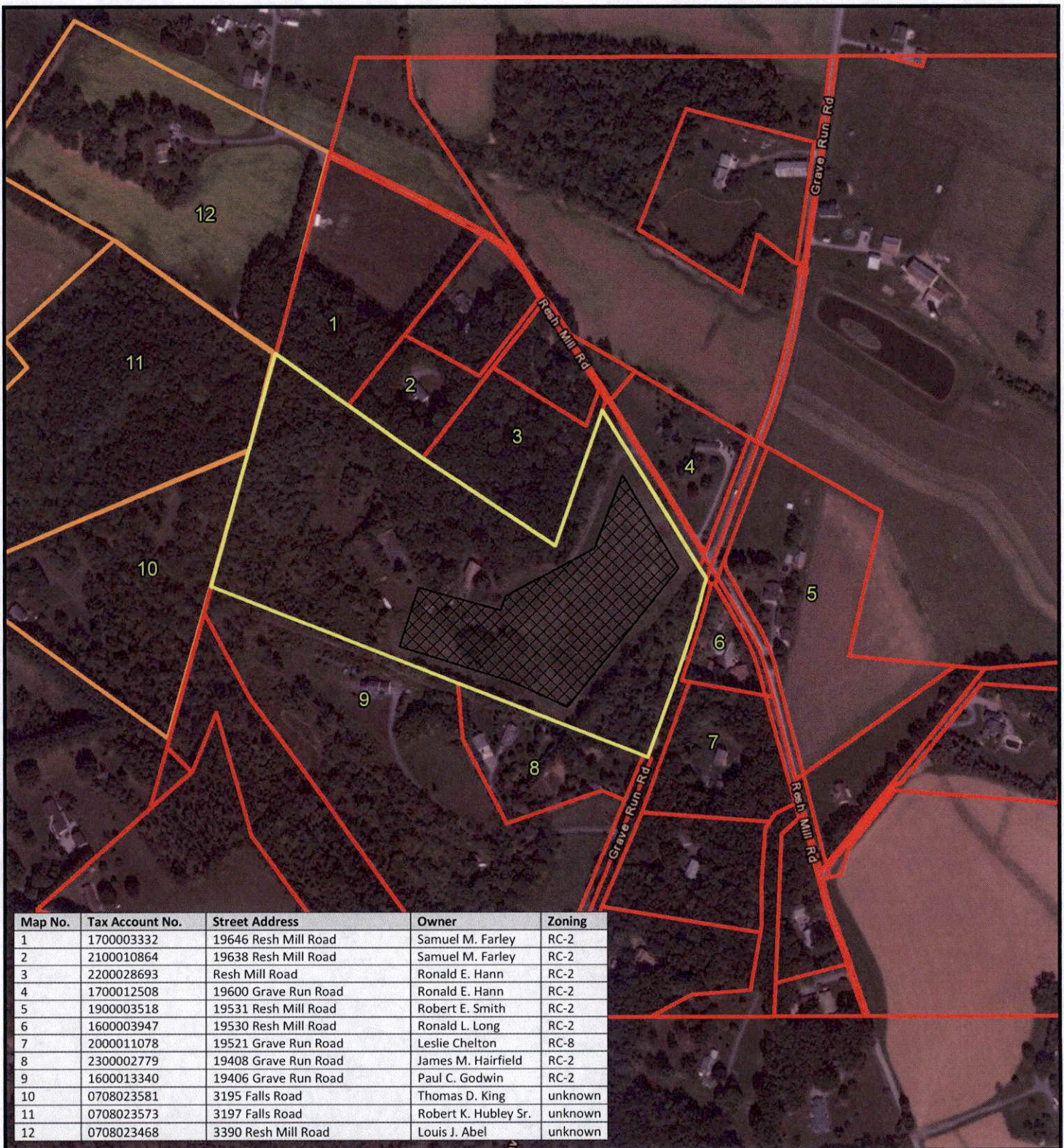
TETRA TECH



Summit Ridge
ENERGY

Attachment 1
Project Location
Hampstead Solar

19620 Resh Mill Road
Reisterstown, MD



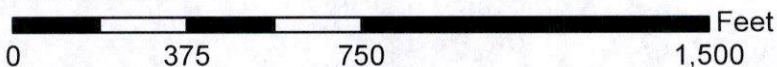
Map No.	Tax Account No.	Street Address	Owner	Zoning
1	1700003332	19646 Resh Mill Road	Samuel M. Farley	RC-2
2	2100010864	19638 Resh Mill Road	Samuel M. Farley	RC-2
3	2200028693	Resh Mill Road	Ronald E. Hann	RC-2
4	1700012508	19600 Grave Run Road	Ronald E. Hann	RC-2
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11	0708023573	3197 Falls Road	Robert K. Hubley Sr.	unknown
12	0708023468	3390 Resh Mill Road	Louis J. Abel	unknown

Legend

*Proposed project parcel located in Council District 3 and Election District 05

- Approximate project parcel boundary (zoned RC-2)
- Approximate Carroll County parcels
- Approximate surrounding property parcels
- Approximate project area

Approximate scale:



TETRA TECH



Surrounding Properties
Hampstead Solar Project

19620 Resh Mill Road
Reisterstown, MD 21136

Service Layer Credits: Esri, HERE, Garmin, © OpenStreetMap contributors

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Mason County GIS data (<http://www.masoncountyil.org/assessment.htm>)

ATTACHMENT B

SITE PLAN

ATTACHMENT C
LEASE AND EASEMENTS

ATTACHMENT D

USFWS THREATENED AND ENDANGERED SPECIES



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127

<http://www.fws.gov/chesapeakebay/>
<http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html>

In Reply Refer To:

October 24, 2018

Consultation Code: 05E2CB00-2019-SLI-0183

Event Code: 05E2CB00-2019-E-00415

Project Name: Hampstead Solar

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office

177 Admiral Cochrane Drive

Annapolis, MD 21401-7307

(410) 573-4599

Project Summary

Consultation Code: 05E2CB00-2019-SLI-0183

Event Code: 05E2CB00-2019-E-00415

Project Name: Hampstead Solar

Project Type: SPECIAL USE PERMIT

Project Description: Tetra Tech, Inc. on behalf of SRE Solar Origination 1 LLC is initiating consultation with the USFWS to determine potential impacts to federally-listed threatened and endangered species for a proposed commercial solar facility.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/39.6623880930815N76.8051368551134W>



Counties: Baltimore, MD

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Reptiles

NAME	STATUS
Bog Turtle <i>Clemmys muhlenbergii</i> Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6962	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

REFUGE INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED.
PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

ATTACHMENT E
OPERATION & MAINTENANCE PLAN

SCOPE OF MAINTENANCE SERVICES

During the term, Provider shall provide the services at the frequency indicated below, in accordance with the terms and conditions of this Agreement (as set forth in further detail below). It is expected that Provider shall exert best efforts to note items of concern outside the scope of scheduled visits; inspecting and assessing items that seem to be problematic even if not part of the scheduled visits and later discussing with the owner to seek remedy.

Item #	Service	Service Description	Frequency
1. Monitoring, Reporting, and Inventory			
1.1	Active Site Monitoring	Monitor inverters and meter output data for issues and alarms.	Daily
1.2	Annual Maintenance Plan	Provision of Annual Maintenance Plan, including baseline schedule for all maintenance services contemplated to occur in such year	Annually, by November 1 of each calendar year during the Term
1.3	Monthly Reporting	Provide monthly operating report for the projects including a summary of (i) operations; (ii) weather data, power and environmental attributes; (iii) Project performance; (iv) reports of any environmental or site disturbances; (v) safety/accident reports; (vi) Non-Covered Services; (vii) maintenance and inspection reporting; and (viii) any scheduled or recommended maintenance for the upcoming month.	Monthly, by the 15th day of the following month
1.4	Annual Reporting	Provide annual maintenance/inspection reports for the Project for the preceding calendar year	Annually, by February 1 of each calendar year during the Term
1.5	Emergency Services and Incident Reporting	Provide written report (in .pdf format) on any event involving Emergency Services, personnel injury associated with the Projects, or material damage to any Project or any part thereof.	No later than five (5) business days after the occurrence, or immediately for OSHA recordable events, but no later than 24 hours after obtaining knowledge of the event.
1.6	Security Incident Reporting	Notify Project Owner following provider receiving information indicative of a security issue on site	Immediately, but no later than 24 hours after obtaining

Item #	Service	Service Description	Frequency
			knowledge of the event.
1.7	Maintain Spare Parts	Store, maintain, and replenish spare parts inventory at Project Owner's expense. Inventory will be stored, at Provider's option either on-site in an O&M storage structure or off-site at a centralized storage facility or warehouse.	As Needed
2. Site Property Inspection/Maintenance			
2.1	Vegetation Management	Maintain vegetation and debris removal/control and landscaping, for all property within the fence line and all property immediately surrounding fencing (within reason), specifically ensuring vegetation does not encroach on modules.	2 X per year, maximum
2.2	Perimeter and Fence Inspection	Inspect all fencing for signs of damage, intrusion, and overgrowth of vegetation. Inspect signage to ensure all originally installed signs are present and legible	2 X per year
2.3	Roads	Inspect all roads for soil erosion concerns	2 X per year
2.4	Site Security Systems	Inspect security systems (if installed) for proper operation according to original security plan and design. Inspect entire site for general vandalism or other signs of security related issues.	2 X per year
3. DC Systems			
3.1	Racking Inspection	Inspect all racking, racking mounts and conduits on racking for damage, corrosion, settling and stability	1 X per year
3.2	Module Inspections	Visually inspect a 25% sampling of modules for soiling, breakage, delamination, discoloring and hot spots (only via aerial thermal audits). Inspections may be done either on the ground or via aerial visual analysis and aerial thermal imaging. If systemic issues are identified, notify Project Owner and propose a corrective action plan to be implemented as needed.	1 X per year
3.3	Broken Module Replacement	Replace modules that have previously been identified as broken (within reason), or identified as broken at the time of inspection. The cost of replacement modules (either for immediate use or to replenish spare parts) will be paid for by the Project Owner as needed. The procurement of replacement modules is conditional to Project Owner approval.	As Needed
3.4	Wire Inspection	Visually inspect for proper wire management and any possible damage on exposed conductors.	2 X per year

Item #	Service	Service Description	Frequency
3.5	Combiner Box and Re-Combiner Inspections	Electrical/mechanical inspection of combiners & disconnects. Visually inspect bonding bushings and grounding, check for wire damage especially at entrance/exit locations, terminal corrosion, any discoloration, and inspect fuses for proper functionality. Remove insects/pest debris from all enclosures.	2 X per year
3.6	Combiner Box and Re-Combiner Torque Inspections	Confirm and correct terminal torque settings for both sides of all fuse holders, grounded (negative) terminal bar, grounding bar, PV output circuit and DC Disconnects.	1 X per year
4. AC Systems			
4.1	Inverters	Perform annual inverter preventative maintenance work for all inverters per manufacturer's recommendations and manufacturer's warranty requirements.	Per Manufacturer's Recommendations and Manufacturer's Warranty Requirements
4.2	Inverter Air Filters and Transformer heat sinks	Inspect inverter air-filters and heat sinks, and clean or replace air filters if necessary.	2 X per year or Per Manufacturers Recommendations, whichever is more frequent.
4.3	Transformers	Visually inspect and clean all transformers per manufacturer recommendations, including but not limited to oil level measurement and clearing heat sink of debris.	1 X per year
4.4	AC Disconnect (if applicable)	Inspection of latches and seals on enclosure, verify proper operation of disconnect, visually inspect terminations and confirm and correct terminal torque settings. Check for signs of arcing.	1 X per year
5. DAS/SCADA Inspections			
5.1	General DAS Inspection	Perform monitoring system maintenance per manufacturer's specifications; verify orientation and attachment of pyranometers and module temperature sensors and MET station, and verify back up power supply functionality.	1 X per year
5.2	Pyranometers	Clean pyranometer domes with a soft cloth.	All scheduled & unscheduled site visits

Item #	Service	Service Description	Frequency
5.3	Pyranometer Calibration	Coordinate with Project Owner to cause calibration of pyranometers per manufacturer's specifications.	Per manufacturer specifications
5.4	Data/Instrument Accuracy and Communications Verification	Test MET station sensors (GHI and POA pyranometers, ambient temperature, back-of-module, anemometer, Revenue Grade Meter (including current transducers), and inverter direct	1 X per year
6. Testing			
6.1	Aerial Thermal Audits	100% Aerial Thermal Audits	1 X per year
6.2	Thermal Imaging	Thermal imaging of all: overcurrent protection devices (OCPD) and bolted electrical connections including terminations in combiners and all disconnects, inverters and transformers	1 X per year
6.3	Transformer Oil Testing	Conduct transformer oil sampling and testing per nationally and/or internationally recognized testing standards	1 X per two years
6.4	Point-to-Point Testing	For 5% random sampling of combiner boxes, inspect grounding from modules & rack to combiners for wear, corrosion, and secure connections, and test the point-to-point resistance between modules, rack and EGC per NETA-ATS 2013 Section 7.13; document location, measure resistance and record results. Investigate point-to-point resistance readings that exceed 0.5 ohms. Notify Project Owner of any issues identified and propose a corrective action plan to be implemented as needed.	1 X per year

ATTACHMENT F

SITE EQUIPMENT MANUFACTURER SPECIFICATIONS

powered by

Q.ANTUM

Q.PLUS L-G4.2 340-355

Q.ANTUM SOLAR MODULE

The Q.ANTUM solar module Q.PLUS L-G4.2 with power classes up to 355 Wp is the strongest module of its type on the market globally. Powered by 72 Q CELLS solar cells Q.PLUS L-G4.2 was specially designed for large solar power plants to reduce BOS costs. Only Q CELLS offers German engineering quality with our unique triple Yield Security.



LOW ELECTRICITY GENERATION COSTS

Higher yield per surface area and lower BOS costs thanks to higher power classes and an efficiency rate of up to 18.1 %.



INNOVATIVE ALL-WEATHER TECHNOLOGY

Optimal yields, whatever the weather with excellent low-light and temperature behavior.



ENDURING HIGH PERFORMANCE

Long-term yield security with Anti-PID Technology¹, Hot-Spot-Protect and Traceable Quality Tra.Q™.



EXTREME WEATHER RATING

High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (2400 Pa).



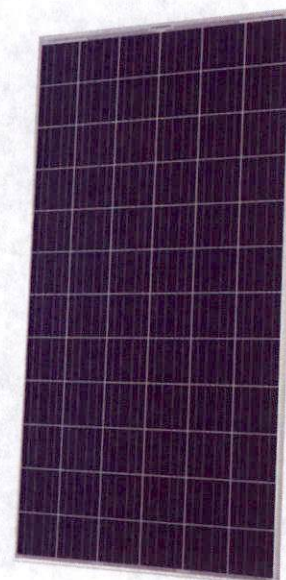
A RELIABLE INVESTMENT

Inclusive 12-year product warranty and 25-year linear performance guarantee².

THE IDEAL SOLUTION FOR:



Ground-mounted
solar power plants



¹ APT test conditions: Cells at -1500 V against grounded, with conductive metal foil covered module surface, 25 °C, 168 h

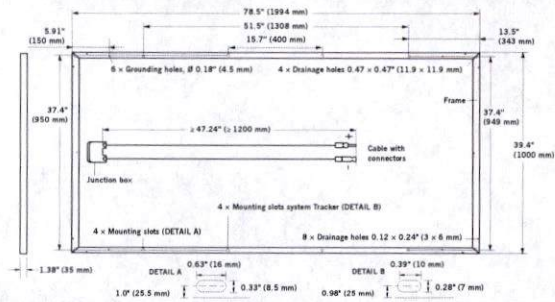
² See data sheet on rear for further information.

Engineered in **Germany**

Q CELLS

MECHANICAL SPECIFICATION

Format	78.5 in × 39.4 in × 1.38 in (including frame) (1994 mm × 1000 mm × 35 mm)
Weight	52.9 lbs (24 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Anodized aluminum
Cell	6 × 12 Q.ANTUM solar cells
Junction box	3.35-4.53 in × 2.36-3.15 in × 0.59-0.75 in (85-115 × 60-80 × 15-19 mm), Protection class ≥ IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥ 47.24 in (1200 mm), (-) ≥ 47.24 in (1200 mm)
Connector	MC4 or MC4-EVO 2, IP65 and IP68



ELECTRICAL CHARACTERISTICS

POWER CLASS			340	345	350	355
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5 W / -0 W)						
Minimum	Power at MPP ²	P _{MPP} [W]	340	345	350	355
	Short Circuit Current*	I _{SC} [A]	9.59	9.64	9.69	9.74
	Open Circuit Voltage*	V _{OC} [V]	47.07	47.46	47.71	47.97
	Current at MPP*	I _{MPP} [A]	9.03	9.09	9.15	9.21
	Voltage at MPP*	V _{MPP} [V]	37.63	37.93	38.23	38.52
	Efficiency ²	η [%]	≥ 17.1	≥ 17.3	≥ 17.6	≥ 17.8
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC ³						
Minimum	Power at MPP ²	P _{MPP} [W]	252.1	255.8	259.5	263.2
	Short Circuit Current*	I _{SC} [A]	7.73	7.77	7.81	7.85
	Open Circuit Voltage*	V _{OC} [V]	43.92	44.29	44.53	44.77
	Current at MPP*	I _{MPP} [A]	7.09	7.14	7.19	7.24
	Voltage at MPP*	V _{MPP} [V]	35.56	35.83	36.10	36.36

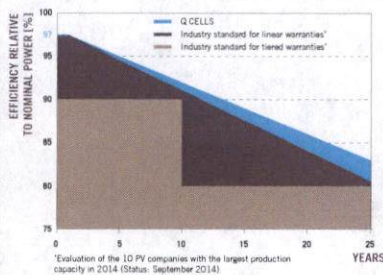
¹1000 W/m², 25 °C, spectrum AM 1.5 G

²Measurement tolerances STC ± 3%; NOC ± 5%

³800 W/m², NOCT, spectrum AM 1.5 G

*typical values, actual values may differ

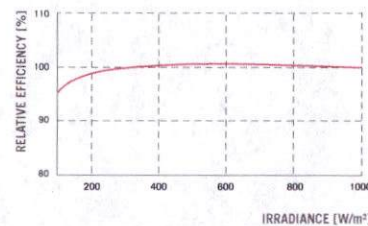
Q CELLS PERFORMANCE WARRANTY



At least 97 % of nominal power during first year. Thereafter max. 0.6 % degradation per year.
At least 92 % of nominal power up to 10 years.
At least 83 % of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Q CELLS sales organization of your respective country.

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I _{SC}	α	[%/K]	+0.04	Temperature Coefficient of V _{OC}	β	[%/K]	-0.29
Temperature Coefficient of P _{MPP}	γ	[%/K]	-0.40	Normal Operating Cell Temperature	NOCT	[°F]	113 ± 5.4 (45 ± 3 °C)

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V _{sys}	[V]	1500 (IEC) / 1500 (UL)	Safety Class	II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating	C (IEC) / TYPE 1 (UL)
Design load, push (UL) ²	[lbs/ft ²]	75 (3600 Pa)	Permitted module temperature on continuous duty	-40 °F up to +185 °F (-40 °C up to +85 °C)
Design load, pull (UL) ²	[lbs/ft ²]	33 (1600 Pa)	² safety factor of 1.5 included, see installation manual	

QUALIFICATIONS AND CERTIFICATES

IEC 61215 (Ed. 2); IEC 61730 (Ed. 1), Application class A



PACKAGING INFORMATION

Number of Modules per Pallet	29
Number of Pallets per 53' Container	26
Number of Pallets per 40' Container	22
Pallet Dimensions (L × W × H)	81.3 × 45.3 × 46.9 in (2065 × 1150 × 1190 mm)
Pallet Weight	1671 lbs (758 kg)

NOTE: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

Hanwha Q CELLS America Inc.

300 Spectrum Center Drive, Suite 1250, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL inquiry@us.q-cells.com | WEB www.q-cells.us

Engineered in Germany



SELF-POWERED CONTROLLER

COMPONENT DATA SHEET

CONTROL SYSTEM OVERVIEW

With over 5GW of solar trackers delivered on five continents, NEXTracker's NX Horizon™ is the world's leading single-axis tracker. NX Horizon includes a comprehensive communications and control system for maximum tracker accuracy and system reliability. This consists of three types of control units, all networked together via ZigBee® wireless mesh communications.

SELF-POWERED CONTROLLER

Our patent-pending Self-Powered Controller (SPC) is mounted on each tracker row and autonomously commands the tracker to follow the sun throughout the day. Tracker operation is derived from on-board GPS, clock, and inclinometer, ensuring superior tracking accuracy. The SPC is powered by a small, dedicated PV panel and includes a backup battery to eliminate the need for any tracker power wiring. All SPCs communicate over a ZigBee wireless mesh network for monitoring and global control functions.

NETWORK CONTROL UNIT

A Network Control Unit (NCU) aggregates communication and control for up to 100 SPCs via the same ZigBee network. Each NCU monitors real-time SPC parameters and issues global commands to its associated SPCs. During wind or snow events, stowing commands are generated and issued automatically based on real-time data from Weather Stations located

on-site. Manual operator-generated commands are available via local switches on the NCU.

Each NCU is accessible via a Modbus interface for SCADA integration. NCUs are typically located at inverter pads with other electrical equipment to easily connect to the required AC power. As with the SPCs, a battery backup is built into each NCU unit.

WEATHER STATION

A Weather Station measures real-time wind speed and snow depth and reports this data to the NCUs over the ZigBee network. When conditions warrant, the NCUs will propagate a stowing command out to their associated SPCs within seconds. Like the SPCs, each Weather Station is powered by a small, dedicated PV panel and includes a backup battery eliminating the need for power wiring. The quantity and location of Weather Stations is defined on a per project basis.

TRACKER CONTROLLER SPECIFICATIONS (GEN 2)

INPUT

Max PV Input Power	80W
Max PV Input Voltage	30V _{DC}
Maximum PV Input Current	3.5A
MPPT Voltage Range	16-27V
Battery Nom. Voltage/Range	14.5V/12-16V

OUTPUT

Rated Power	150W
Motor Voltage (Nominal / Range)	24V/0-24V
Motor Typical Operating Current	1.0-2.0A
Motor Peak Current	10A

COMMUNICATIONS

Interface to NCU	ZigBee (2.4GHz)
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OPERATING PERFORMANCE

Tracking Range	+/- 60 degrees
Standby Consumption	<0.5W

MECHANICAL

Enclosure Rating	NEMA 4X / IP65
Dimensions (LxWxD)	14"x8"x4"
Weight	<9 lbs.
Enclosure Material	Polymer
EMI Compliance	FCC Part 15 Subpart B EN 55022: 2010 AS/NZS CISPR
Safety Compliance	UL 3703 in USA

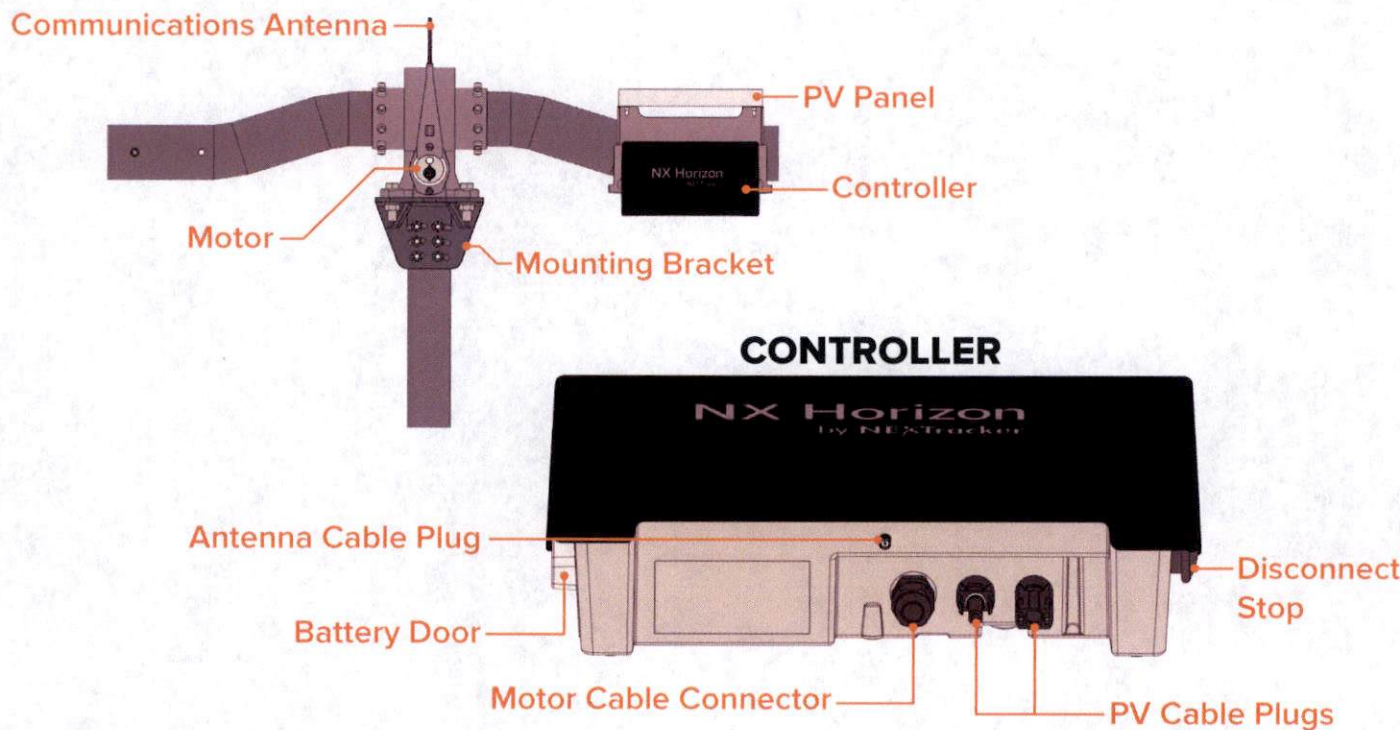
ENVIRONMENT

Operating Temperature	-30C to 60C
Storage Temperature	0C to 40C
Relative Humidity	0-95%

BACKUP BATTERY

Battery Technology	Lithium Ion
Expected Battery Life	10 years
Backup Storage Capacity	3 days

SELF-POWERED CONTROLLER



WEATHER STATION CONTROLLER SPECIFICATIONS

INPUT

Max PV Input Power	65W
Max PV Input Voltage	30V _{DC}
Maximum PV Input Current	3A
MPPT Voltage Range	10-25V
Battery Nom. Voltage/Range	14.5V/12-16V

COMMUNICATIONS

Interface to NCU	ZigBee (2.4GHz)
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WEATHER STATION SENSORS

Wind	NovaLynx Wind Sonic 65
Snow/Flood	NovaLynx 260-700

MECHANICAL

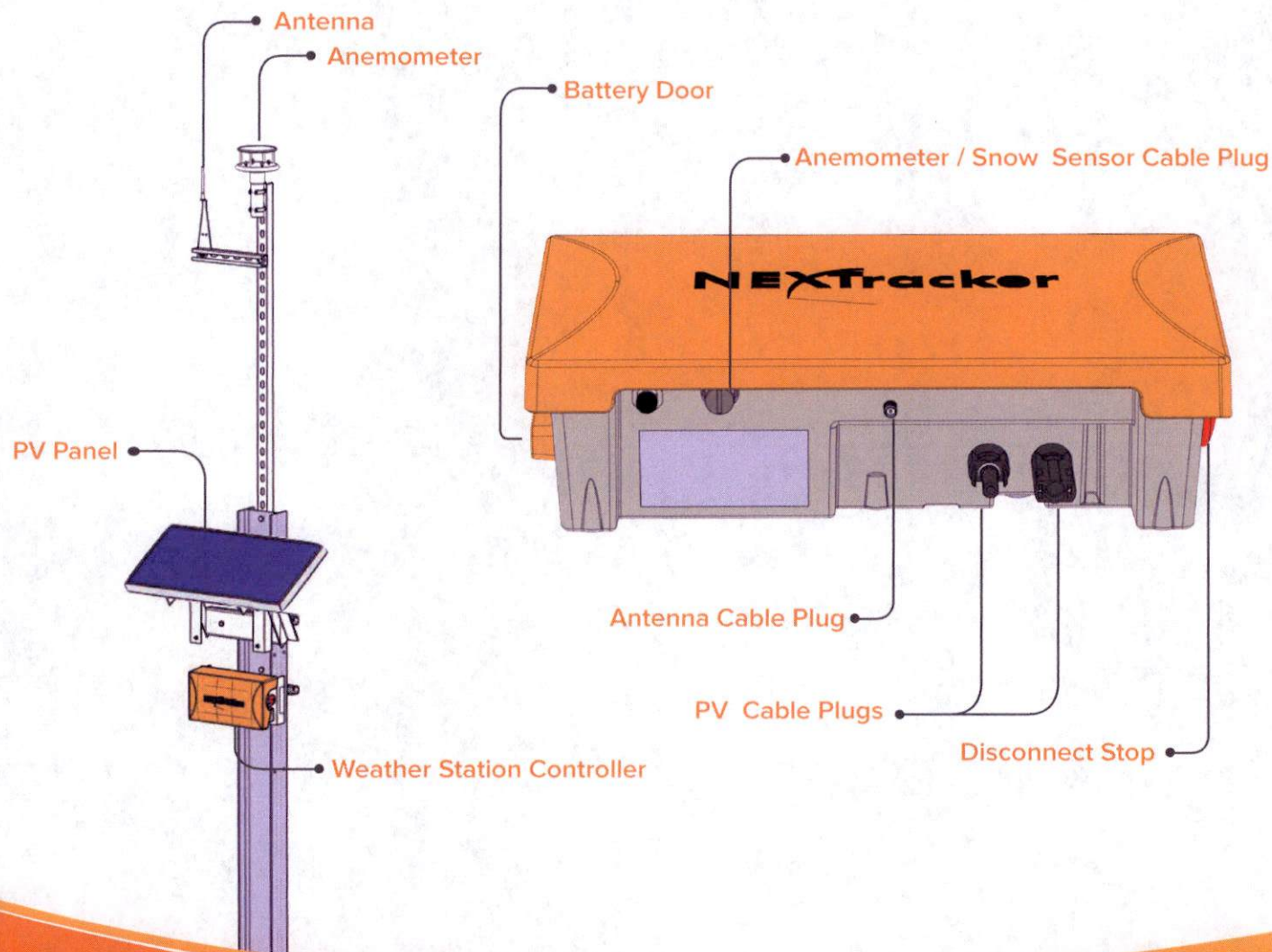
Enclosure Rating	NEMA 4X / IP65
Dimensions (LxWxD)	20"x6"x5"
Weight	<25 lbs.

ENVIRONMENT

Operating Temp. - Standard	0C to 50C
Operating Temp. - Optimal	-30C to 50C
Storage Temperature	0C to 40C
Relative Humidity	0-95%

BACKUP BATTERY

Battery Technology	Lithium Ion
Expected Battery Life	10 years
Backup Storage Capacity	3 days



NETWORK CONTROL UNIT SPECIFICATIONS

INPUT		MECHANICAL	
AC Input Voltage	100-265VAC	Enclosure Rating	NEMA 4X
Operational Power Consumption	<10W	Dimension in mm. (LxWxD)	491x452x200
Min. Over Current Device Rating	1A	Weight	<20 lbs.
BACKUP BATTERY		ENVIRONMENT	
Battery Technology	Lithium Ion	Operating Temperature	-30C to 60C
Expected Battery Life	10 years	Storage Temperature	0C to 40C
Backup Storage Capacity	3 days	Relative Humidity	0-95%
Shelf Life (In Storage)	3 months	HARDWARE	
COMMUNICATIONS		CPU (Processor)	Cortex A8
Remote Interface	ZigBee (2.4GHz)	On board Storage	4GB
Local Control Switches	Auto/Manual; Wash Position	Additional Storage Option	SD Slot
Network Interface	Ethernet RJ45	Onboard Screen	VFD

NETWORK CONTROL UNIT



MECHANICAL SYSTEMS OVERVIEW

COMPONENT DATA SHEET

With over 5GW of solar trackers delivered on five continents, NEXTracker's NX Horizon™ is the world's leading single-axis tracker. The NX Horizon is a self-powered, decentralized tracking system where each row is independent of one another - an industry first. Prior to this pioneering innovation, single-axis trackers included a drive shaft connecting each row, which impeded overall operations and maintenance of solar power plants. For NX Horizon, each row is driven by a brushless DC motor coupled to a slew gear. Power for the motor is provided by our patent-pending Self-Powered Controller (SPC) and a dedicated PV module.

BRUSHLESS DC MOTOR SPECIFICATIONS

MECHANICAL

Protection Class	IP 65
Isolation Class	EN62114 (120C)
Certification	UL 1004-1
Operating Temperature	-40°C to 85°C
Motor Type	Brushless
Weight	1.7kg
Relative Humidity	0-95%

POWER RATINGS

Nominal Voltage	24 V DC
Motor Continuous Current (85C)	< 6.25 A
No load Current at 24VDC (85C)	< 1 A
Max Power at Rated Torque	150 W

OUTPUT

Rated Gear Output Torque (1 hr. continuous)	150 N-m
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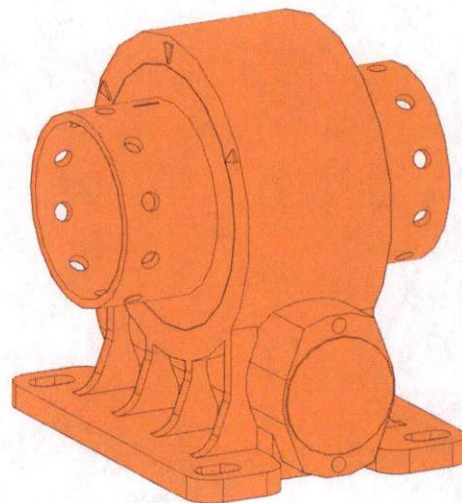
SLEW GEAR SPECIFICATIONS

MECHANICAL

Protection Class	IP 55 per IEC60529
Ambient Temp. Range	-40C to 60C
Housing Material	Ductile Iron
Rotation Range	±65°
Weight	77.5kg

LOAD RATINGS

Normal Output Torque, min	± 2000 N-m
High Output Torque, min	± 5000 N-m



SLEW GEAR

The NX Horizon slew gear is a single stage, worm gear speed reducer. The slew gear is designed to adjust the tracker tilt position to follow the sun each day, as well as hold the tracker position fixed during periods of wind stow. The brushless motor is directly coupled to the input worm shaft of the slew gear, with the tracker torque tubes permanently connected to the output collars. The slew gear is sealed and requires no scheduled maintenance for the life of the product.



NX Horizon Solar Tracker
UL 2703 & 3703 Certified

ATTACHMENT G

GLARE ANALYSIS

FORGESOLAR GLARE ANALYSIS

Project: **Summit Ridge Maryland**

Site configuration: **Hampstead**

Analysis conducted by Jodi Hunt (jodi.hunt@tetrattech.com) at 13:19 on 25 Oct, 2018.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	N/A	No flight paths analyzed
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis and observer eye characteristics are as follows:

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at <https://www.federalregister.gov/d/2013-24729>

SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m²
Time interval: 1 min
Ocular transmission
coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3
mrad
Site Config ID: 22123.3820



PV Array(s)

Name: PV array 1
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 30.0°
Max tracking angle: 60.0°
Resting angle: 60.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	39.663234	-76.804711	737.90	7.00	744.90
2	39.662433	-76.805446	755.34	7.00	762.34
3	39.662000	-76.806149	769.45	7.00	776.45
4	39.662194	-76.807082	766.13	7.00	773.13
5	39.661859	-76.807270	753.41	7.00	760.41
6	39.661302	-76.805419	752.84	7.00	759.84
7	39.662470	-76.804137	739.51	7.00	746.51

Discrete Observation Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	39.662479	-76.806395	778.83	6.00
OP 2	2	39.663511	-76.803858	755.77	6.00
OP 3	3	39.662933	-76.804217	741.89	5.00
OP 4	4	39.661186	-76.806014	755.23	6.00
OP 5	5	39.661591	-76.807468	733.54	6.00
OP 6	6	39.660269	-76.804893	726.08	5.00
OP 7	7	39.662363	-76.803279	769.15	6.00

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt	Orient	"Green" Glare	"Yellow" Glare	Energy
	(°)	(°)	min	min	kWh
PV array 1	SA tracking	SA tracking	24,651	23,726	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
OP 1	23724	12131
OP 2	0	0
OP 3	927	11595
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0

Results for: PV array 1

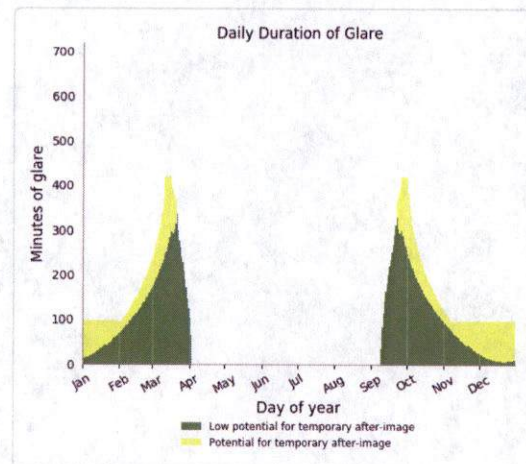
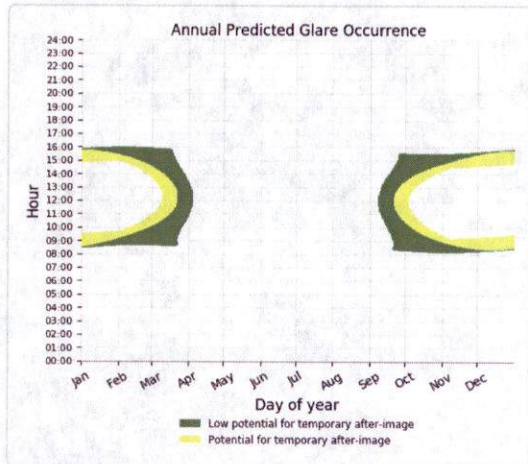
Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	23724	12131
OP 2	0	0
OP 3	927	11595
OP 4	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 5	0	0
OP 6	0	0
OP 7	0	0

Point Receptor: OP 1

12131 minutes of yellow glare

23724 minutes of green glare



Point Receptor: OP 2

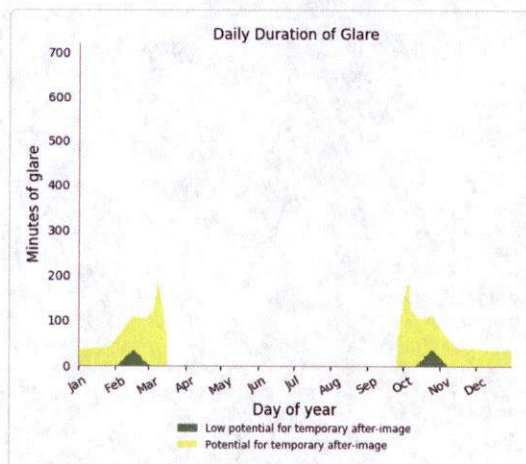
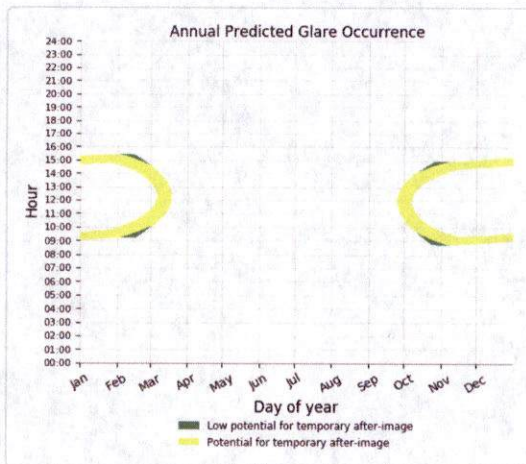
0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 3

11595 minutes of yellow glare

927 minutes of green glare



Point Receptor: OP 4

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare

0 minutes of green glare

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.

The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values may differ.

Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.



FORGESOLAR GLARE ANALYSIS

Project: **Summit Ridge Maryland**

Site configuration: **Hampstead**

Analysis conducted by Jodi Hunt (jodi.hunt@tetrattech.com) at 13:23 on 25 Oct, 2018.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	N/A	No flight paths analyzed
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis and observer eye characteristics are as follows:

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at <https://www.federalregister.gov/d/2013-24729>

SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m²
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 22123.3820



PV Array(s)

Name: PV array 1
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 30.0°
Max tracking angle: 60.0°
Resting angle: 60.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	39.663234	-76.804711	737.90	7.00	744.90
2	39.662433	-76.805446	755.34	7.00	762.34
3	39.662000	-76.806149	769.45	7.00	776.45
4	39.662194	-76.807082	766.13	7.00	773.13
5	39.661859	-76.807270	753.41	7.00	760.41
6	39.661302	-76.805419	752.84	7.00	759.84
7	39.662470	-76.804137	739.51	7.00	746.51

Discrete Observation Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	39.662479	-76.806395	778.83	16.00
OP 2	2	39.663511	-76.803858	755.77	16.00
OP 3	3	39.662933	-76.804217	741.89	9.00
OP 4	4	39.661186	-76.806014	755.23	16.00
OP 5	5	39.661591	-76.807468	733.54	16.00
OP 6	6	39.660269	-76.804893	726.08	9.00
OP 7	7	39.662363	-76.803279	769.15	16.00

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt	Orient	"Green" Glare	"Yellow" Glare	Energy
	(°)	(°)	min	min	kWh
PV array 1	SA tracking	SA tracking	42,327	21,548	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
OP 1	38527	7336
OP 2	85	0
OP 3	3715	14212
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0

Results for: PV array 1

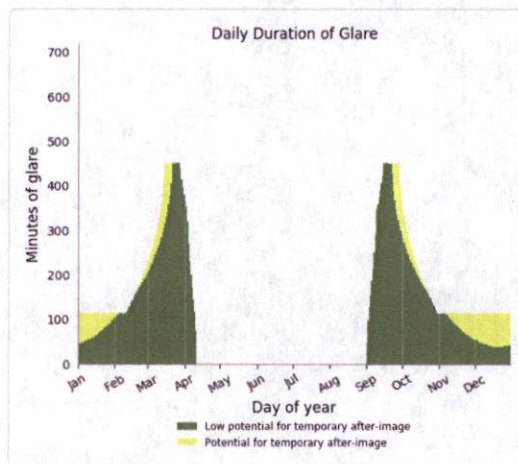
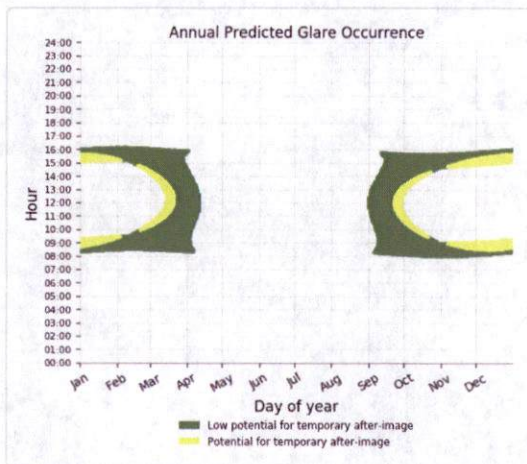
Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	38527	7336
OP 2	85	0
OP 3	3715	14212
OP 4	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 5	0	0
OP 6	0	0
OP 7	0	0

Point Receptor: OP 1

7336 minutes of yellow glare

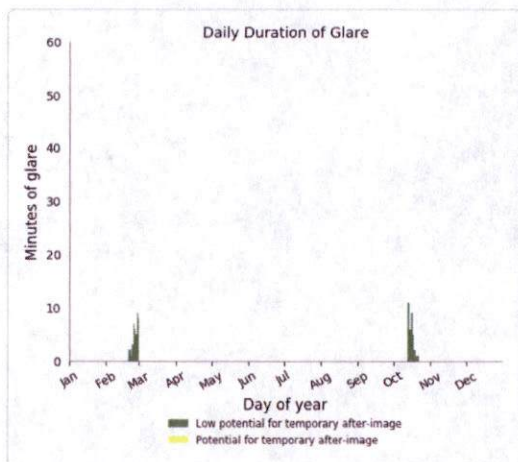
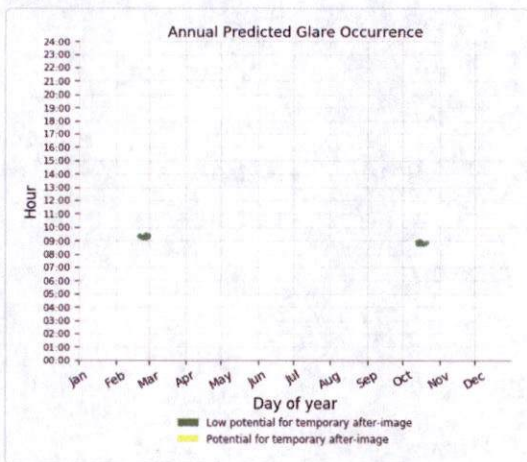
38527 minutes of green glare



Point Receptor: OP 2

0 minutes of yellow glare

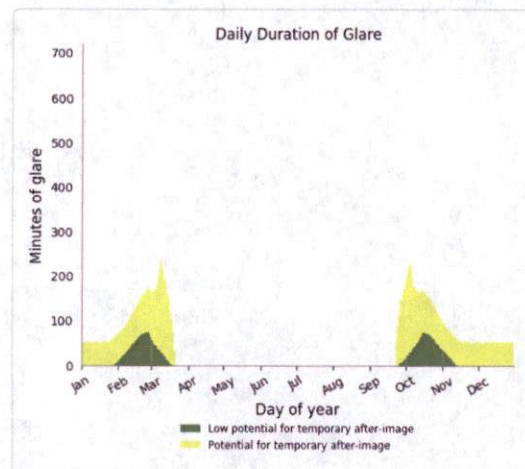
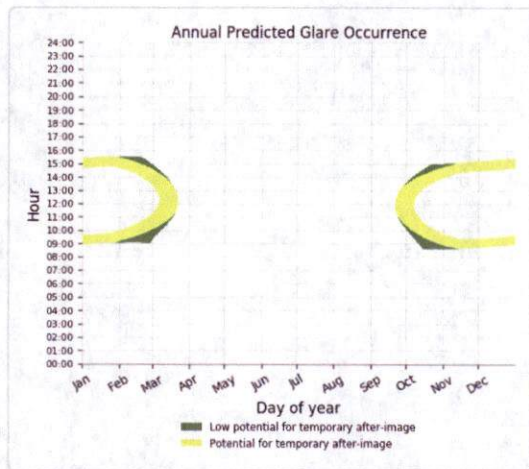
85 minutes of green glare



Point Receptor: OP 3

14212 minutes of yellow glare

3715 minutes of green glare



Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare
0 minutes of green glare

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

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The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values may differ.

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ATTACHMENT H

FEDERAL AVIATION ADMINISTRATION SCREEN



Notice Criteria Tool

Notice Criteria Tool - Desk Reference Guide V_2014.2.0

The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference [CFR Title 14 Part 77.9](#).

You must file with the FAA at least 45 days prior to construction if:

- your structure will exceed 200ft above ground level
- your structure will be in proximity to an airport and will exceed the slope ratio
- your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)
- your structure will emit frequencies, and does not meet the conditions of the [FAA Co-location Policy](#)
- your structure will be in an instrument approach area and might exceed part 77 Subpart C
- your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
- your structure will be on an airport or heliport
- filing has been requested by the FAA

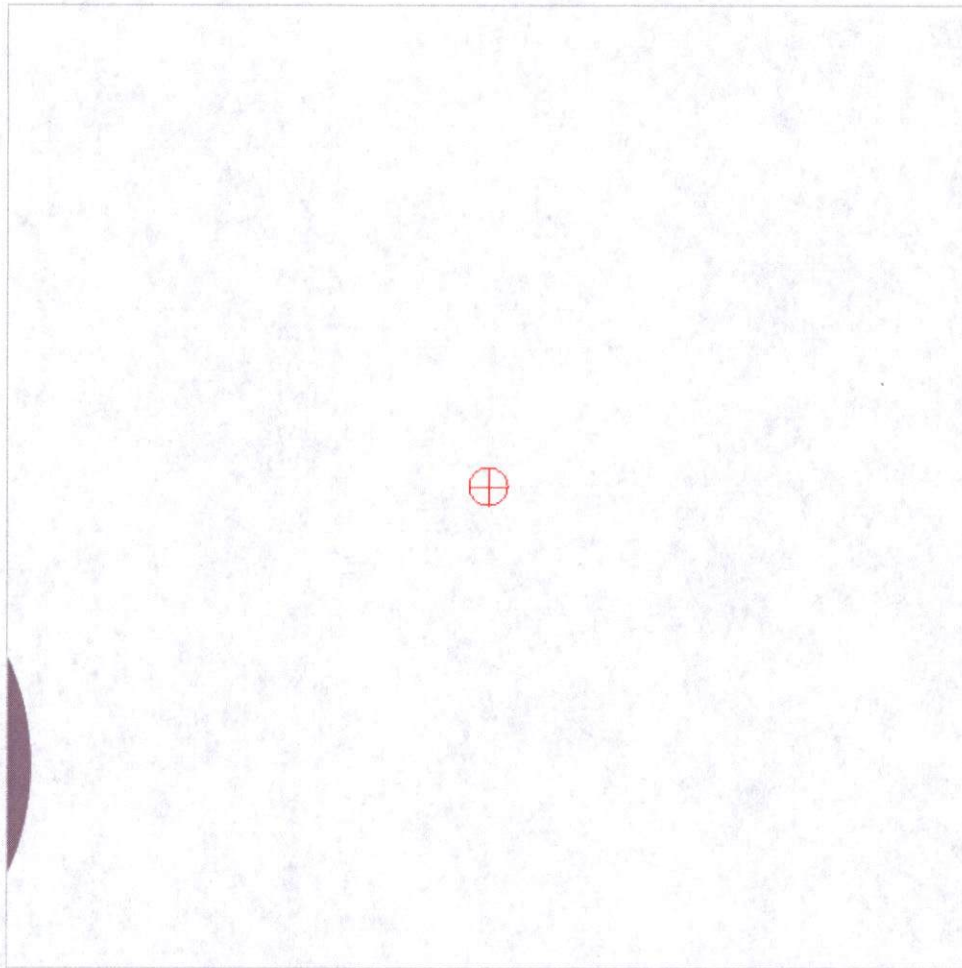
If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the [Air Traffic Areas of Responsibility map](#) for Off Airport construction, or contact the [FAA Airports Region / District Office](#) for On Airport construction.

The tool below will assist in applying Part 77 Notice Criteria.

Latitude:	39 Deg 39 M 43.19 S N
Longitude:	76 Deg 48 M 18.59 S W
Horizontal Datum:	NAD83
Site Elevation (SE):	766 (nearest foot)
Structure Height :	7 (nearest foot)
Traverseway:	No Traverseway (Additional height is added to certain structures under 77.9(c)) User can increase the default height adjustment for Traverseway, Private Roadway and Waterway
Is structure on airport:	☒ No ☐ Yes

Results

You do not exceed Notice Criteria.



ATTACHMENT I
VEGETATIVE MAINTENANCE PLAN

VEGETATIVE MAINTENANCE

Hampstead Ground Mounted Solar Project

Project Information

Project Name: Hampstead Solar
Address: 19620 Resh Mill Road, Hampstead, MD 21074
Project Area: Approximately 6.3 Acres

Background

Following construction of the solar facility, disturbed grounds will be re-established with low growth/low maintenance ground cover. The vegetative maintenance contractor will be responsible for inspecting and maintaining the vegetative integrity of the solar facility. The contractor will conduct on-site activities during growing months at the frequency of approximately 2-3 times per year. The contractor is expected to adjust site maintenance frequency based on time of year and weather conditions. To avoid rutting, erosion, and soil compaction, weather forecasts will be consulted and on-site field inspections will be conducted prior to mowing or cutting to ensure that these practices occur when the site is able to withstand this type of activity.

It is important to note this scope of work covers work along the access road and w/in the fence line of the project. Remaining lands outside the fence will continue to be utilized for agricultural purposes and maintained by the landowner or their representative.

Site Activities

- Perimeter Maintenance
 - The perimeter fence line will be inspected for items of trash, that may have accumulated since the previous site visit. These items will be collected and disposed of offsite. Vegetative growth along the fence line will also be trimmed and maintained to prevent the growth of weeds or tall grasses.
- Mowing
 - Mowing is a three-step process. First, the mower or bush hog trims the large areas. Second, trimmers are used to cut around structural elements and other places the mower couldn't reach. Finally, any vegetation that was thrown and stuck to the modules will be cleaned off. Additionally, spot-mowing is recommended for reducing invasive plants while native species are becoming established. Spot-mowing should be done at a raised height to avoid damaging native plants.

- **Site Inspections**
 - During each maintenance visit, the site will be inspected for signs of erosion. Any areas of concern will be immediately communicated to the project owner/developer to evaluate and implement corrective measures. Should the contractor observe a non-typical condition or change in site conditions the project owner/developer will be immediately notified.
- **Screening Maintenance**
 - Should vegetative screening be installed at the PV facility, the contractor will be responsible for monitoring the general health of each plant. If any plant succumbs and fails to establish its self, contractor will work with the responsible nursery to redeem the warranty and replace the deceased plant with another of the same species.
- **Access Road Maintenance**
 - During maintenance activities, the access road will be inspected and maintained to ensure that vegetative creep does not occur. This will include the mowing of at least a 3-foot strip paralleling each side of the road. Additionally, any observed vegetative creep within the road will be removed.

Table 1: Scope of Work

Activity	Frequency	Timing
Perimeter Maintenance	8-12 Weeks	May - October
Mowing	8-12 Weeks	May - October
Site Inspections	8-12 Weeks	May - October
Screening Maintenance*	4-8 Weeks	May - October
Access Road Maintenance	8-12 Weeks	May - October

*Two years only to ensure vegetation planted for screening is adequately established

ATTACHMENT J
DECOMMISSIONING PLAN

DECOMMISSIONING PLAN

Hampstead Ground Mounted Solar Project



ICFTS MD Solar, LLC
1401 Wilson Blvd., Suite 800
Arlington, VA 22209

ICFTS MD Solar, LLC
Decommissioning Plan

Contents

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2. DECOMMISSIONING ACTIVITIES	5
Equipment Removal	5
Site Restoration	6
3. PERMITTING	7
4. DECOMMISSIONING ASSURANCE	8
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1. BACKGROUND

Facility Description

ICFTS MD Solar, LLC (Summit Ridge) proposes to develop a solar photovoltaic (PV) facility (the "Project") with a total maximum nameplate capacity of 850 kilowatt alternating current (kWac), located on private property at 19620 Resh Mill Road, Hampstead, Baltimore County, Maryland, (the "Property"), as shown in Figure 1.

The Project occupies approximately 6.3 acres of a larger 20.5-acre parcel of private land located north east of the Town of Hampstead, County of Baltimore. The Project will produce electricity delivered to Baltimore Gas and Electric's local distribution system utilizing existing lines. Interconnection to Baltimore Gas and Electric's system will include both underground and overhead wires along with new utility poles located on the Property.

The solar PV modules will be installed on single-axis metal racking structures secured to the ground utilizing either direct push or anchor screw technology. Direct Current (DC) wiring with the Project will be secured behind the modules, collected at a common point and transition underground from the string inverters to the transformer. From the transformer pad, AC wiring will run underground until a point before the interconnection where it will surface and connect to a series of utility poles on the Property before connecting to the existing grid.

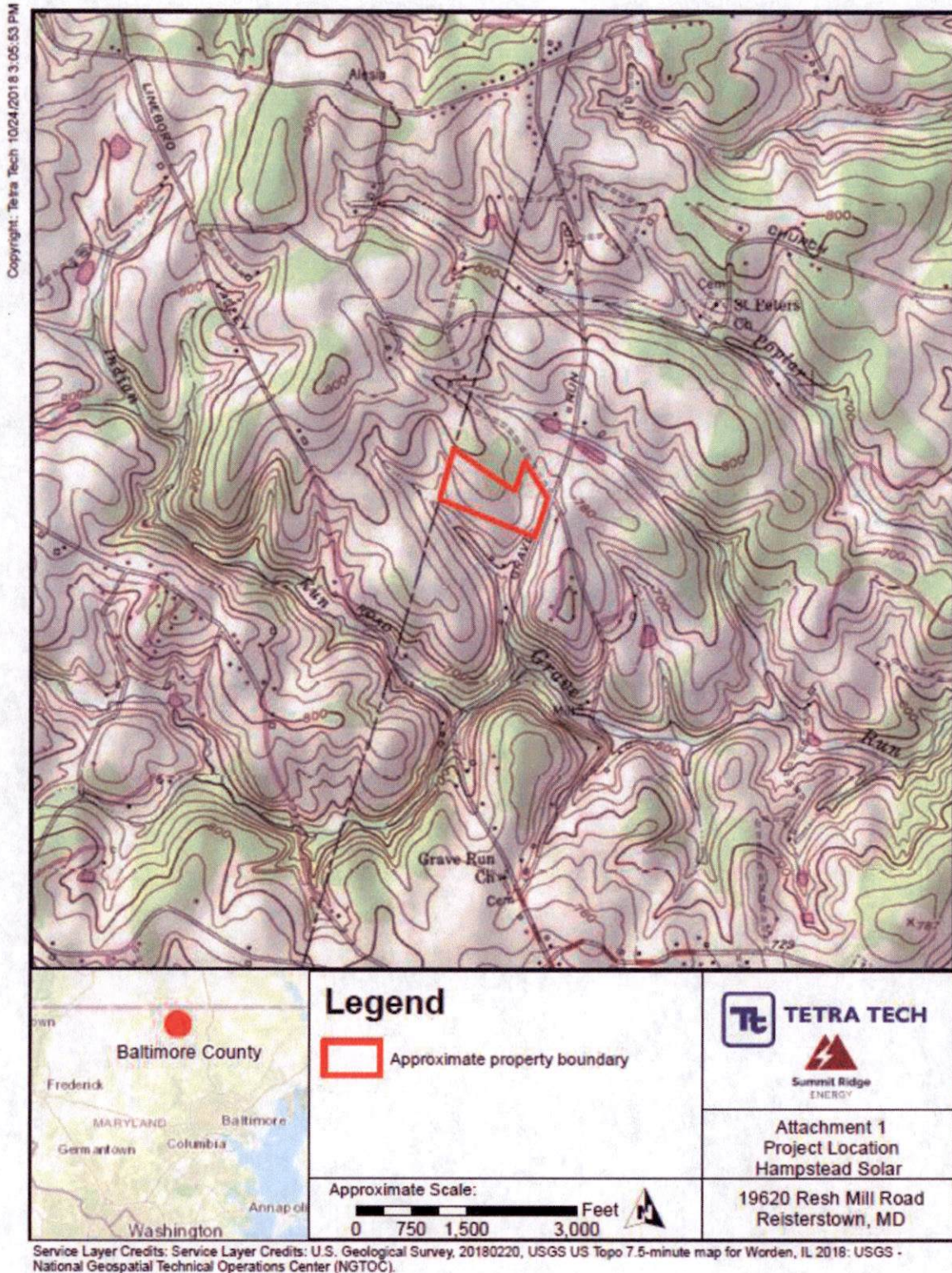
Access to the Project will be from Resh Mill Road utilizing a 20-foot wide crushed stone road constructed for access to the facility.

The transformer skid will be mounted on a concrete pad located within the array. The pad used for a skid unit will be approximately 13-feet x 13-feet.

The site will be secured with a perimeter chain link fence.

ICFTS MD Solar, LLC
Decommissioning Plan

Figure 1: Project Location



2. DECOMMISSIONING ACTIVITIES

Introduction

The Decommissioning Plan (the “Plan”) describes anticipated activities and process for decommissioning of the proposed facility following its useful life. The purpose of decommissioning is to restore the property to a clean, safe and, usable condition for continued use by the landowner.

Decommissioning consists of the removal of above-ground and below-ground facility components, management of excess materials and waste as well as the restoration of Project lands, as applicable. Activities are expected to take between 8-10 weeks but no longer than four-months.

Potential negative environmental effects from decommissioning of the facility will be mitigated through use of erosion and sediment control measures, limiting the use of heavy machinery (where possible), and maintaining a buffer from natural features. These control measures, as well as other mitigation measures used during construction will be re-implemented during the decommissioning phase and until the site is stabilized.

Future consultation will occur with the municipality prior to decommissioning to discuss preferences and commitments to restore the Project to its pre-construction condition or a similar state. All decommissioning and restoration activities will adhere to the requirements set forth by Occupational Health and Safety Administration (OSHA) and will be in accordance with all applicable federal, state and local permitting requirements. As with the construction phase, an onsite manager responsible for safety will be present on-site (generally the contractor’s project manager) while decommissioning activities are taking place.

The decommissioning plan is based on current procedures and experience. These procedures may be subject to revision based on new experiences and requirements over time. At the time of decommissioning, various options and procedures will be re-evaluated to ensure that decommissioning is safe and beneficial to the environment.

Equipment Removal

A significant amount of the components of the Project will include recyclable or re-saleable components, including copper, aluminum, galvanized steel, and modules. Due to their resale monetary value, these components will be dismantled and disassembled rather than being demolished and disposed of.

Following coordination with the local utility company regarding timing and required procedures for disconnecting the Facility from the private utility, electrical connections to the system will be disconnected and connections will be tested locally to confirm that no electric current is running through them before proceeding. Electrical connections to the panels will be cut at the panel and then removed from their framework by cutting or dismantling the connections to the supports. Inverters, transformers, and switchgear will be lifted, secured onto flat beds, and transported off-site for processing.

ICFTS MD Solar, LLC
Decommissioning Plan

Modules will be detached from the racking system and stacked for removal. In the event of a module fracture, the silicon-based module will be disposed of at a landfill as non-hazardous waste.

The metal piling systems used to secure the PV system in the ground will be removed entirely. If full removal is not possible, the piling will be terminated at a depth greater than four-feet from grade or at bedrock whichever is shallower. The piling materials will be collected and recycled. Additionally, all associated metal mounting structures along with the metal perimeter fencing and gates will be removed and either reused or sent for recycling.

Grade slabs will be broken, removed, and disposed of off-site or recycled. Unless requested by the landowner for the access road to remain, materials from road construction will be removed, shipped off-site for either re-use or disposal. If necessary, the former road bed will be backfilled and graded with material native to the region to blend it with the immediately adjacent and existing topography.

Aboveground utility poles owned by the Project will be completely removed and disposed of off-site in accordance with utility best practices. Overhead wires will be removed from the area of the solar modules and terminated at the point of interconnection. Underground wiring at depths of less than four-feet will be removed and recycled.

Prior to final demobilization, a final walkthrough of the Project area and the property will be completed to ensure all debris is collected and removed.

Site Restoration

Those areas disturbed during decommissioning activities will be graded as necessary to ensure a uniform slope for proper storm water management, prevent the ponding of waters and address any rutting or other depressions caused by removal equipment. The disturbed areas will then be seeded either by hand or via hydro seeding to reestablish vegetation compatible with the property and region. It is anticipated that a seed mix native to the area will be used by the decommissioning contractor, unless the landowner instructs that they will begin using the property for agricultural purposes and will reestablish the area with agricultural vegetation.

3. PERMITTING

Permitting & Approvals

Prior to the initiation of decommissioning activities, local code will be reviewed for applicability with decommissioning activities. The municipality will be consulted to confirm and applications made for appropriate permits and approvals, if any. At a minimum, it is anticipated that a new storm water pollution prevention plan (SWPPP) will be required along with a building permit. It is assumed that neither a new or revised site plan nor special use permit would be necessary because decommissioning activities are associated with the originally issued approvals.

Throughout the decommissioning process, the municipality will be provided with regular updates and notice upon completing the restoration activities.

4. DECOMMISSIONING ASSURANCE

Form of Assurance

The Operator/Owner will secure a bond as assurance for decommissioning of the project if the Solar Energy System ceases to be used for its intended purpose for 150 consecutive days and the Operator/Owner does not provide reasonable evidence of intent to restart operations within six (6) months thereafter. Removal of the Solar Energy System, obsolete and/or unused structures shall be completed within three (3) months thereafter or as soon as feasible due to weather restrictions. The bond will be maintained and upon Town's request, within thirty (30) days prior to the end of each five (5)-year period after the establishment of the bond, the Operator/Owner shall provide the Town with an updated Removal Letter setting forth an updated estimate for the removal of such obsolete and or unused structures and the bond shall be altered to reflect the updated estimate for such removal. The bond will remain in place through the completion of decommissioning activities at the Project.

Use of Assurance

In the event that the Operator/Owner fails to undertake decommissioning activities within the established period of the Agreement, the municipality shall have the right to undertake decommissioning activities and make a claim against the decommissioning assurance. In such circumstances, the municipality shall have such access to the Property as may be necessary to allow its qualified contractors to conduct decommissioning activities.



Zoning Special Use Application

**OF
Proposed Hampstead Solar Site
19620 Resh Mill Road
Hampstead, Maryland**

October 30, 2018

Prepared by:



Tetra Tech, Inc.
1200 Scottsville Road, Bldg. C, Suite 181
Rochester, NY 14624
Phone: (585) 417-4007

Prepared for:



**Summit Ridge
ENERGY**

ICFTS MD Solar, LLC
1401 Wilson Blvd., Suite 800
Arlington, VA 22201

ZONING SPECIAL USE APPLICATION
Proposed Hampstead Solar Site
Hampstead, Baltimore County, Maryland

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ATTACHMENT F – SITE EQUIPMENT MANUFACTURER SPECIFICATIONS

ATTACHMENT G – GLARE ANALYSIS

ATTACHMENT H – FEDERAL AVIATION ADMINISTRATION SCREEN

ATTACHMENT I – VEGETATIVE MAINTENANCE PLAN

ATTACHMENT J – DECOMMISSIONING PLAN

1.0 PROJECT OVERVIEW

ICFTS MD Solar, LLC (Summit Ridge) is seeking a Zoning Special Use Permit and Site Plan approval for the construction of the Hampstead Solar approximately 850-kilowatt (kW) alternating current (AC) Photovoltaic (PV) Array located at 19620 Resh Mill Road, Hampstead, Maryland (hereafter referred to as the “Site”). Summit Ridge proposes the development of approximately 6.3 acres of a larger 20.5-acre parcel of private land in Hampstead, Baltimore County into a ground-mounted PV solar energy generating facility.

The proposed project would be capable of delivering approximately 850 kW of AC into the electrical power grid, which is sufficient to provide renewable energy to approximately 150 households. The PV panels proposed for this project are single-axis tracking panels that would be placed on a racking system that is pile driven into the ground surface. The solar panels will be directly interconnected to, and provide energy to, Baltimore Gas and Electric’s local electric distribution grid via an overhead electrical service. Prior to utility interconnection, direct current (DC) electrical power generated by the solar panels will be transformed to AC power and modified as necessary to connect to Baltimore Gas and Electric’s electrical power supply. The project would also include an equipment pad, a gravel access road, a vegetative soil cover, and it will be surrounded by a chain-linked security fence as per the applicable electric building codes and requirements.

The following sections address the Zoning Special Exception Permit/Solar Energy System Development Criteria cited in the Baltimore County, Maryland ordinance, regulating development of solar energy systems (Ordinance Part 4F), The Baltimore County Code Section 33-3-108, and the Zoning Checklist for Non-Residential Permits and/or Zoning Public Hearing Applications.

2.0 *SITE DESCRIPTION*

The Site, located at 19620 Resh Mill Road, Maryland, consists of one tax parcel assigned Tax PIN number 0503047700, totaling an area of approximately 20.5 acres. According to Baltimore County Zoning Maps, the parcel is zoned RC-2 for agricultural use. According to Baltimore County Tax Information, the parcel is located along the Baltimore County line in Hampstead, Maryland and west of the Prettyboy Reservoir. The Site is bounded by residential structures, undeveloped land and Resh Mill Road to the north; Grave Run Road, undeveloped land and residential structures to the east; residential structures and undeveloped land to the south; and undeveloped land to the west. The Prettyboy Reservoir is located approximately two miles east of the Site.

A map showing the location of the Site and adjacent land use is presented in *Attachment A*; A Site plan showing the physical layout is presented in *Attachment B*; A copy of the Lease Agreement is presented in *Attachment C*.

3.0 COMMUNITY CHARACTER AND SURROUNDING LAND USE

The general area around the Site consists of residential and agricultural development. The portions of the property which are not proposed for solar development are anticipated to be continued to be used as a residential property. The Site is located within a rural area on the western perimeter of Baltimore County. The Site is bounded by residential structures, undeveloped land and Resh Mill Road to the north; Grave Run Road, undeveloped land and residential structures to the east; residential structures and undeveloped land to the south; and undeveloped land to the west.

Table 3-1 Adjacent Properties and Addresses

Tax Account No.	Street Address	Owner	Zoning
1700003332	19646 Resh Mill Road	Samuel M. Farley	RC-2
2100010864	19638 Resh Mill Road	Samuel M. Farley	RC-2
2200028693	Resh Mill Road	Ronald E. Hann	RC-2
1700012508	19600 Grave Run Road	Ronald E. Hann	RC-2
1900003518	19531 Resh Mill Road	Robert E. Smith	RC-2
1600003947	19530 Resh Mill Road	Ronald L. Long	RC-2
2000011078	19521 Grave Run Road	Leslie Chelton	RC-8
2300002779	19408 Grave Run Road	James M. Hairfield	RC-2
1600013340	19406 Grave Run Road	Paul C. Godwin	RC-2
0708023581	3195 Falls Road	Thomas D. King	unknown
0708023573	3197 Falls Road	Robert K. Hubley Sr.	unknown
0708023468	3390 Resh Mill Road	Louis J. Abel	unknown

The installation and operation of a solar facility is consistent with the Baltimore County Comprehensive Plan's (BCCP) goal of encouraging the responsible use of natural resources to meet current needs without degrading the supply and quality of those resources for the future. A specific policy identified in that regard is to continue to adapt to and mitigate impacts of climate change on the environment (BCCP Sustainable Environment).

The proposed project is harmonious with the existing zoning of nearby parcels, will not depreciate or alter those properties' essential character, and presents no conflict with residentially zoned areas of the County. The BCZR (Section 502 Special Exceptions) outlines nine points that determine the nature of consistency between a proposed Special Use and the surrounding area. The standards are represented as follows:

The proposed Special Use shall not be detrimental to the health, safety, or general welfare of the area.

ZONING SPECIAL USE APPLICATION
Proposed Hampstead Solar Site
Hampstead, Baltimore County, Maryland

The proposed project is intended to provide a clean source of green energy into the local electrical power grid. Baltimore County, as well as the State of Maryland have regulations in place to ensure the security of solar facilities including the requirements for perimeter fencing and monitoring. To deter theft, a security fence with barbed wire has been proposed to both deter crime and protect the community. The project is set off the road, with existing vegetative buffers along Grave Run Road to the east, the southern property boundary, the western property boundary and the majority of the northern boundary.

According to the U.S. Department of Energy, few power-generating technologies have as little environmental impact as PV solar panels. The solar panels proposed for this project are made of crystalline silicon, typically from quartz or sand. Crystalline silicon semiconductors are also utilized in the manufacture of integrated circuits and microchips used in personal computers, cellular telephones and other modern electronics.

The outer glass cover constitutes the largest share of the total mass of a finished crystalline photovoltaic module, followed by the aluminum frame, the ethylene vinyl acetate encapsulant, the polyvinyl fluoride substrate, and the junction box. The solar cells themselves only represent about four percent of the mass of a finished module.

Additional materials proposed for the project consist of steel for the panel support (racking) system, powder-coated aluminum for the inverters, a crushed gravel access road, and a standard chain-link security fence pursuant to applicable electrical codes. Additional information on the specifications for the proposed equipment are located in Section 5.0.

The proposed Special Use shall not create congestion in roads, streets, or alleys.

Traffic impacts are generally limited to the project construction period, which is estimated to last approximately 3 to 4 months. Once the facility is operational, traffic is typically limited to less than 10 visits per year to monitor operation, provide maintenance/repair, and maintain vegetation, as necessary.

The proposed Special Use shall not create a potential hazard from fire, panic, or other dangers.

The proposed solar arrays are designed to withstand extreme weather conditions. The risk of a fire associated with electrical equipment is no greater than regular substations. Coordination with emergency services is an important part of any Site development process and this coordination will be conducted as part of Baltimore County Building Permit application process. Local emergency services will be provided with notification that the Site is undergoing review and invited to visit the Site property. Equipment specifications will be provided to responders during the building permit application and implementation process.

The proposed Special Use shall not overcrowd land and cause an undue concentration of population.

The proposed project will be located on approximately 6.3 acres of a larger 20.5-acre parcel of private land. Solar projects of this type are quiet, low-profile and don't contribute to an increase in population or traffic.

The proposed Special Use shall not interfere with adequate provisions for schools, parks, water, sewerage, transportation, or other public requirements, conveniences, or improvements.

The proposed project is not expected to incur public expenses for emergency response or other community provisions. Once constructed, the Site will operate without personnel except for site maintenance outlined in the *Vegetative Maintenance Plan (Section 8.0)* and *Operation and Maintenance Plan (Section 9.0)*. Operation of the Site will not require the use of public utilities such as water or sewerage.

The proposed Special Use shall not impair an adequate supply of light and air to adjacent properties.

The proposed solar arrays will not provide shade nor restricted airflow to the surrounding properties. The proposed array panels will not exceed seven feet above ground surface and will be constructed with approximately 18 feet between panel rows to allow sufficient wind passage and the project is approximately 300 feet from the nearest off-site residence.

The proposed Special Use shall not be inconsistent with the spirit and intent of the BCZR.

The proposed solar facility is consistent with the County's intent to permit solar facilities in parts of the rural and commercial areas in a way that balances the benefits of solar energy production with the need to protect the community, agricultural land, forests, waterways and other natural resources. As cited in BCZR Article 4F-101A - Solar Facilities, "Solar energy is recognized as an abundant, renewable, and environmentally sustainable source of electricity generation that will lead to greater local grid resiliency and security, and produce clean, renewable energy and reduce air and water pollution caused by the burning of traditional fossil fuels".

The proposed Special Use shall not be inconsistent with the impermeable surface and vegetative provisions of the BCZR.

The project will be developed in a manner consistent with the BCZR and the Prettyboy Reservoir Watershed Restoration Action Strategy dated January 4, 2018. A Stormwater Pollution Prevention Plan (SWPPP) for the Site will be submitted as required by the County during the building permit process. The SWPPP will include stormwater controls that attenuate runoff generated during 1-, 10-, and 100-year 24-hour rainfall events so that the peak flow at design points on site will not exceed the flow that existed prior to development of the Project. Stormwater is expected to flow off the array panels and infiltrate into surface soils on the Site, not effecting the storm water runoff

ZONING SPECIAL USE APPLICATION
Proposed Hampstead Solar Site
Hampstead, Baltimore County, Maryland

patterns of the surrounding properties. Any site restoration activities required in the SWPPP will include a requirement that use of invasive species is prohibited. Once the project is completed the anticipated storm water runoff will be less than the existing agricultural and residential use of the property.

The proposed Special Use shall not be detrimental to the environmental and natural resources of the Site and vicinity including forests, streams, wetlands, aquifers, and floodplains.

One of the first steps in determining the viability of a potential project location is to screen the property for environmental factors such as soil depth and character, wetlands, waterbodies, endangered/protected species, flood plains and archeological resources. Additionally, the property is screened for community character, local zoning ordinances, visual impact, and glare. As a part of this screening process, numerous Federal, State, and local agencies are consulted for information on the proposed location. Additional information regarding the various agency consultations can be found in Section 4 and Section 5, below.

4.0 NATURAL AND CULTURAL RESOURCES

4.1 Threatened and Endangered Species

Targeted Ecological Areas

Tetra Tech, on behalf of Summit Ridge, reviewed the Baltimore County Geographic Information System's Targeted Ecological Areas (TEA) for the proposed site location. TEAs are defined as lands and watersheds of high ecological value that have been identified as conservation priorities by the Maryland Department of Natural Resources (DNR) for natural resource protection. These areas represent the most ecologically valuable areas in the State. The review concluded that there is no record of State listed TEAs in the vicinity of the Site.

State of Maryland Listed Threatened and Endangered Species

There are 36 listed wildlife species known to occur within Baltimore County. Desktop analysis of land cover data and aerial imagery suggest that 33 of the 36 listed species are unlikely to occur within the Project Site due to lack of adequate on-site or adjacent habitat. Northern harrier, sharp-shinned hawk, and loggerhead shrike could potentially utilize portions of the Site as foraging habitat.

There are 146 state-listed and 1 federally-listed threatened or endangered plants known to occur in Baltimore County. The probability of these species occurring within the Site is low considering that the majority of the Site is has been developed providing little to no undisturbed natural habitat.

Federal Listed Threatened and Endangered Species

Tetra Tech submitted a consultation request to the United States Department of the Interior Fish and Wildlife Service (USFWS) on October 24, 2018. The USFWS responded that there is one threatened species of mammals or plants present in the vicinity of the project Site (Attachment D), the bog turtle (*Clemmys muhlenbergii*). The bog turtle typically prefers wetlands, bogs, marches, and other habitats that provide soft, deep mud used as shelter from predators. The probability of these species occurring within the Site is low considering that the majority of the Site is has been developed providing little to no undisturbed natural habitat. As the project will be primarily located on active agricultural land, it will have no significant impacts on fish, wildlife, animal or plant species or habitats, and will not degrade natural resources or ecosystems. Additional information is provided in Table 4.1, below.

Table 4.1. Potential Federal & State Listed Wildlife Species within in the Project Area¹

English Name	Scientific Name	Federal State Status ²	Species-Habitat Associations	Habitat Present in Project Vicinity	Likelihood of Occurrence ⁴
Northern Harrier	<i>Circus cyaneus</i>	SI	Found in large open areas including marshes, grasslands, and meadows. Foraging range is typically 12 to 15 miles/day but may be up to up to 100 miles/day.	Foraging habitat	Moderate
Sharp-shinned Hawk	<i>Nyctanassa violacea</i>		Found in forests and forest edges, can be found where trees are scarce or scattered during migration. Breed mainly in large stands of deciduous, coniferous, and mixed pine-hardwood forests and pine plantations. Known to forage on songbirds near houses and birdfeeders	Breeding Foraging habitat	Low
Loggerhead Shrike	<i>Lanius ludovicianus</i>	SE	Found in agricultural fields, pastures, and cemeteries. Often seen along mowed roadsides with access to fence lines and utility poles.	Foraging habitat	Low

1. Triangle Floater (*Alasmidonta undulata*), Brook Floater (*Alasmidonta varicosa*), Upland Sandpiper (*Bartramia longicauda*), American Bittern (*Botaurus lentiginosus*), Northern Barrens Tiger Beetle (*Cicindela patruela*), Splendid Tiger Beetle (*Cicindela splendida*), Brown Spiketail (*Cordulegaster bilineata*), Alder Flycatcher (*Empidonax alnorum*), Atlantic Bluet (*Enallagma doubledayi*), Mottled Duskywing (*Erynnis martialis*), Bog Turtle (*Glyptemys muhlenbergii*), Rapids Clubtail (*Gomphus quadricolor*), Northern Map Turtle (*Graptemys geographica*), Bald Eagle (*Haliaeetus leucocephalus*), Least Bittern (*Ixobrychus exilis*), Eastern Lampmussel (*Lampsilis radiata*), Black Rail (*Laterallus jamaicensis*), Yellow-sided Skimmer (*Libellula flavida*), Eastern Sedge Barrens Leafhopper (*Limotettix minuendus*), Hooded Merganser (*Lophodytes cucullatus*), Yellow-crowned Night-Heron (*Nyctanassa violacea*), Appalachian Snaketail (*Ophiogomphus incurvatus incurvatus*), Pied-billed Grebe (*Podilymbus podiceps*), Edwards' Hairstreak (*Satyrrium edwardsii*), Northern Oak Hairstreak (*Satyrrium favonius ontario*), Smoky Shrew (*Sorex fumeus*), Southern Pygmy Shrew (*Sorex hoyi winnemana*), A Hydrophilid Beetle (*Sperchopsis tessellatus*), Regal Fritillary (*Speyeria idalia*), Least Tern (*Sternula antillarum*), Pizzini's Cave Amphipod (*Stygobromus pizzinii*), Slender Amphipod (*Stygobromus tenuis tenuis*), and Laura's Clubtail (*Stylurus laurae*) are also documented in the County but are not likely to occur on Project Site due to lack of suitable habitat.

2. FE = Federal Endangered, SE = State Endangered, ST = State Threatened, SI = State In Need of Conservation.

3. S1 = Highly State Rare, S2 = State Rare, S3 = Watchlist, S4 = Apparently Secure, B = Breeding Rank.

Likelihood of Occurrence: Low– species range overlaps with Project Site and marginally suitable habitat in Project vicinity; Moderate– species range overlaps with Project Site and suitable habitat present in Project Site, or species known to occur in habitat similar to Project Site; High– highly suitable habitat present in Project Site, or known populations exist in Project vicinity.

4.2 Cultural Resources

The Baltimore County Historic Preservation online mapping system revealed that the project area is not located within an area designated as sensitive for archaeological sites. In addition, Tetra Tech Tetra Tech, on behalf of Summit Ridge, reviewed the National Register of Historic Places (NRHP) database for previously recorded cultural resources investigations, archaeological sites, historic structures, and historic properties listed within the proposed project site. The background research did not identify the presence of cultural resources on the Site.

5.0 OPERATION AND MAINTENANCE CONSIDERATIONS

Photovoltaic solar facilities of this size are typically considered to be fairly low-maintenance. However, routine O&M services will be done per industry codes and manufacturer's specifications, ensuring the equipment is operating safely and efficiently. The system will be continuously monitored such that unexpected problems can be addressed immediately. An Operation & Maintenance Plan (O&M) is included as *Attachment E* and Manufacturer Specifications for Site Equipment is provided as *Attachment F*.

5.1 Utility Interconnection

In general, the greatest challenge in siting economically viable solar generating facilities is associated with utility interconnection capacity and requirements. Summit Ridge has been working in close coordination with the local utility provider (Baltimore Gas and Electric) and an interconnection evaluation request has been submitted.

5.2 Traffic Impacts

Traffic impacts are generally limited to the project construction period, which is estimated to last approximately three to four months. Once the facility is operational, traffic is typically limited to less than 10 visits per year to monitor operation, provide maintenance/repair, and maintain vegetation, as necessary.

Dust may be generated during the construction process, but it will be temporary in nature. Driveway construction and revegetation of the disturbed portions of the Site will minimize any dust impacts during the facility's operation. The long-term dust generation from the Site will be less than the current agricultural use of the Site since the area will remain vegetated on a year around basis. Maintaining a year-around vegetated area may also reduce soil erosion and sedimentation of nearby existing storm water control features, streams and water bodies.

5.3 Noise

There may be some noise associated with facility construction – truck entry/exit, earthmoving equipment, etc. – but it is expected to be temporary in duration and limited to normal working hours.

The solar collection panels themselves are quiet. The greatest potential source of noise is anticipated to be the power inverters at the Site. The power inverters will be located within the array of solar panels and more than 200 feet from the nearest off-site residential receptor and commercial receptors. Noise levels at a typical inverter will be approximately 55 decibels at a

distance of three feet and the noise will dissipate quickly as distance from the inverter increases. As a point of comparison, engaging in normal face-to-face conversation generates a noise level of approximately 60 decibels, and typical city traffic inside of a car has a noise level of approximately 80 decibels (Center for Disease Control and Prevention, 2017). At a distance of 40 feet, which is much closer than the nearest receptors, the inverter's noise level calculates to approximately 35 decibels, which is comparable to a soft whisper. Thus, noise impacts from the facility's operation are expected to be insignificant.

5.4 Solid Waste

Some minor amount of solid waste generation may occur during the construction process, but it will be disposed of offsite at an appropriate location. Once operational, the facility will not generate an appreciable amount of solid waste.

5.5 Odors

There are no odors generated by the facility's equipment. Odors generated by construction equipment during the construction process will be minor and temporary in nature.

5.6 Glare

With growing numbers of solar energy systems being proposed and installed throughout the United States, the potential impact of glint and glare from photovoltaic modules is receiving increased attention. GlareGauge, the program procured for the glare analysis, is a service distributed by ForgeSolar that uses the SGHT developed by Sandia National Laboratories.

Sandia developed SGHAT v. 3.0, a web-based tool and methodology to evaluate potential glint/glare hazards associated with solar energy installations. The validated tool provides a quantified assessment of when and where glare will occur, as well as information about potential ocular impacts. The tool can also be used for design optimization (tilt and orientation) to evaluate alternative configurations, orientations, and locations of solar installations that not only mitigate the impacts of glint/glare, but also optimize energy production (Sandia Laboratories, 2016).

The SGHAT (GlareGauge) was utilized to evaluate the potential for glare at several locations along nearby roads, residences, and commercial facilities. The panels to be used on the proposed project site are smooth glass surface material with an anti-reflection coating (ARC), which is noted in the glare analysis. The panels will be on an east-facing, single axis tracking array with an approximate height not to exceed seven feet from the ground surface. The panels will have a maximum 60-degree tilt. Two separate glare analyses were conducted for a panel height of seven feet (maximum height) with applicable panel specifications. One analysis was run to simulate a driver's height

above the ground in a standard automobile or in a first-floor building at five feet and six feet respectively. A second analysis was run to simulate a driver's height above the ground in a commercial truck at nine feet or in a second-floor building at 16 feet. The SGHAT Report is included as *Attachment G*.

The Federal Aviation Administration (FAA) Notice Criteria Tool allows the user to determine if a proposed structure would require a formal submission to the FAA under CFR Title 14 Part 77.9 (Safe, Efficient Use, and Preservation of the Navigable Airspace). This online tool was utilized to determine if the proposed solar facility would require formal filing to the FAA. The FAA Notice Criteria Tool Report is included as *Appendix H*.

5.7 Fire Protection and Emergency Access

Coordination with emergency services is an important part of any Site development process and this coordination will be conducted as part of the building permit application process. Local emergency services will be provided with notification that the Site is undergoing review and invited to visit the Site property. Equipment specifications will be provided to responders during the building permit application and implementation process.

The following measures will be taken regarding response to potential emergencies at the proposed facility:

- Local emergency responders will be invited to tour the site during construction and after construction is completed. The site tour will agenda will include descriptions of the system components, emergency shut-down, system isolation, etc.;
- The facility will be provided with a 'Knox-Box' or other similar locking mechanism to provide Site access to emergency responders;
- Emergency telephone numbers will be posted on the perimeter fence;
- System components will be marked in order to provide emergency responders with appropriate warning and guidance with respect to isolating the electrical systems; and
- Site access road will be maintained to allow emergency vehicle access to the Site.

6.0 VEGETATIVE MAINTENANCE PLAN

Following construction of the solar facility, disturbed grounds will be re-established with a non-invasive species, grass seed mixture as ground cover on a year-round basis. The vegetative maintenance contractor will be responsible for inspecting and maintaining the vegetative integrity of the solar facility. The contractor will conduct onsite activities during growing months on an as-needed basis. The site maintenance frequency may be adjusted based on time of year and weather conditions. To avoid rutting, erosion, and soil compaction, weather forecasts will be consulted, and on-site field inspections will be conducted prior to mowing or cutting to ensure that these practices occur when the site is able to withstand this type of activity. Current agricultural practices on the Site remove the vegetation at the end of the growing season. The vegetative maintenance plan will ensure a vegetative ground cover on a year-round basis which will result in less dust and soil erosion than the current site use.

This scope of work covers work along the access road and within the fence line of the project. The full Site Operation and Vegetative Maintenance Plan is included as *Attachment I*.

7.0 DECOMMISSIONING PLAN

The Decommissioning Plan (the “Plan”) describes anticipated activities and process for decommissioning of the proposed facility following its useful life. The purpose of decommissioning is to restore the Site to its original condition for continued use by the landowner.

Decommissioning consists of the removal of above-ground and below-ground facility components, management of excess materials as well as the restoration of Project lands, as applicable. Decommissioning activities are expected to take two to four months to complete. The full Decommissioning Plan is included as *Attachment J*.

8.0 REFERENCES

Adolf Goetzberger and Volker Hoffman (2005). "Photovoltaic Solar Energy Generation." Springer, New York.

The Federal Aviation Administration (FAA) developed *Technical Guidance for Evaluating Selected Solar Technologies on Airports* in 2010

Fthenakis, V.M. (2003). Practical Handbook of Photovoltaics: Fundamentals and Applications: Overview of Potential Hazards. Available at http://www.bnl.gov/pv/files/pdf/art_170.pdf.

U.S. Dept. of Energy (2010). "Photovoltaic Basics." Available at http://www1.eere.energy.gov/solar/pv_basics.html.

Vasilis Fthenakis, Hyung Chul Kim and Erik Alsema (2008). "Emissions from Photovoltaic Life-Cycles." *Environmental Science and Technology* 2008 42 (6):2168-2174. Available at: <http://pubs.acs.org/doi/full/10.1021/es071763q>.

Pretty Reservoir Watershed Restoration Action Strategy (2008). Baltimore County Department of Environmental Protection and Resource Management in consultation with the Prettyboy Reservoir WRAS Steering Committee.

9.0 ATTACHMENTS

ATTACHMENT A – SITE LOCATION MAP

ATTACHMENT B – SITE PLAN

ATTACHMENT C – LEASE AND EASEMENTS

ATTACHMENT D – USFWS THREATENED AND ENDANGERED SPECIES

ATTACHMENT E – OPERATION & MAINTENANCE PLAN

ATTACHMENT F – SITE EQUIPMENT MANUFACTURER SPECIFICATIONS

ATTACHMENT G – GLARE ANALYSIS

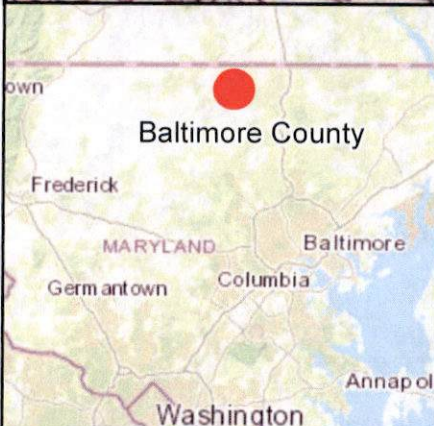
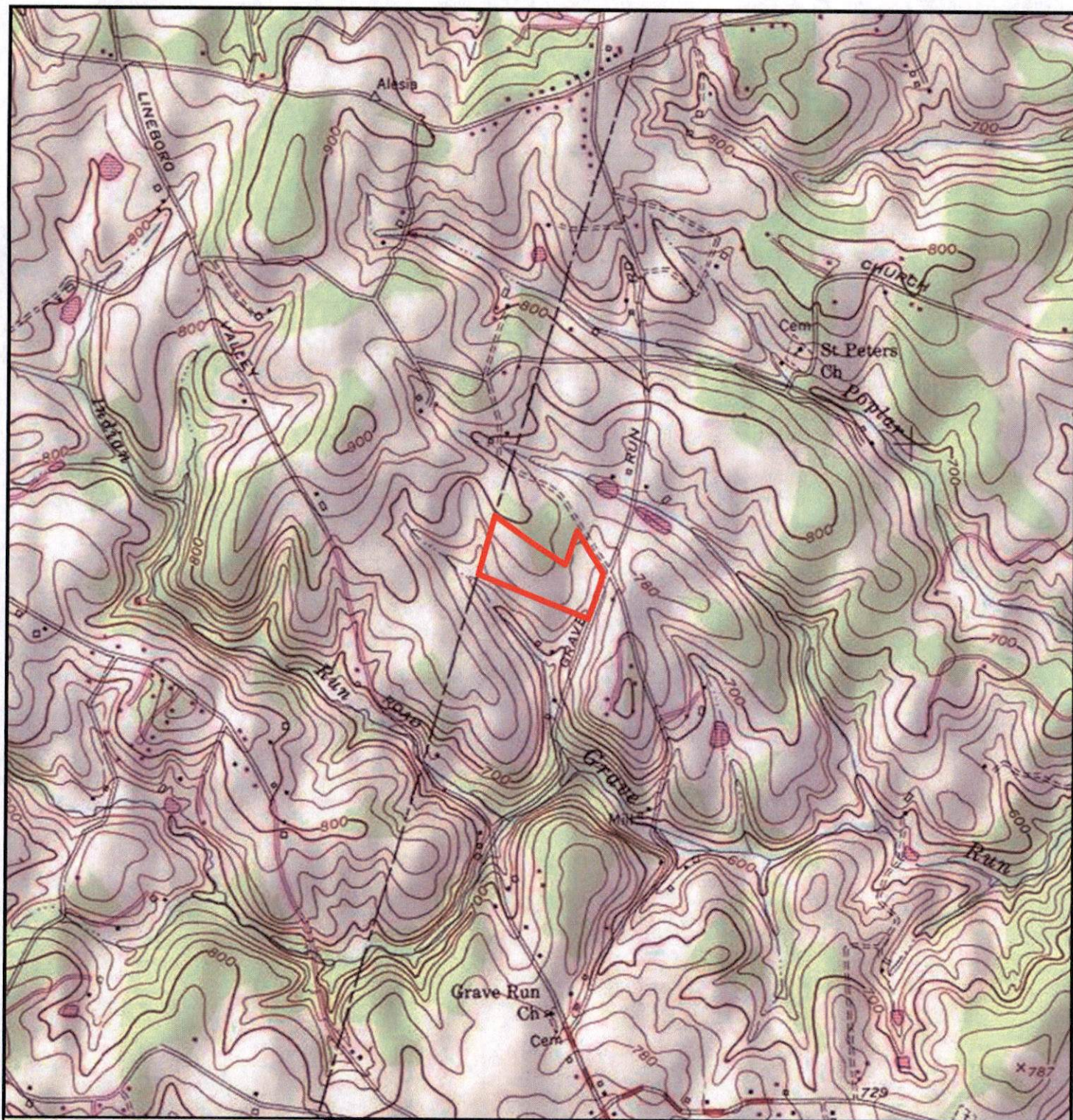
ATTACHMENT H – FEDERAL AVIATION ADMINISTRATION SCREEN

ATTACHMENT I – VEGETATIVE MAINTENANCE PLAN

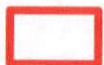
ATTACHMENT J – DECOMMISSIONING PLAN

ATTACHMENT A

SITE LOCATION MAP

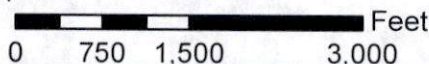


Legend



Approximate property boundary

Approximate Scale:



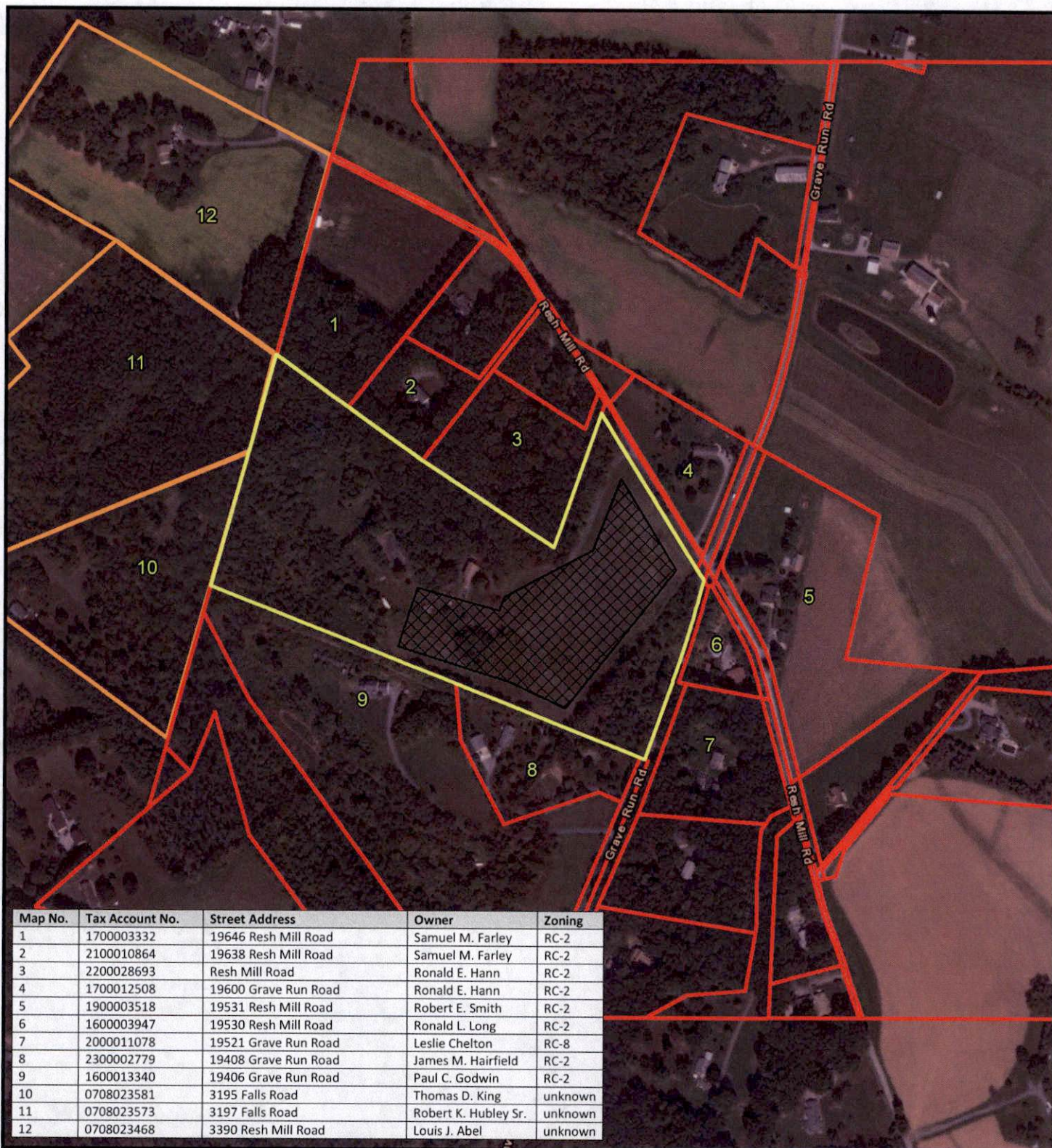
TETRA TECH



Summit Ridge
ENERGY

Attachment 1
Project Location
Hampstead Solar

19620 Resh Mill Road
Reisterstown, MD

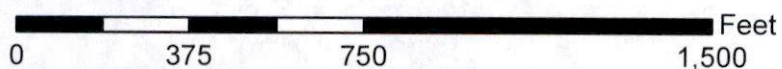


Legend

*Proposed project parcel located in Council District 3 and Election District 05

- Approximate project parcel boundary (zoned RC-2)
- Approximate surrounding property parcels
- Approximate Carroll County parcels
- Approximate project area

Approximate scale:



Surrounding Properties
Hampstead Solar Project

19620 Resh Mill Road
Reisterstown, MD 21136

ATTACHMENT B

SITE PLAN

ATTACHMENT C
LEASE AND EASEMENTS

ATTACHMENT D

USFWS THREATENED AND ENDANGERED SPECIES



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Chesapeake Bay Ecological Services Field Office

177 Admiral Cochrane Drive

Annapolis, MD 21401-7307

Phone: (410) 573-4599 Fax: (410) 266-9127

<http://www.fws.gov/chesapeakebay/>

<http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html>

In Reply Refer To:

October 24, 2018

Consultation Code: 05E2CB00-2019-SLI-0183

Event Code: 05E2CB00-2019-E-00415

Project Name: Hampstead Solar

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office

177 Admiral Cochrane Drive

Annapolis, MD 21401-7307

(410) 573-4599

Project Summary

Consultation Code: 05E2CB00-2019-SLI-0183

Event Code: 05E2CB00-2019-E-00415

Project Name: Hampstead Solar

Project Type: SPECIAL USE PERMIT

Project Description: Tetra Tech, Inc. on behalf of SRE Solar Origination 1 LLC is initiating consultation with the USFWS to determine potential impacts to federally-listed threatened and endangered species for a proposed commercial solar facility.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/39.6623880930815N76.8051368551134W>



Counties: Baltimore, MD

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Reptiles

NAME	STATUS
Bog Turtle <i>Clemmys muhlenbergii</i> Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6962	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

REFUGE INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED.
PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

ATTACHMENT E
OPERATION & MAINTENANCE PLAN

SCOPE OF MAINTENANCE SERVICES

During the term, Provider shall provide the services at the frequency indicated below, in accordance with the terms and conditions of this Agreement (as set forth in further detail below). It is expected that Provider shall exert best efforts to note items of concern outside the scope of scheduled visits; inspecting and assessing items that seem to be problematic even if not part of the scheduled visits and later discussing with the owner to seek remedy.

Item #	Service	Service Description	Frequency
1. Monitoring, Reporting, and Inventory			
1.1	Active Site Monitoring	Monitor inverters and meter output data for issues and alarms.	Daily
1.2	Annual Maintenance Plan	Provision of Annual Maintenance Plan, including baseline schedule for all maintenance services contemplated to occur in such year	Annually, by November 1 of each calendar year during the Term
1.3	Monthly Reporting	Provide monthly operating report for the projects including a summary of (i) operations; (ii) weather data, power and environmental attributes; (iii) Project performance; (iv) reports of any environmental or site disturbances; (v) safety/accident reports; (vi) Non-Covered Services; (vii) maintenance and inspection reporting; and (viii) any scheduled or recommended maintenance for the upcoming month.	Monthly, by the 15th day of the following month
1.4	Annual Reporting	Provide annual maintenance/inspection reports for the Project for the preceding calendar year	Annually, by February 1 of each calendar year during the Term
1.5	Emergency Services and Incident Reporting	Provide written report (in .pdf format) on any event involving Emergency Services, personnel injury associated with the Projects, or material damage to any Project or any part thereof.	No later than five (5) business days after the occurrence, or immediately for OSHA recordable events, but no later than 24 hours after obtaining knowledge of the event.
1.6	Security Incident Reporting	Notify Project Owner following provider receiving information indicative of a security issue on site	Immediately, but no later than 24 hours after obtaining

Item #	Service	Service Description	Frequency
			knowledge of the event.
1.7	Maintain Spare Parts	Store, maintain, and replenish spare parts inventory at Project Owner's expense. Inventory will be stored, at Provider's option either on-site in an O&M storage structure or off-site at a centralized storage facility or warehouse.	As Needed
2. Site Property Inspection/Maintenance			
2.1	Vegetation Management	Maintain vegetation and debris removal/control and landscaping, for all property within the fence line and all property immediately surrounding fencing (within reason), specifically ensuring vegetation does not encroach on modules.	2 X per year, maximum
2.2	Perimeter and Fence Inspection	Inspect all fencing for signs of damage, intrusion, and overgrowth of vegetation. Inspect signage to ensure all originally installed signs are present and legible	2 X per year
2.3	Roads	Inspect all roads for soil erosion concerns	2 X per year
2.4	Site Security Systems	Inspect security systems (if installed) for proper operation according to original security plan and design. Inspect entire site for general vandalism or other signs of security related issues.	2 X per year
3. DC Systems			
3.1	Racking Inspection	Inspect all racking, racking mounts and conduits on racking for damage, corrosion, settling and stability	1 X per year
3.2	Module Inspections	Visually inspect a 25% sampling of modules for soiling, breakage, delamination, discoloring and hot spots (only via aerial thermal audits). Inspections may be done either on the ground or via aerial visual analysis and aerial thermal imaging. If systemic issues are identified, notify Project Owner and propose a corrective action plan to be implemented as needed.	1 X per year
3.3	Broken Module Replacement	Replace modules that have previously been identified as broken (within reason), or identified as broken at the time of inspection. The cost of replacement modules (either for immediate use or to replenish spare parts) will be paid for by the Project Owner as needed. The procurement of replacement modules is conditional to Project Owner approval.	As Needed
3.4	Wire Inspection	Visually inspect for proper wire management and any possible damage on exposed conductors.	2 X per year

Item #	Service	Service Description	Frequency
3.5	Combiner Box and Re-Combiner Inspections	Electrical/mechanical inspection of combiners & disconnects. Visually inspect bonding bushings and grounding, check for wire damage especially at entrance/exit locations, terminal corrosion, any discoloration, and inspect fuses for proper functionality. Remove insects/pest debris from all enclosures.	2 X per year
3.6	Combiner Box and Re-Combiner Torque Inspections	Confirm and correct terminal torque settings for both sides of all fuse holders, grounded (negative) terminal bar, grounding bar, PV output circuit and DC Disconnects.	1 X per year
4. AC Systems			
4.1	Inverters	Perform annual inverter preventative maintenance work for all inverters per manufacturer's recommendations and manufacturer's warranty requirements.	Per Manufacturer's Recommendations and Manufacturer's Warranty Requirements
4.2	Inverter Air Filters and Transformer heat sinks	Inspect inverter air-filters and heat sinks, and clean or replace air filters if necessary.	2 X per year or Per Manufacturers Recommendations, whichever is more frequent.
4.3	Transformers	Visually inspect and clean all transformers per manufacturer recommendations, including but not limited to oil level measurement and clearing heat sink of debris.	1 X per year
4.4	AC Disconnect (if applicable)	Inspection of latches and seals on enclosure, verify proper operation of disconnect, visually inspect terminations and confirm and correct terminal torque settings. Check for signs of arcing.	1 X per year
5. DAS/SCADA Inspections			
5.1	General DAS Inspection	Perform monitoring system maintenance per manufacturer's specifications; verify orientation and attachment of pyranometers and module temperature sensors and MET station, and verify back up power supply functionality.	1 X per year
5.2	Pyranometers	Clean pyranometer domes with a soft cloth.	All scheduled & unscheduled site visits

Item #	Service	Service Description	Frequency
5.3	Pyranometer Calibration	Coordinate with Project Owner to cause calibration of pyranometers per manufacturer's specifications.	Per manufacturer specifications
5.4	Data/Instrument Accuracy and Communications Verification	Test MET station sensors (GHI and POA pyranometers, ambient temperature, back-of-module, anemometer, Revenue Grade Meter (including current transducers), and inverter direct	1 X per year
6. Testing			
6.1	Aerial Thermal Audits	100% Aerial Thermal Audits	1 X per year
6.2	Thermal Imaging	Thermal imaging of all: overcurrent protection devices (OCPD) and bolted electrical connections including terminations in combiners and all disconnects, inverters and transformers	1 X per year
6.3	Transformer Oil Testing	Conduct transformer oil sampling and testing per nationally and/or internationally recognized testing standards	1 X per two years
6.4	Point-to-Point Testing	For 5% random sampling of combiner boxes, inspect grounding from modules & rack to combiners for wear, corrosion, and secure connections, and test the point-to-point resistance between modules, rack and EGC per NETA-ATS 2013 Section 7.13; document location, measure resistance and record results. Investigate point-to-point resistance readings that exceed 0.5 ohms. Notify Project Owner of any issues identified and propose a corrective action plan to be implemented as needed.	1 X per year

ATTACHMENT F

SITE EQUIPMENT MANUFACTURER SPECIFICATIONS

powered by

Q.ANTUM

Q.PLUS L-G4.2 340-355

Q.ANTUM SOLAR MODULE

The **Q.ANTUM** solar module **Q.PLUS L-G4.2** with power classes up to 355 Wp is the strongest module of its type on the market globally. Powered by 72 Q CELLS solar cells **Q.PLUS L-G4.2** was specially designed for large solar power plants to reduce BOS costs. Only Q CELLS offers German engineering quality with our unique triple Yield Security.



LOW ELECTRICITY GENERATION COSTS

Higher yield per surface area and lower BOS costs thanks to higher power classes and an efficiency rate of up to 18.1 %.



INNOVATIVE ALL-WEATHER TECHNOLOGY

Optimal yields, whatever the weather with excellent low-light and temperature behavior.



ENDURING HIGH PERFORMANCE

Long-term yield security with Anti-PID Technology¹, Hot-Spot-Protect and Traceable Quality Tra.Q™.



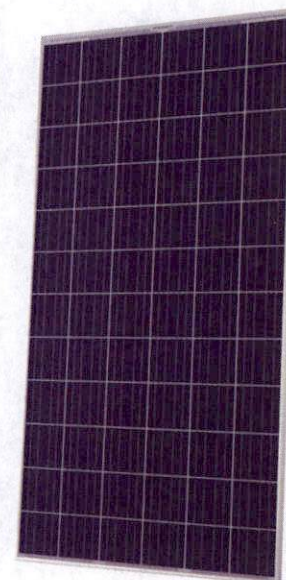
EXTREME WEATHER RATING

High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (2400 Pa).



A RELIABLE INVESTMENT

Inclusive 12-year product warranty and 25-year linear performance guarantee².



THE IDEAL SOLUTION FOR:



Ground-mounted
solar power plants

¹ APT test conditions: Cells at -1500 V against grounded, with conductive metal foil covered module surface, 25°C, 168 h

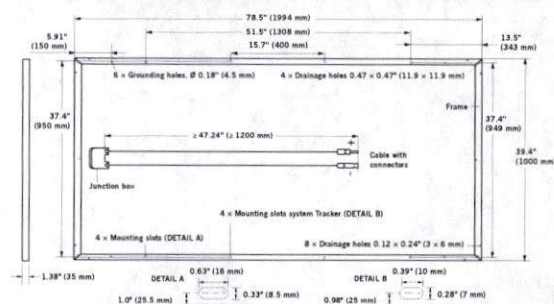
² See data sheet on rear for further information.

Engineered in **Germany**

Q CELLS

MECHANICAL SPECIFICATION

Format	78.5 in × 39.4 in × 1.38 in (including frame) (1994 mm × 1000 mm × 35 mm)
Weight	52.9 lbs (24 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Anodized aluminum
Cell	6 × 12 Q.ANTUM solar cells
Junction box	3.35-4.53 in × 2.36-3.15 in × 0.59-0.75 in (85-115 × 60-80 × 15-19 mm), Protection class ≥ IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥ 47.24 in (1200 mm), (-) ≥ 47.24 in (1200 mm)
Connector	MC4 or MC4-EVO 2, IP65 and IP68



ELECTRICAL CHARACTERISTICS

POWER CLASS				340	345	350	355
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5 W / -0 W)							
Minimum	Power at MPP ²	P _{MPP}	[W]	340	345	350	355
	Short Circuit Current*	I _{SC}	[A]	9.59	9.64	9.69	9.74
	Open Circuit Voltage*	V _{OC}	[V]	47.07	47.46	47.71	47.97
	Current at MPP*	I _{MPP}	[A]	9.03	9.09	9.15	9.21
	Voltage at MPP*	V _{MPP}	[V]	37.63	37.93	38.23	38.52
	Efficiency ²	η	[%]	≥ 17.1	≥ 17.3	≥ 17.6	≥ 17.8
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC ³							
Minimum	Power at MPP ²	P _{MPP}	[W]	252.1	255.8	259.5	263.2
	Short Circuit Current*	I _{SC}	[A]	7.73	7.77	7.81	7.85
	Open Circuit Voltage*	V _{OC}	[V]	43.92	44.29	44.53	44.77
	Current at MPP*	I _{MPP}	[A]	7.09	7.14	7.19	7.24
	Voltage at MPP*	V _{MPP}	[V]	35.56	35.83	36.10	36.36

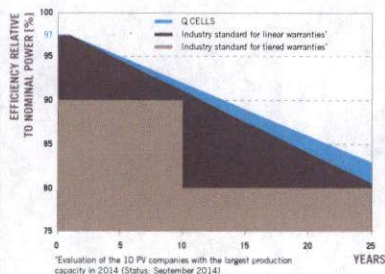
¹ 1000 W/m², 25 °C, spectrum AM 1.5 G

² Measurement tolerances STC ± 3%; NOC ± 5%

³ 800 W/m², NOCT, spectrum AM 1.5 G

* typical values, actual values may differ

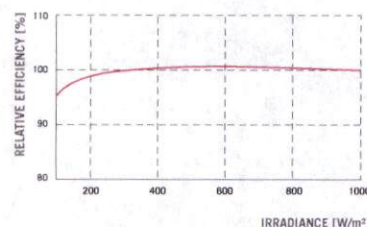
Q CELLS PERFORMANCE WARRANTY



At least 97% of nominal power during first year. Thereafter max. 0.6% degradation per year.
At least 92% of nominal power up to 10 years.
At least 83% of nominal power up to 25 years.

All data within measurement tolerances.
Full warranties in accordance with the warranty terms of the Q CELLS sales organization of your respective country.

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I _{SC}	α	[%/K]	+0.04	Temperature Coefficient of V _{OC}	β	[%/K]	-0.29
Temperature Coefficient of P _{MPP}	γ	[%/K]	-0.40	Normal Operating Cell Temperature	NOCT	[°F]	113 ± 5.4 (45 ± 3 °C)

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V _{sys}	[V]	1500 (IEC) / 1500 (UL)	Safety Class	II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating	C (IEC) / TYPE 1 (UL)
Design load, push (UL) ²	[lbs/ft ²]	75 (3600 Pa)	Permitted module temperature on continuous duty	-40 °F up to +185 °F (-40 °C up to +85 °C)
Design load, pull (UL) ²	[lbs/ft ²]	33 (1600 Pa)	² safety factor of 1.5 included, see installation manual	

QUALIFICATIONS AND CERTIFICATES

IEC 61215 (Ed. 2); IEC 61730 (Ed. 1), Application class A



PACKAGING INFORMATION

Number of Modules per Pallet	29
Number of Pallets per 53' Container	26
Number of Pallets per 40' Container	22
Pallet Dimensions (L × W × H)	81.3 × 45.3 × 46.9 in (2065 × 1150 × 1190 mm)
Pallet Weight	1671 lbs (758 kg)

NOTE: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

Hanwha Q CELLS America Inc.

300 Spectrum Center Drive, Suite 1250, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL inquiry@us.q-cells.com | WEB www.q-cells.us

Engineered in Germany

Q CELLS

SELF-POWERED CONTROLLER

COMPONENT DATA SHEET

CONTROL SYSTEM OVERVIEW

With over 5GW of solar trackers delivered on five continents, NEXTracker's NX Horizon™ is the world's leading single-axis tracker. NX Horizon includes a comprehensive communications and control system for maximum tracker accuracy and system reliability. This consists of three types of control units, all networked together via ZigBee® wireless mesh communications.

SELF-POWERED CONTROLLER

Our patent-pending Self-Powered Controller (SPC) is mounted on each tracker row and autonomously commands the tracker to follow the sun throughout the day. Tracker operation is derived from on-board GPS, clock, and inclinometer, ensuring superior tracking accuracy. The SPC is powered by a small, dedicated PV panel and includes a backup battery to eliminate the need for any tracker power wiring. All SPCs communicate over a ZigBee wireless mesh network for monitoring and global control functions.

NETWORK CONTROL UNIT

A Network Control Unit (NCU) aggregates communication and control for up to 100 SPCs via the same ZigBee network. Each NCU monitors real-time SPC parameters and issues global commands to its associated SPCs. During wind or snow events, stowing commands are generated and issued automatically based on real-time data from Weather Stations located

on-site. Manual operator-generated commands are available via local switches on the NCU.

Each NCU is accessible via a Modbus interface for SCADA integration. NCUs are typically located at inverter pads with other electrical equipment to easily connect to the required AC power. As with the SPCs, a battery backup is built into each NCU unit.

WEATHER STATION

A Weather Station measures real-time wind speed and snow depth and reports this data to the NCUs over the ZigBee network. When conditions warrant, the NCUs will propagate a stowing command out to their associated SPCs within seconds. Like the SPCs, each Weather Station is powered by a small, dedicated PV panel and includes a backup battery eliminating the need for power wiring. The quantity and location of Weather Stations is defined on a per project basis.

TRACKER CONTROLLER SPECIFICATIONS (GEN 2)

INPUT

Max PV Input Power	80W
Max PV Input Voltage	30V _{DC}
Maximum PV Input Current	3.5A
MPPT Voltage Range	16-27V
Battery Nom. Voltage/Range	14.5V/12-16V

OUTPUT

Rated Power	150W
Motor Voltage (Nominal / Range)	24V/0-24V
Motor Typical Operating Current	1.0-2.0A
Motor Peak Current	10A

COMMUNICATIONS

Interface to NCU	ZigBee (2.4GHz)
------------------	-----------------

OPERATING PERFORMANCE

Tracking Range	+/- 60 degrees
Standby Consumption	<0.5W

MECHANICAL

Enclosure Rating	NEMA 4X / IP65
Dimensions (LxWxD)	14"x8"x4"
Weight	<9 lbs.
Enclosure Material	Polymer
EMI Compliance	FCC Part 15 Subpart B EN 55022: 2010 AS/NZS CISPR
Safety Compliance	UL 3703 in USA

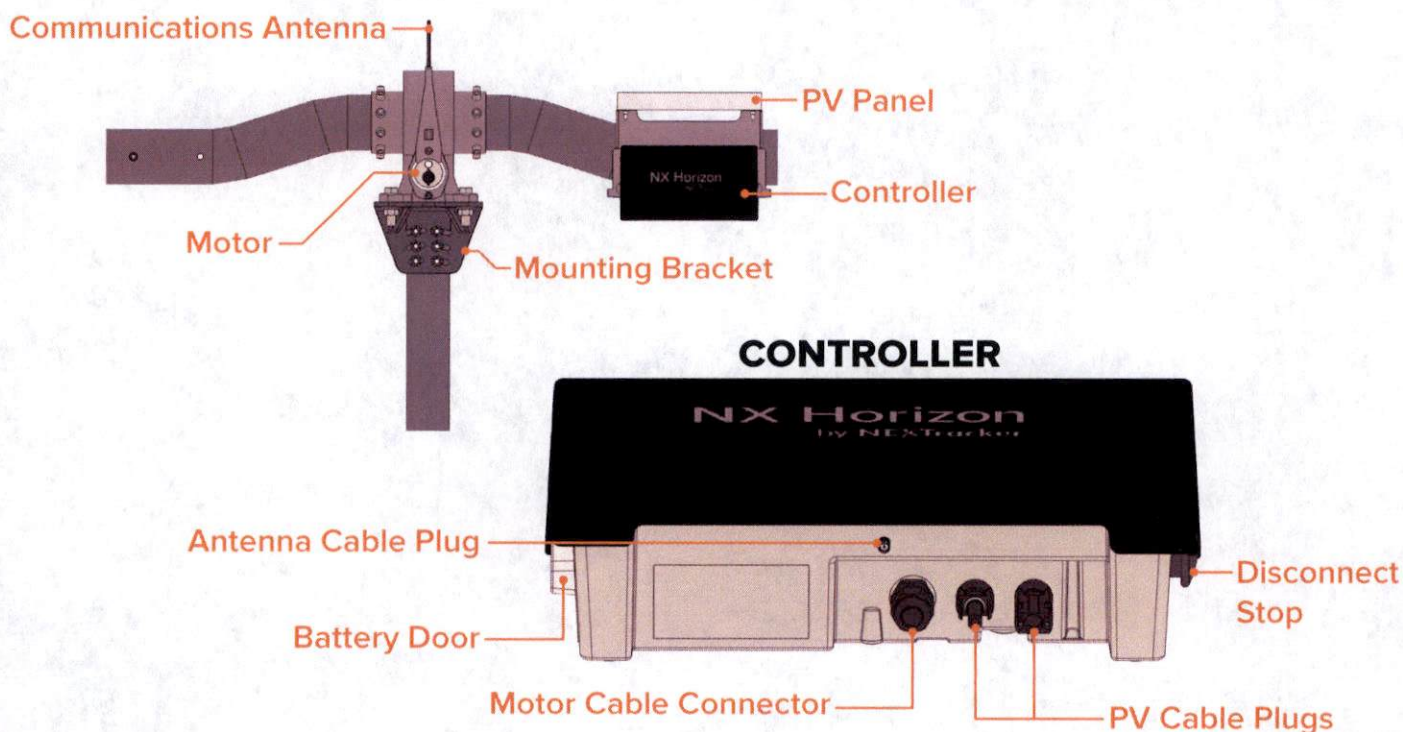
ENVIRONMENT

Operating Temperature	-30C to 60C
Storage Temperature	0C to 40C
Relative Humidity	0-95%

BACKUP BATTERY

Battery Technology	Lithium Ion
Expected Battery Life	10 years
Backup Storage Capacity	3 days

SELF-POWERED CONTROLLER



WEATHER STATION CONTROLLER SPECIFICATIONS

INPUT

Max PV Input Power	65W
Max PV Input Voltage	30V _{DC}
Maximum PV Input Current	3A
MPPT Voltage Range	10-25V
Battery Nom. Voltage/Range	14.5V/12-16V

COMMUNICATIONS

Interface to NCU	ZigBee (2.4GHz)
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WEATHER STATION SENSORS

Wind	NovaLynx Wind Sonic 65
Snow/Flood	NovaLynx 260-700

MECHANICAL

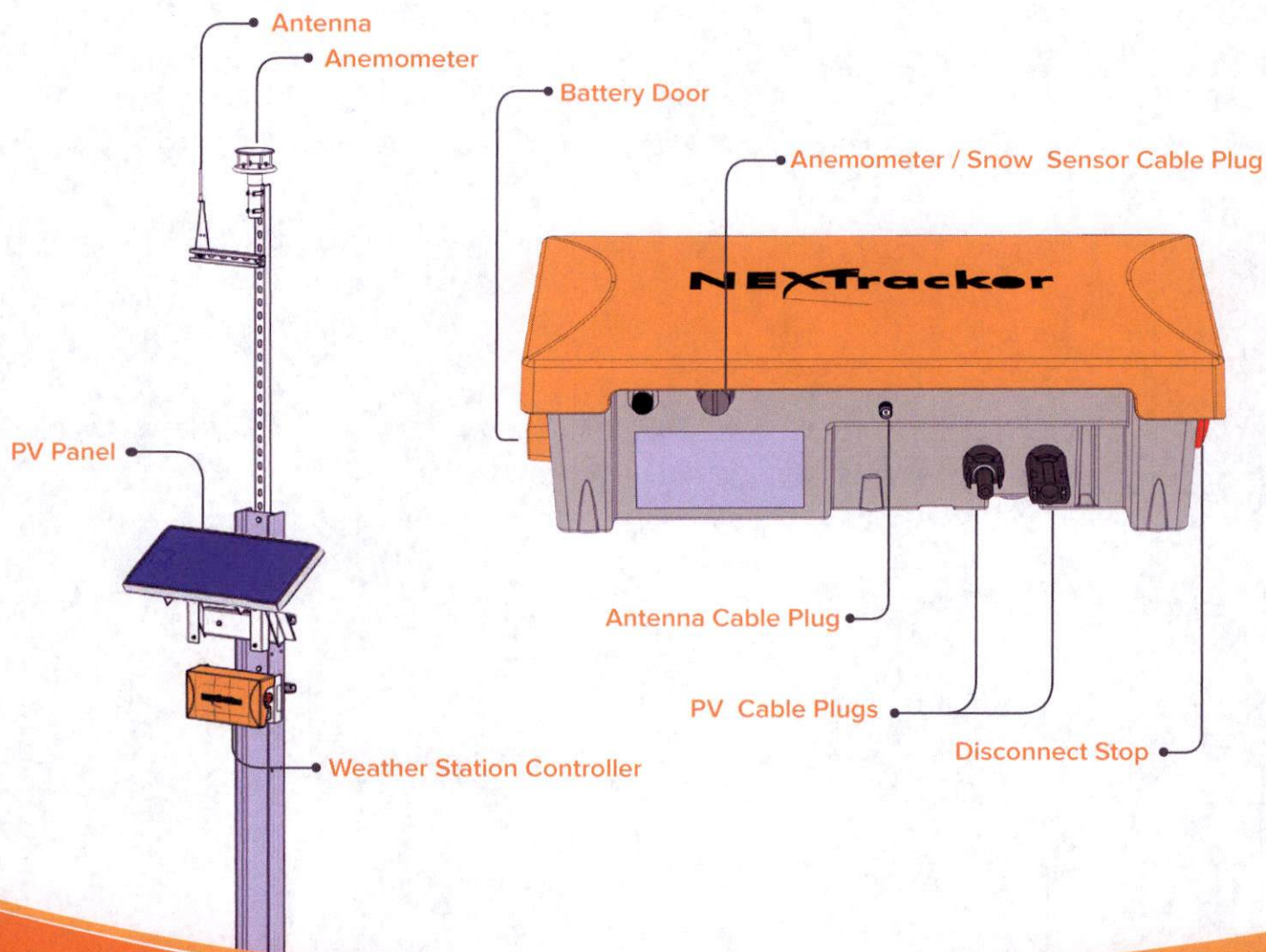
Enclosure Rating	NEMA 4X / IP65
Dimensions (LxWxD)	20"x6"x5"
Weight	<25 lbs.

ENVIRONMENT

Operating Temp. - Standard	0C to 50C
Operating Temp. - Optimal	-30C to 50C
Storage Temperature	0C to 40C
Relative Humidity	0-95%

BACKUP BATTERY

Battery Technology	Lithium Ion
Expected Battery Life	10 years
Backup Storage Capacity	3 days



NETWORK CONTROL UNIT SPECIFICATIONS

INPUT		MECHANICAL	
AC Input Voltage	100-265VAC	Enclosure Rating	NEMA 4X
Operational Power Consumption	<10W	Dimension in mm. (LxWxD)	491x452x200
Min. Over Current Device Rating	1A	Weight	<20 lbs.
BACKUP BATTERY		ENVIRONMENT	
Battery Technology	Lithium Ion	Operating Temperature	-30C to 60C
Expected Battery Life	10 years	Storage Temperature	0C to 40C
Backup Storage Capacity	3 days	Relative Humidity	0-95%
Shelf Life (In Storage)	3 months	HARDWARE	
COMMUNICATIONS		CPU (Processor)	Cortex A8
Remote Interface	ZigBee (2.4GHz)	On board Storage	4GB
Local Control Switches	Auto/Manual; Wash Position	Additional Storage Option	SD Slot
Network Interface	Ethernet RJ45	Onboard Screen	VFD

NETWORK CONTROL UNIT



MECHANICAL SYSTEMS OVERVIEW

COMPONENT DATA SHEET

With over 5GW of solar trackers delivered on five continents, NEXTracker's NX Horizon™ is the world's leading single-axis tracker. The NX Horizon is a self-powered, decentralized tracking system where each row is independent of one another - an industry first. Prior to this pioneering innovation, single-axis trackers included a drive shaft connecting each row, which impeded overall operations and maintenance of solar power plants. For NX Horizon, each row is driven by a brushless DC motor coupled to a slew gear. Power for the motor is provided by our patent-pending Self-Powered Controller (SPC) and a dedicated PV module.

BRUSHLESS DC MOTOR SPECIFICATIONS

MECHANICAL

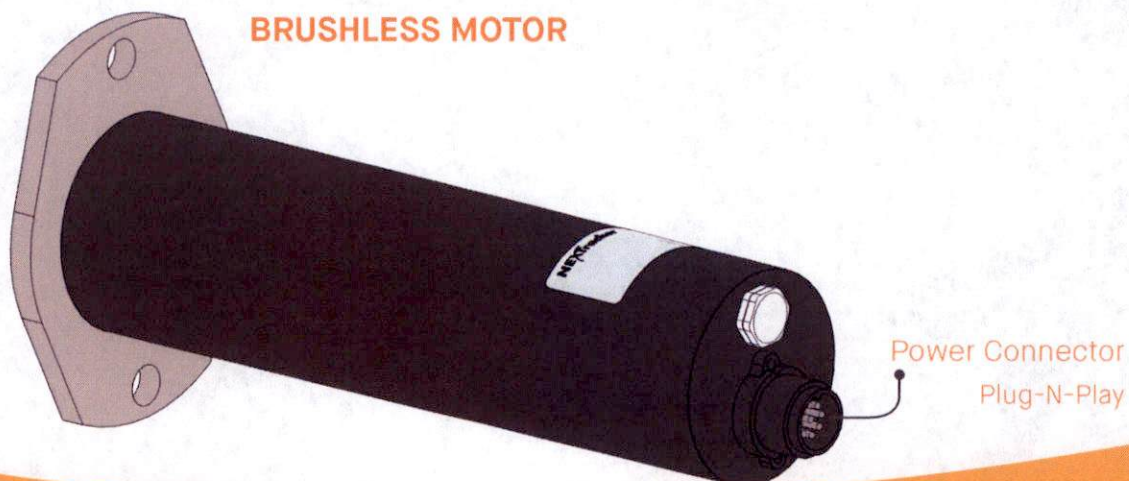
Protection Class	IP 65
Isolation Class	EN62114 (120C)
Certification	UL 1004-1
Operating Temperature	-40°C to 85°C
Motor Type	Brushless
Weight	1.7kg
Relative Humidity	0-95%

POWER RATINGS

Nominal Voltage	24 V DC
Motor Continuous Current (85C)	< 6.25 A
No load Current at 24VDC (85C)	< 1 A
Max Power at Rated Torque	150 W

OUTPUT

Rated Gear Output Torque (1 hr. continuous)	150 N-m
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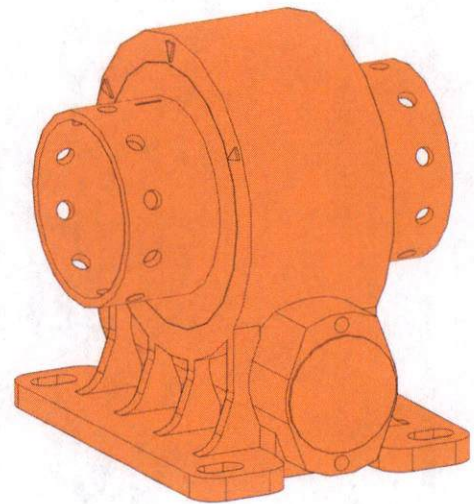
SLEW GEAR SPECIFICATIONS

MECHANICAL

Protection Class	IP 55 per IEC60529
Ambient Temp. Range	-40C to 60C
Housing Material	Ductile Iron
Rotation Range	$\pm 65^\circ$
Weight	77.5kg

LOAD RATINGS

Normal Output Torque, min	$\pm 2000 \text{ N-m}$
High Output Torque, min	$\pm 5000 \text{ N-m}$



SLEW GEAR

The NX Horizon slew gear is a single stage, worm gear speed reducer. The slew gear is designed to adjust the tracker tilt position to follow the sun each day, as well as hold the tracker position fixed during periods of wind stow. The brushless motor is directly coupled to the input worm shaft of the slew gear, with the tracker torque tubes permanently connected to the output collars. The slew gear is sealed and requires no scheduled maintenance for the life of the product.



NX Horizon Solar Tracker
UL 2703 & 3703 Certified

ATTACHMENT G

GLARE ANALYSIS

FORGESOLAR GLARE ANALYSIS

Project: **Summit Ridge Maryland**

Site configuration: **Hampstead**

Analysis conducted by Jodi Hunt (jodi.hunt@tetrattech.com) at 13:19 on 25 Oct, 2018.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	N/A	No flight paths analyzed
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis and observer eye characteristics are as follows:

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at <https://www.federalregister.gov/d/2013-24729>

SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m²
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 22123.3820



PV Array(s)

Name: PV array 1
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 30.0°
Max tracking angle: 60.0°
Resting angle: 60.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	39.663234	-76.804711	737.90	7.00	744.90
2	39.662433	-76.805446	755.34	7.00	762.34
3	39.662000	-76.806149	769.45	7.00	776.45
4	39.662194	-76.807082	766.13	7.00	773.13
5	39.661859	-76.807270	753.41	7.00	760.41
6	39.661302	-76.805419	752.84	7.00	759.84
7	39.662470	-76.804137	739.51	7.00	746.51

Discrete Observation Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	39.662479	-76.806395	778.83	6.00
OP 2	2	39.663511	-76.803858	755.77	6.00
OP 3	3	39.662933	-76.804217	741.89	5.00
OP 4	4	39.661186	-76.806014	755.23	6.00
OP 5	5	39.661591	-76.807468	733.54	6.00
OP 6	6	39.660269	-76.804893	726.08	5.00
OP 7	7	39.662363	-76.803279	769.15	6.00

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt (°)	Orient (°)	"Green" Glare min	"Yellow" Glare min	Energy kWh
PV array 1	SA tracking	SA tracking	24,651	23,726	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
OP 1	23724	12131
OP 2	0	0
OP 3	927	11595
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0

Results for: PV array 1

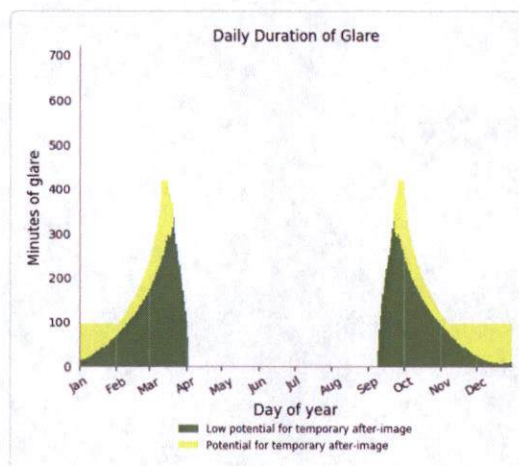
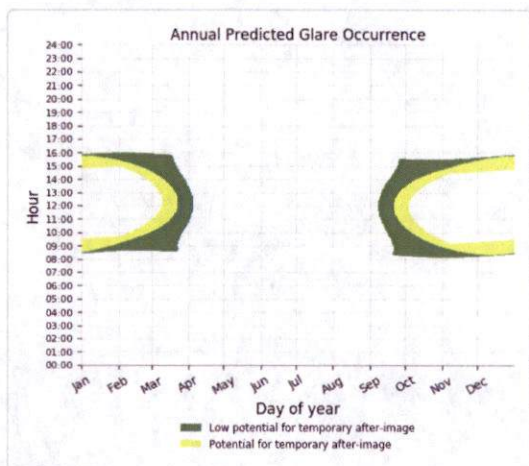
Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	23724	12131
OP 2	0	0
OP 3	927	11595
OP 4	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 5	0	0
OP 6	0	0
OP 7	0	0

Point Receptor: OP 1

12131 minutes of yellow glare

23724 minutes of green glare



Point Receptor: OP 2

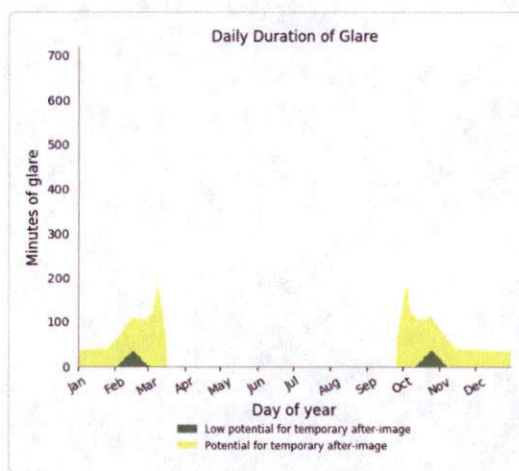
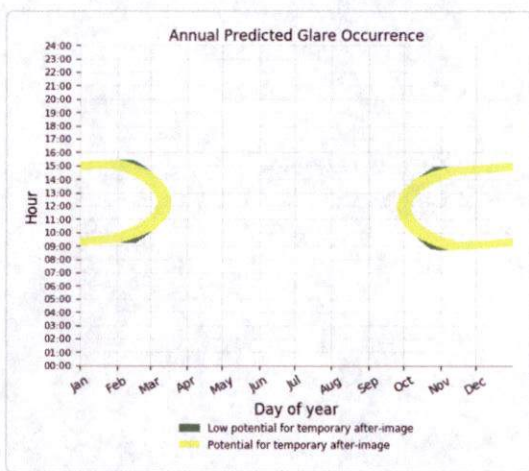
0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 3

11595 minutes of yellow glare

927 minutes of green glare



Point Receptor: OP 4

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare

0 minutes of green glare

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.

The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values may differ.

Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

FORGESOLAR GLARE ANALYSIS

Project: **Summit Ridge Maryland**

Site configuration: **Hampstead**

Analysis conducted by Jodi Hunt (jodi.hunt@tetrattech.com) at 13:23 on 25 Oct, 2018.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	N/A	No flight paths analyzed
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis and observer eye characteristics are as follows:

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at <https://www.federalregister.gov/d/2013-24729>

SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m²
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 22123.3820



PV Array(s)

Name: PV array 1
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 30.0°
Max tracking angle: 60.0°
Resting angle: 60.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	39.663234	-76.804711	737.90	7.00	744.90
2	39.662433	-76.805446	755.34	7.00	762.34
3	39.662000	-76.806149	769.45	7.00	776.45
4	39.662194	-76.807082	766.13	7.00	773.13
5	39.661859	-76.807270	753.41	7.00	760.41
6	39.661302	-76.805419	752.84	7.00	759.84
7	39.662470	-76.804137	739.51	7.00	746.51

Discrete Observation Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	39.662479	-76.806395	778.83	16.00
OP 2	2	39.663511	-76.803858	755.77	16.00
OP 3	3	39.662933	-76.804217	741.89	9.00
OP 4	4	39.661186	-76.806014	755.23	16.00
OP 5	5	39.661591	-76.807468	733.54	16.00
OP 6	6	39.660269	-76.804893	726.08	9.00
OP 7	7	39.662363	-76.803279	769.15	16.00

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt (°)	Orient (°)	"Green" Glare min	"Yellow" Glare min	Energy kWh
PV array 1	SA tracking	SA tracking	42,327	21,548	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
OP 1	38527	7336
OP 2	85	0
OP 3	3715	14212
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0

Results for: PV array 1

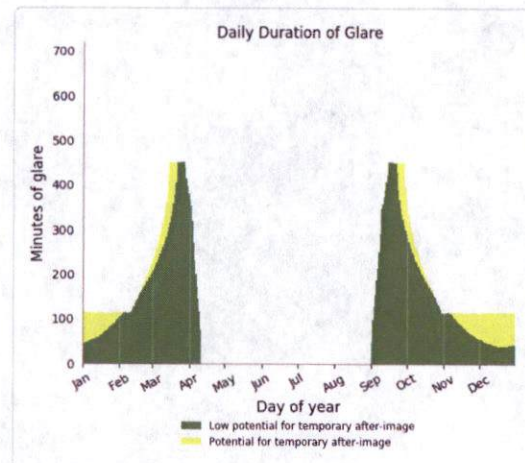
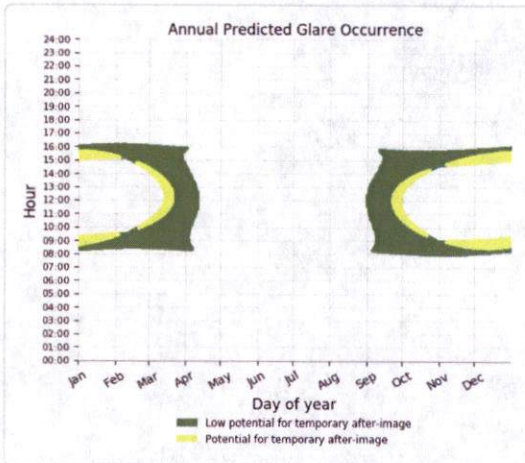
Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	38527	7336
OP 2	85	0
OP 3	3715	14212
OP 4	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 5	0	0
OP 6	0	0
OP 7	0	0

Point Receptor: OP 1

7336 minutes of yellow glare

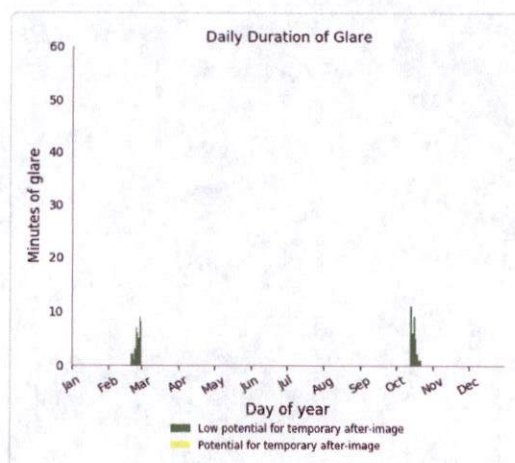
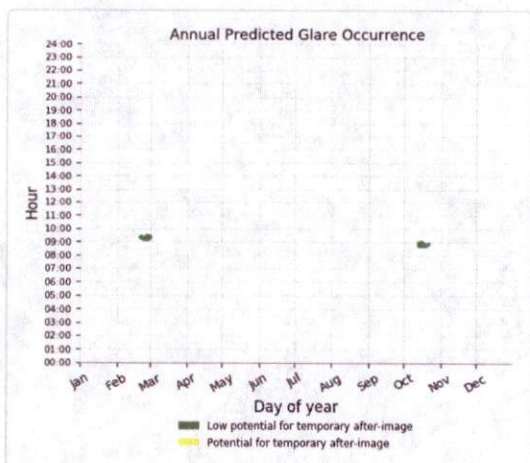
38527 minutes of green glare



Point Receptor: OP 2

0 minutes of yellow glare

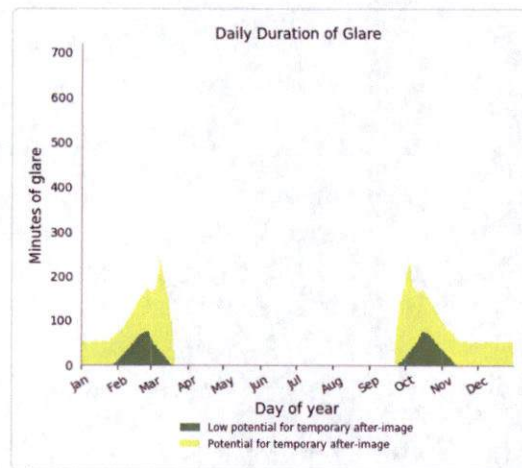
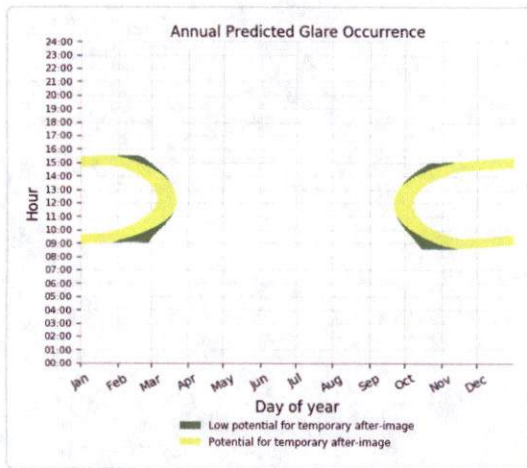
85 minutes of green glare



Point Receptor: OP 3

14212 minutes of yellow glare

3715 minutes of green glare



Point Receptor: OP 4

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare

0 minutes of green glare

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.

The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values may differ.

Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

ATTACHMENT H

FEDERAL AVIATION ADMINISTRATION SCREEN



Notice Criteria Tool

Notice Criteria Tool - Desk Reference Guide V_2014.2.0

The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference [CFR Title 14 Part 77.9](#).

You must file with the FAA at least 45 days prior to construction if:

- your structure will exceed 200ft above ground level
- your structure will be in proximity to an airport and will exceed the slope ratio
- your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)
- your structure will emit frequencies, and does not meet the conditions of the [FAA Co-location Policy](#)
- your structure will be in an instrument approach area and might exceed part 77 Subpart C
- your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
- your structure will be on an airport or heliport
- filing has been requested by the FAA

If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the [Air Traffic Areas of Responsibility map](#) for Off Airport construction, or contact the [FAA Airports Region / District Office](#) for On Airport construction.

The tool below will assist in applying Part 77 Notice Criteria.

Latitude:	39 Deg 39 M 43.19 S N ▼
Longitude:	76 Deg 48 M 18.59 S W ▼
Horizontal Datum:	NAD83 ▼
Site Elevation (SE):	766 (nearest foot)
Structure Height :	7 (nearest foot)
Traverseway:	No Traverseway ▼ (Additional height is added to certain structures under 77.9(c)) User can increase the default height adjustment for Traverseway, Private Roadway and Waterway
Is structure on airport:	☒ No ☐ Yes

Results

You do not exceed Notice Criteria.



ATTACHMENT I
VEGETATIVE MAINTENANCE PLAN

VEGETATIVE MAINTENANCE

Hampstead Ground Mounted Solar Project

Project Information

Project Name: Hampstead Solar
Address: 19620 Resh Mill Road, Hampstead, MD 21074
Project Area: Approximately 6.3 Acres

Background

Following construction of the solar facility, disturbed grounds will be re-established with low growth/low maintenance ground cover. The vegetative maintenance contractor will be responsible for inspecting and maintaining the vegetative integrity of the solar facility. The contractor will conduct on-site activities during growing months at the frequency of approximately 2-3 times per year. The contractor is expected to adjust site maintenance frequency based on time of year and weather conditions. To avoid rutting, erosion, and soil compaction, weather forecasts will be consulted and on-site field inspections will be conducted prior to mowing or cutting to ensure that these practices occur when the site is able to withstand this type of activity.

It is important to note this scope of work covers work along the access road and w/in the fence line of the project. Remaining lands outside the fence will continue to be utilized for agricultural purposes and maintained by the landowner or their representative.

Site Activities

- Perimeter Maintenance
 - The perimeter fence line will be inspected for items of trash, that may have accumulated since the previous site visit. These items will be collected and disposed of offsite. Vegetative growth along the fence line will also be trimmed and maintained to prevent the growth of weeds or tall grasses.
- Mowing
 - Mowing is a three-step process. First, the mower or bush hog trims the large areas. Second, trimmers are used to cut around structural elements and other places the mower couldn't reach. Finally, any vegetation that was thrown and stuck to the modules will be cleaned off. Additionally, spot-mowing is recommended for reducing invasive plants while native species are becoming established. Spot-mowing should be done at a raised height to avoid damaging native plants.

- Site Inspections
 - During each maintenance visit, the site will be inspected for signs of erosion. Any areas of concern will be immediately communicated to the project owner/developer to evaluate and implement corrective measures. Should the contractor observe a non-typical condition or change in site conditions the project owner/developer will be immediately notified.
- Screening Maintenance
 - Should vegetative screening be installed at the PV facility, the contractor will be responsible for monitoring the general health of each plant. If any plant succumbs and fails to establish its self, contractor will work with the responsible nursery to redeem the warranty and replace the deceased plant with another of the same species.
- Access Road Maintenance
 - During maintenance activities, the access road will be inspected and maintained to ensure that vegetative creep does not occur. This will include the mowing of at least a 3-foot strip paralleling each side of the road. Additionally, any observed vegetative creep within the road will be removed.

Table 1: Scope of Work

Activity	Frequency	Timing
Perimeter Maintenance	8-12 Weeks	May - October
Mowing	8-12 Weeks	May - October
Site Inspections	8-12 Weeks	May - October
Screening Maintenance*	4-8 Weeks	May - October
Access Road Maintenance	8-12 Weeks	May - October

*Two years only to ensure vegetation planted for screening is adequately established

ATTACHMENT J
DECOMMISSIONING PLAN

DECOMMISSIONING PLAN
Hampstead Ground Mounted Solar Project



ICFTS MD Solar, LLC
1401 Wilson Blvd., Suite 800
Arlington, VA 22209

ICFTS MD Solar, LLC
Decommissioning Plan

Contents

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ICFTS MD Solar, LLC
Decommissioning Plan

1. BACKGROUND

Facility Description

ICFTS MD Solar, LLC (Summit Ridge) proposes to develop a solar photovoltaic (PV) facility (the “Project”) with a total maximum nameplate capacity of 850 kilowatt alternating current (kWac), located on private property at 19620 Resh Mill Road, Hampstead, Baltimore County, Maryland, (the “Property”), as shown in Figure 1.

The Project occupies approximately 6.3 acres of a larger 20.5-acre parcel of private land located north east of the Town of Hampstead, County of Baltimore. The Project will produce electricity delivered to Baltimore Gas and Electric’s local distribution system utilizing existing lines. Interconnection to Baltimore Gas and Electric’s system will include both underground and overhead wires along with new utility poles located on the Property.

The solar PV modules will be installed on single-axis metal racking structures secured to the ground utilizing either direct push or anchor screw technology. Direct Current (DC) wiring with the Project will be secured behind the modules, collected at a common point and transition underground from the string inverters to the transformer. From the transformer pad, AC wiring will run underground until a point before the interconnection where it will surface and connect to a series of utility poles on the Property before connecting to the existing grid.

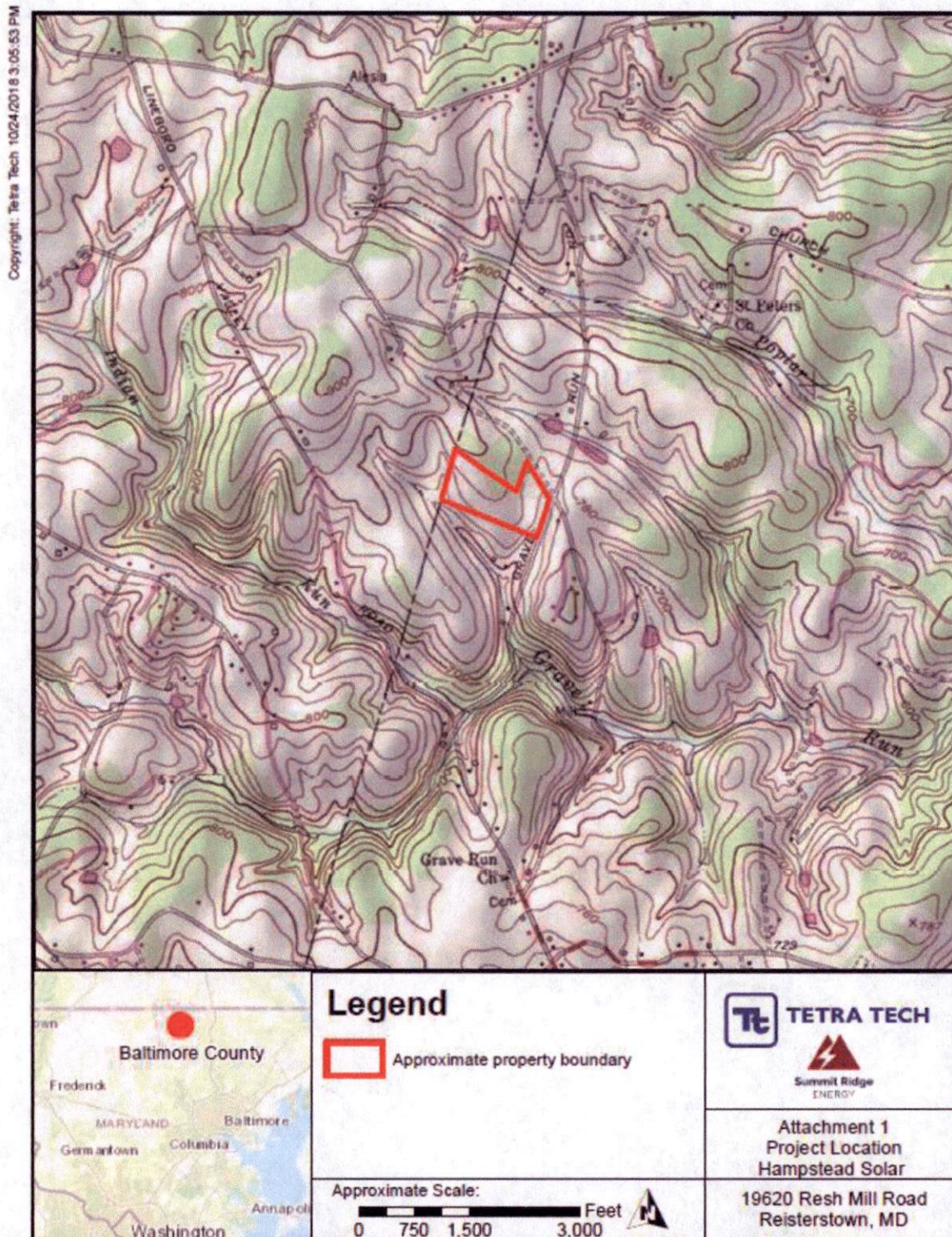
Access to the Project will be from Resh Mill Road utilizing a 20-foot wide crushed stone road constructed for access to the facility.

The transformer skid will be mounted on a concrete pad located within the array. The pad used for a skid unit will be approximately 13-feet x 13-feet.

The site will be secured with a perimeter chain link fence.

ICFTS MD Solar, LLC
Decommissioning Plan

Figure 1: Project Location



2. DECOMMISSIONING ACTIVITIES

Introduction

The Decommissioning Plan (the “Plan”) describes anticipated activities and process for decommissioning of the proposed facility following its useful life. The purpose of decommissioning is to restore the property to a clean, safe and, usable condition for continued use by the landowner.

Decommissioning consists of the removal of above-ground and below-ground facility components, management of excess materials and waste as well as the restoration of Project lands, as applicable. Activities are expected to take between 8-10 weeks but no longer than four-months.

Potential negative environmental effects from decommissioning of the facility will be mitigated through use of erosion and sediment control measures, limiting the use of heavy machinery (where possible), and maintaining a buffer from natural features. These control measures, as well as other mitigation measures used during construction will be re-implemented during the decommissioning phase and until the site is stabilized.

Future consultation will occur with the municipality prior to decommissioning to discuss preferences and commitments to restore the Project to its pre-construction condition or a similar state. All decommissioning and restoration activities will adhere to the requirements set forth by Occupational Health and Safety Administration (OSHA) and will be in accordance with all applicable federal, state and local permitting requirements. As with the construction phase, an onsite manager responsible for safety will be present on-site (generally the contractor’s project manager) while decommissioning activities are taking place.

The decommissioning plan is based on current procedures and experience. These procedures may be subject to revision based on new experiences and requirements over time. At the time of decommissioning, various options and procedures will be re-evaluated to ensure that decommissioning is safe and beneficial to the environment.

Equipment Removal

A significant amount of the components of the Project will include recyclable or re-saleable components, including copper, aluminum, galvanized steel, and modules. Due to their resale monetary value, these components will be dismantled and disassembled rather than being demolished and disposed of.

Following coordination with the local utility company regarding timing and required procedures for disconnecting the Facility from the private utility, electrical connections to the system will be disconnected and connections will be tested locally to confirm that no electric current is running through them before proceeding. Electrical connections to the panels will be cut at the panel and then removed from their framework by cutting or dismantling the connections to the supports. Inverters, transformers, and switchgear will be lifted, secured onto flat beds, and transported off-site for processing.

ICFTS MD Solar, LLC
Decommissioning Plan

Modules will be detached from the racking system and stacked for removal. In the event of a module fracture, the silicon-based module will be disposed of at a landfill as non-hazardous waste.

The metal piling systems used to secure the PV system in the ground will be removed entirely. If full removal is not possible, the piling will be terminated at a depth greater than four-feet from grade or at bedrock whichever is shallower. The piling materials will be collected and recycled. Additionally, all associated metal mounting structures along with the metal perimeter fencing and gates will be removed and either reused or sent for recycling.

Grade slabs will be broken, removed, and disposed of off-site or recycled. Unless requested by the landowner for the access road to remain, materials from road construction will be removed, shipped off-site for either re-use or disposal. If necessary, the former road bed will be backfilled and graded with material native to the region to blend it with the immediately adjacent and existing topography.

Aboveground utility poles owned by the Project will be completely removed and disposed of off-site in accordance with utility best practices. Overhead wires will be removed from the area of the solar modules and terminated at the point of interconnection. Underground wiring at depths of less than four-feet will be removed and recycled.

Prior to final demobilization, a final walkthrough of the Project area and the property will be completed to ensure all debris is collected and removed.

Site Restoration

Those areas disturbed during decommissioning activities will be graded as necessary to ensure a uniform slope for proper storm water management, prevent the ponding of waters and address any rutting or other depressions caused by removal equipment. The disturbed areas will then be seeded either by hand or via hydro seeding to reestablish vegetation compatible with the property and region. It is anticipated that a seed mix native to the area will be used by the decommissioning contractor, unless the landowner instructs that they will begin using the property for agricultural purposes and will reestablish the area with agricultural vegetation.

3. PERMITTING

Permitting & Approvals

Prior to the initiation of decommissioning activities, local code will be reviewed for applicability with decommissioning activities. The municipality will be consulted to confirm and applications made for appropriate permits and approvals, if any. At a minimum, it is anticipated that a new storm water pollution prevention plan (SWPPP) will be required along with a building permit. It is assumed that neither a new or revised site plan nor special use permit would be necessary because decommissioning activities are associated with the originally issued approvals.

Throughout the decommissioning process, the municipality will be provided with regular updates and notice upon completing the restoration activities.

4. DECOMMISSIONING ASSURANCE

Form of Assurance

The Operator/Owner will secure a bond as assurance for decommissioning of the project if the Solar Energy System ceases to be used for its intended purpose for 150 consecutive days and the Operator/Owner does not provide reasonable evidence of intent to restart operations within six (6) months thereafter. Removal of the Solar Energy System, obsolete and/or unused structures shall be completed within three (3) months thereafter or as soon as feasible due to weather restrictions. The bond will be maintained and upon Town's request, within thirty (30) days prior to the end of each five (5)-year period after the establishment of the bond, the Operator/Owner shall provide the Town with an updated Removal Letter setting forth an updated estimate for the removal of such obsolete and or unused structures and the bond shall be altered to reflect the updated estimate for such removal. The bond will remain in place through the completion of decommissioning activities at the Project.

Use of Assurance

In the event that the Operator/Owner fails to undertake decommissioning activities within the established period of the Agreement, the municipality shall have the right to undertake decommissioning activities and make a claim against the decommissioning assurance. In such circumstances, the municipality shall have such access to the Property as may be necessary to allow its qualified contractors to conduct decommissioning activities.



Zoning Special Use Application

**OF
Proposed Hampstead Solar Site
19620 Resh Mill Road
Hampstead, Maryland**

October 30, 2018

Prepared by:



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Prepared for:



Summit Ridge
ENERGY

ICFTS MD Solar, LLC
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Arlington, VA 22201

ZONING SPECIAL USE APPLICATION
Proposed Hampstead Solar Site
Hampstead, Baltimore County, Maryland

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ATTACHMENT H – FEDERAL AVIATION ADMINISTRATION SCREEN
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ATTACHMENT J – DECOMMISSIONING PLAN

1.0 PROJECT OVERVIEW

ICFTS MD Solar, LLC (Summit Ridge) is seeking a Zoning Special Use Permit and Site Plan approval for the construction of the Hampstead Solar approximately 850-kilowatt (kW) alternating current (AC) Photovoltaic (PV) Array located at 19620 Resh Mill Road, Hampstead, Maryland (hereafter referred to as the "Site"). Summit Ridge proposes the development of approximately 6.3 acres of a larger 20.5-acre parcel of private land in Hampstead, Baltimore County into a ground-mounted PV solar energy generating facility.

The proposed project would be capable of delivering approximately 850 kW of AC into the electrical power grid, which is sufficient to provide renewable energy to approximately 150 households. The PV panels proposed for this project are single-axis tracking panels that would be placed on a racking system that is pile driven into the ground surface. The solar panels will be directly interconnected to, and provide energy to, Baltimore Gas and Electric's local electric distribution grid via an overhead electrical service. Prior to utility interconnection, direct current (DC) electrical power generated by the solar panels will be transformed to AC power and modified as necessary to connect to Baltimore Gas and Electric's electrical power supply. The project would also include an equipment pad, a gravel access road, a vegetative soil cover, and it will be surrounded by a chain-linked security fence as per the applicable electric building codes and requirements.

The following sections address the Zoning Special Exception Permit/Solar Energy System Development Criteria cited in the Baltimore County, Maryland ordinance, regulating development of solar energy systems (Ordinance Part 4F), The Baltimore County Code Section 33-3-108, and the Zoning Checklist for Non-Residential Permits and/or Zoning Public Hearing Applications.

2.0 *SITE DESCRIPTION*

The Site, located at 19620 Resh Mill Road, Maryland, consists of one tax parcel assigned Tax PIN number 0503047700, totaling an area of approximately 20.5 acres. According to Baltimore County Zoning Maps, the parcel is zoned RC-2 for agricultural use. According to Baltimore County Tax Information, the parcel is located along the Baltimore County line in Hampstead, Maryland and west of the Prettyboy Reservoir. The Site is bounded by residential structures, undeveloped land and Resh Mill Road to the north; Grave Run Road, undeveloped land and residential structures to the east; residential structures and undeveloped land to the south; and undeveloped land to the west. The Prettyboy Reservoir is located approximately two miles east of the Site.

A map showing the location of the Site and adjacent land use is presented in *Attachment A*; A Site plan showing the physical layout is presented in *Attachment B*; A copy of the Lease Agreement is presented in *Attachment C*.

3.0 COMMUNITY CHARACTER AND SURROUNDING LAND USE

The general area around the Site consists of residential and agricultural development. The portions of the property which are not proposed for solar development are anticipated to be continued to be used as a residential property. The Site is located within a rural area on the western perimeter of Baltimore County. The Site is bounded by residential structures, undeveloped land and Resh Mill Road to the north; Grave Run Road, undeveloped land and residential structures to the east; residential structures and undeveloped land to the south; and undeveloped land to the west.

Table 3-1 Adjacent Properties and Addresses

Tax Account No.	Street Address	Owner	Zoning
1700003332	19646 Resh Mill Road	Samuel M. Farley	RC-2
2100010864	19638 Resh Mill Road	Samuel M. Farley	RC-2
2200028693	Resh Mill Road	Ronald E. Hann	RC-2
1700012508	19600 Grave Run Road	Ronald E. Hann	RC-2
1900003518	19531 Resh Mill Road	Robert E. Smith	RC-2
1600003947	19530 Resh Mill Road	Ronald L. Long	RC-2
2000011078	19521 Grave Run Road	Leslie Chelton	RC-8
2300002779	19408 Grave Run Road	James M. Hairfield	RC-2
1600013340	19406 Grave Run Road	Paul C. Godwin	RC-2
0708023581	3195 Falls Road	Thomas D. King	unknown
0708023573	3197 Falls Road	Robert K. Hubley Sr.	unknown
0708023468	3390 Resh Mill Road	Louis J. Abel	unknown

The installation and operation of a solar facility is consistent with the Baltimore County Comprehensive Plan's (BCCP) goal of encouraging the responsible use of natural resources to meet current needs without degrading the supply and quality of those resources for the future. A specific policy identified in that regard is to continue to adapt to and mitigate impacts of climate change on the environment (BCCP Sustainable Environment).

The proposed project is harmonious with the existing zoning of nearby parcels, will not depreciate or alter those properties' essential character, and presents no conflict with residentially zoned areas of the County. The BCZR (Section 502 Special Exceptions) outlines nine points that determine the nature of consistency between a proposed Special Use and the surrounding area. The standards are represented as follows:

The proposed Special Use shall not be detrimental to the health, safety, or general welfare of the area.

ZONING SPECIAL USE APPLICATION
Proposed Hampstead Solar Site
Hampstead, Baltimore County, Maryland

The proposed project is intended to provide a clean source of green energy into the local electrical power grid. Baltimore County, as well as the State of Maryland have regulations in place to ensure the security of solar facilities including the requirements for perimeter fencing and monitoring.

To deter theft, a security fence with barbed wire has been proposed to both deter crime and protect the community. The project is set off the road, with existing vegetative buffers along Grave Run Road to the east, the southern property boundary, the western property boundary and the majority of the northern boundary.

According to the U.S. Department of Energy, few power-generating technologies have as little environmental impact as PV solar panels. The solar panels proposed for this project are made of crystalline silicon, typically from quartz or sand. Crystalline silicon semiconductors are also utilized in the manufacture of integrated circuits and microchips used in personal computers, cellular telephones and other modern electronics.

The outer glass cover constitutes the largest share of the total mass of a finished crystalline photovoltaic module, followed by the aluminum frame, the ethylene vinyl acetate encapsulant, the polyvinyl fluoride substrate, and the junction box. The solar cells themselves only represent about four percent of the mass of a finished module.

Additional materials proposed for the project consist of steel for the panel support (racking) system, powder-coated aluminum for the inverters, a crushed gravel access road, and a standard chain-link security fence pursuant to applicable electrical codes. Additional information on the specifications for the proposed equipment are located in Section 5.0.

The proposed Special Use shall not create congestion in roads, streets, or alleys.

Traffic impacts are generally limited to the project construction period, which is estimated to last approximately 3 to 4 months. Once the facility is operational, traffic is typically limited to less than 10 visits per year to monitor operation, provide maintenance/repair, and maintain vegetation, as necessary.

The proposed Special Use shall not create a potential hazard from fire, panic, or other dangers.

The proposed solar arrays are designed to withstand extreme weather conditions. The risk of a fire associated with electrical equipment is no greater than regular substations. Coordination with emergency services is an important part of any Site development process and this coordination will be conducted as part of Baltimore County Building Permit application process. Local emergency services will be provided with notification that the Site is undergoing review and invited to visit the Site property. Equipment specifications will be provided to responders during the building permit application and implementation process.

The proposed Special Use shall not overcrowd land and cause an undue concentration of population.

The proposed project will be located on approximately 6.3 acres of a larger 20.5-acre parcel of private land. Solar projects of this type are quiet, low-profile and don't contribute to an increase in population or traffic.

The proposed Special Use shall not interfere with adequate provisions for schools, parks, water, sewerage, transportation, or other public requirements, conveniences, or improvements.

The proposed project is not expected to incur public expenses for emergency response or other community provisions. Once constructed, the Site will operate without personnel except for site maintenance outlined in the *Vegetative Maintenance Plan (Section 8.0)* and *Operation and Maintenance Plan (Section 9.0)*. Operation of the Site will not require the use of public utilities such as water or sewerage.

The proposed Special Use shall not impair an adequate supply of light and air to adjacent properties.

The proposed solar arrays will not provide shade nor restricted airflow to the surrounding properties. The proposed array panels will not exceed seven feet above ground surface and will be constructed with approximately 18 feet between panel rows to allow sufficient wind passage and the project is approximately 300 feet from the nearest off-site residence.

The proposed Special Use shall not be inconsistent with the spirit and intent of the BCZR.

The proposed solar facility is consistent with the County's intent to permit solar facilities in parts of the rural and commercial areas in a way that balances the benefits of solar energy production with the need to protect the community, agricultural land, forests, waterways and other natural resources. As cited in BCZR Article 4F-101A - Solar Facilities, "Solar energy is recognized as an abundant, renewable, and environmentally sustainable source of electricity generation that will lead to greater local grid resiliency and security, and produce clean, renewable energy and reduce air and water pollution caused by the burning of traditional fossil fuels".

The proposed Special Use shall not be inconsistent with the impermeable surface and vegetative provisions of the BCZR.

The project will be developed in a manner consistent with the BCZR and the Prettyboy Reservoir Watershed Restoration Action Strategy dated January 4, 2018. A Stormwater Pollution Prevention Plan (SWPPP) for the Site will be submitted as required by the County during the building permit process. The SWPPP will include stormwater controls that attenuate runoff generated during 1-, 10-, and 100-year 24-hour rainfall events so that the peak flow at design points on site will not exceed the flow that existed prior to development of the Project. Stormwater is expected to flow off the array panels and infiltrate into surface soils on the Site, not effecting the storm water runoff

ZONING SPECIAL USE APPLICATION
Proposed Hampstead Solar Site
Hampstead, Baltimore County, Maryland

patterns of the surrounding properties. Any site restoration activities required in the SWPPP will include a requirement that use of invasive species is prohibited. Once the project is completed the anticipated storm water runoff will be less than the existing agricultural and residential use of the property.

The proposed Special Use shall not be detrimental to the environmental and natural resources of the Site and vicinity including forests, streams, wetlands, aquifers, and floodplains.

One of the first steps in determining the viability of a potential project location is to screen the property for environmental factors such as soil depth and character, wetlands, waterbodies, endangered/protected species, flood plains and archeological resources. Additionally, the property is screened for community character, local zoning ordinances, visual impact, and glare. As a part of this screening process, numerous Federal, State, and local agencies are consulted for information on the proposed location. Additional information regarding the various agency consultations can be found in Section 4 and Section 5, below.

4.0 NATURAL AND CULTURAL RESOURCES

4.1 Threatened and Endangered Species

Targeted Ecological Areas

Tetra Tech, on behalf of Summit Ridge, reviewed the Baltimore County Geographic Information System's Targeted Ecological Areas (TEA) for the proposed site location. TEAs are defined as lands and watersheds of high ecological value that have been identified as conservation priorities by the Maryland Department of Natural Resources (DNR) for natural resource protection. These areas represent the most ecologically valuable areas in the State. The review concluded that there is no record of State listed TEAs in the vicinity of the Site.

State of Maryland Listed Threatened and Endangered Species

There are 36 listed wildlife species known to occur within Baltimore County. Desktop analysis of land cover data and aerial imagery suggest that 33 of the 36 listed species are unlikely to occur within the Project Site due to lack of adequate on-site or adjacent habitat. Northern harrier, sharp-shinned hawk, and loggerhead shrike could potentially utilize portions of the Site as foraging habitat.

There are 146 state-listed and 1 federally-listed threatened or endangered plants known to occur in Baltimore County. The probability of these species occurring within the Site is low considering that the majority of the Site is has been developed providing little to no undisturbed natural habitat.

Federal Listed Threatened and Endangered Species

Tetra Tech submitted a consultation request to the United States Department of the Interior Fish and Wildlife Service (USFWS) on October 24, 2018. The USFWS responded that there is one threatened species of mammals or plants present in the vicinity of the project Site (Attachment D), the bog turtle (*Clemmys muhlenbergii*). The bog turtle typically prefers wetlands, bogs, marches, and other habitats that provide soft, deep mud used as shelter from predators. The probability of these species occurring within the Site is low considering that the majority of the Site is has been developed providing little to no undisturbed natural habitat. As the project will be primarily located on active agricultural land, it will have no significant impacts on fish, wildlife, animal or plant species or habitats, and will not degrade natural resources or ecosystems. Additional information is provided in Table 4.1, below.

Table 4.1. Potential Federal & State Listed Wildlife Species within in the Project Area¹

English Name	Scientific Name	Federal State Status ²	Species-Habitat Associations	Habitat Present in Project Vicinity	Likelihood of Occurrence ⁴
Northern Harrier	<i>Circus cyaneus</i>	SI	Found in large open areas including marshes, grasslands, and meadows. Foraging range is typically 12 to 15 miles/day but may be up to up to 100 miles/day.	Foraging habitat	Moderate
Sharp-shinned Hawk	<i>Nyctanassa violacea</i>		Found in forests and forest edges, can be found where trees are scarce or scattered during migration. Breed mainly in large stands of deciduous, coniferous, and mixed pine-hardwood forests and pine plantations. Known to forage on songbirds near houses and birdfeeders	Breeding Foraging habitat	Low
Loggerhead Shrike	<i>Lanius ludovicianus</i>	SE	Found in agricultural fields, pastures, and cemeteries. Often seen along mowed roadsides with access to fence lines and utility poles.	Foraging habitat	Low

1. Triangle Floater (*Alasmidonta undulata*), Brook Floater (*Alasmidonta varicosa*), Upland Sandpiper (*Bartramia longicauda*), American Bittern (*Botaurus lentiginosus*), Northern Barrens Tiger Beetle (*Cicindela patruela*), Splendid Tiger Beetle (*Cicindela splendida*), Brown Spiketail (*Cordulegaster bilineata*), Alder Flycatcher (*Empidonax alnorum*), Atlantic Bluet (*Enallagma doubledayi*), Mottled Duskywing (*Erynnis martialis*), Bog Turtle (*Glyptemys muhlenbergii*), Rapids Clubtail (*Gomphus quadricolor*), Northern Map Turtle (*Graptemys geographica*), Bald Eagle (*Haliaeetus leucocephalus*), Least Bittern (*Ixobrychus exilis*), Eastern Lampmussel (*Lampsilis radiata*), Black Rail (*Laterallus jamaicensis*), Yellow-sided Skimmer (*Libellula flavida*), Eastern Sedge Barrens Leafhopper (*Limotettix minuendus*), Hooded Merganser (*Lophodytes cucullatus*), Yellow-crowned Night-Heron (*Nyctanassa violacea*), Appalachian Snaketail (*Ophiogomphus incurvatus incurvatus*), Pied-billed Grebe (*Podilymbus podiceps*), Edwards' Hairstreak (*Satyrium edwardsii*), Northern Oak Hairstreak (*Satyrium favonius ontario*), Smoky Shrew (*Sorex fumeus*), Southern Pygmy Shrew (*Sorex hoyi winnemana*), A Hydrophilid Beetle (*Sperchopsis tessellatus*), Regal Fritillary (*Speyeria idalia*), Least Tern (*Sternula antillarum*), Pizzini's Cave Amphipod (*Stygobromus pizzinii*), Slender Amphipod (*Stygobromus tenuis tenuis*), and Laura's Clubtail (*Stylurus laurae*) are also documented in the County but are not likely to occur on Project Site due to lack of suitable habitat.

2. FE = Federal Endangered, SE = State Endangered, ST = State Threatened, SI = State In Need of Conservation.

3. S1 = Highly State Rare, S2 = State Rare, S3 = Watchlist, S4 = Apparently Secure, B = Breeding Rank.

Likelihood of Occurrence: Low— species range overlaps with Project Site and marginally suitable habitat in Project vicinity; Moderate— species range overlaps with Project Site and suitable habitat present in Project Site, or species known to occur in habitat similar to Project Site; High— highly suitable habitat present in Project Site, or known populations exist in Project vicinity.

4.2 Cultural Resources

The Baltimore County Historic Preservation online mapping system revealed that the project area is not located within an area designated as sensitive for archaeological sites. In addition, Tetra Tech Tetra Tech, on behalf of Summit Ridge, reviewed the National Register of Historic Places (NRHP) database for previously recorded cultural resources investigations, archaeological sites, historic structures, and historic properties listed within the proposed project site. The background research did not identify the presence of cultural resources on the Site.

5.0 OPERATION AND MAINTENANCE CONSIDERATIONS

Photovoltaic solar facilities of this size are typically considered to be fairly low-maintenance. However, routine O&M services will be done per industry codes and manufacturer's specifications, ensuring the equipment is operating safely and efficiently. The system will be continuously monitored such that unexpected problems can be addressed immediately. An Operation & Maintenance Plan (O&M) is included as *Attachment E* and Manufacturer Specifications for Site Equipment is provided as *Attachment F*.

5.1 Utility Interconnection

In general, the greatest challenge in siting economically viable solar generating facilities is associated with utility interconnection capacity and requirements. Summit Ridge has been working in close coordination with the local utility provider (Baltimore Gas and Electric) and an interconnection evaluation request has been submitted.

5.2 Traffic Impacts

Traffic impacts are generally limited to the project construction period, which is estimated to last approximately three to four months. Once the facility is operational, traffic is typically limited to less than 10 visits per year to monitor operation, provide maintenance/repair, and maintain vegetation, as necessary.

Dust may be generated during the construction process, but it will be temporary in nature. Driveway construction and revegetation of the disturbed portions of the Site will minimize any dust impacts during the facility's operation. The long-term dust generation from the Site will be less than the current agricultural use of the Site since the area will remain vegetated on a year around basis. Maintaining a year-around vegetated area may also reduce soil erosion and sedimentation of nearby existing storm water control features, streams and water bodies.

5.3 Noise

There may be some noise associated with facility construction – truck entry/exit, earthmoving equipment, etc. – but it is expected to be temporary in duration and limited to normal working hours.

The solar collection panels themselves are quiet. The greatest potential source of noise is anticipated to be the power inverters at the Site. The power inverters will be located within the array of solar panels and more than 200 feet from the nearest off-site residential receptor and commercial receptors. Noise levels at a typical inverter will be approximately 55 decibels at a

distance of three feet and the noise will dissipate quickly as distance from the inverter increases. As a point of comparison, engaging in normal face-to-face conversation generates a noise level of approximately 60 decibels, and typical city traffic inside of a car has a noise level of approximately 80 decibels (Center for Disease Control and Prevention, 2017). At a distance of 40 feet, which is much closer than the nearest receptors, the inverter's noise level calculates to approximately 35 decibels, which is comparable to a soft whisper. Thus, noise impacts from the facility's operation are expected to be insignificant.

5.4 Solid Waste

Some minor amount of solid waste generation may occur during the construction process, but it will be disposed of offsite at an appropriate location. Once operational, the facility will not generate an appreciable amount of solid waste.

5.5 Odors

There are no odors generated by the facility's equipment. Odors generated by construction equipment during the construction process will be minor and temporary in nature.

5.6 Glare

With growing numbers of solar energy systems being proposed and installed throughout the United States, the potential impact of glint and glare from photovoltaic modules is receiving increased attention. GlareGauge, the program procured for the glare analysis, is a service distributed by ForgeSolar that uses the SGHT developed by Sandia National Laboratories.

Sandia developed SGHAT v. 3.0, a web-based tool and methodology to evaluate potential glint/glare hazards associated with solar energy installations. The validated tool provides a quantified assessment of when and where glare will occur, as well as information about potential ocular impacts. The tool can also be used for design optimization (tilt and orientation) to evaluate alternative configurations, orientations, and locations of solar installations that not only mitigate the impacts of glint/glare, but also optimize energy production (Sandia Laboratories, 2016).

The SGHAT (GlareGauge) was utilized to evaluate the potential for glare at several locations along nearby roads, residences, and commercial facilities. The panels to be used on the proposed project site are smooth glass surface material with an anti-reflection coating (ARC), which is noted in the glare analysis. The panels will be on an east-facing, single axis tracking array with an approximate height not to exceed seven feet from the ground surface. The panels will have a maximum 60-degree tilt. Two separate glare analyses were conducted for a panel height of seven feet (maximum height) with applicable panel specifications. One analysis was run to simulate a driver's height

above the ground in a standard automobile or in a first-floor building at five feet and six feet respectively. A second analysis was run to simulate a driver's height above the ground in a commercial truck at nine feet or in a second-floor building at 16 feet. The SGHAT Report is included as *Attachment G*.

The Federal Aviation Administration (FAA) Notice Criteria Tool allows the user to determine if a proposed structure would require a formal submission to the FAA under CFR Title 14 Part 77.9 (Safe, Efficient Use, and Preservation of the Navigable Airspace). This online tool was utilized to determine if the proposed solar facility would require formal filing to the FAA. The FAA Notice Criteria Tool Report is included as *Appendix H*.

5.7 Fire Protection and Emergency Access

Coordination with emergency services is an important part of any Site development process and this coordination will be conducted as part of the building permit application process. Local emergency services will be provided with notification that the Site is undergoing review and invited to visit the Site property. Equipment specifications will be provided to responders during the building permit application and implementation process.

The following measures will be taken regarding response to potential emergencies at the proposed facility:

- Local emergency responders will be invited to tour the site during construction and after construction is completed. The site tour will agenda will include descriptions of the system components, emergency shut-down, system isolation, etc.;
- The facility will be provided with a 'Knox-Box' or other similar locking mechanism to provide Site access to emergency responders;
- Emergency telephone numbers will be posted on the perimeter fence;
- System components will be marked in order to provide emergency responders with appropriate warning and guidance with respect to isolating the electrical systems; and
- Site access road will be maintained to allow emergency vehicle access to the Site.

6.0 *VEGETATIVE MAINTENANCE PLAN*

Following construction of the solar facility, disturbed grounds will be re-established with a non-invasive species, grass seed mixture as ground cover on a year-round basis. The vegetative maintenance contractor will be responsible for inspecting and maintaining the vegetative integrity of the solar facility. The contractor will conduct onsite activities during growing months on an as-needed basis. The site maintenance frequency may be adjusted based on time of year and weather conditions. To avoid rutting, erosion, and soil compaction, weather forecasts will be consulted, and on-site field inspections will be conducted prior to mowing or cutting to ensure that these practices occur when the site is able to withstand this type of activity. Current agricultural practices on the Site remove the vegetation at the end of the growing season. The vegetative maintenance plan will ensure a vegetative ground cover on a year-round basis which will result in less dust and soil erosion than the current site use.

This scope of work covers work along the access road and within the fence line of the project. The full Site Operation and Vegetative Maintenance Plan is included as *Attachment I*.

7.0 *DECOMMISSIONING PLAN*

The Decommissioning Plan (the “Plan”) describes anticipated activities and process for decommissioning of the proposed facility following its useful life. The purpose of decommissioning is to restore the Site to its original condition for continued use by the landowner.

Decommissioning consists of the removal of above-ground and below-ground facility components, management of excess materials as well as the restoration of Project lands, as applicable. Decommissioning activities are expected to take two to four months to complete. The full Decommissioning Plan is included as *Attachment J*.

8.0 REFERENCES

Adolf Goetzberger and Volker Hoffman (2005). "Photovoltaic Solar Energy Generation." Springer, New York.

The Federal Aviation Administration (FAA) developed *Technical Guidance for Evaluating Selected Solar Technologies on Airports* in 2010

Fthenakis, V.M. (2003). Practical Handbook of Photovoltaics: Fundamentals and Applications: Overview of Potential Hazards. Available at http://www.bnl.gov/pv/files/pdf/art_170.pdf.

U.S. Dept. of Energy (2010). "Photovoltaic Basics." Available at http://www1.eere.energy.gov/solar/pv_basics.html.

Vasilis Fthenakis, Hyung Chul Kim and Erik Alsema (2008). "Emissions from Photovoltaic Life-Cycles." *Environmental Science and Technology* 2008 42 (6):2168-2174. Available at: <http://pubs.acs.org/doi/full/10.1021/es071763q>.

Pretty Reservoir Watershed Restoration Action Strategy (2008). Baltimore County Department of Environmental Protection and Resource Management in consultation with the Prettyboy Reservoir WRAS Steering Committee.

9.0 ATTACHMENTS

ATTACHMENT A – SITE LOCATION MAP

ATTACHMENT B – SITE PLAN

ATTACHMENT C – LEASE AND EASEMENTS

ATTACHMENT D – USFWS THREATENED AND ENDANGERED SPECIES

ATTACHMENT E – OPERATION & MAINTENANCE PLAN

ATTACHMENT F – SITE EQUIPMENT MANUFACTURER SPECIFICATIONS

ATTACHMENT G – GLARE ANALYSIS

ATTACHMENT H – FEDERAL AVIATION ADMINISTRATION SCREEN

ATTACHMENT I – VEGETATIVE MAINTENANCE PLAN

ATTACHMENT J – DECOMMISSIONING PLAN

ATTACHMENT A

SITE LOCATION MAP



Legend

 Approximate property boundary

Approximate Scale:

0 750 1,500 3,000 Feet



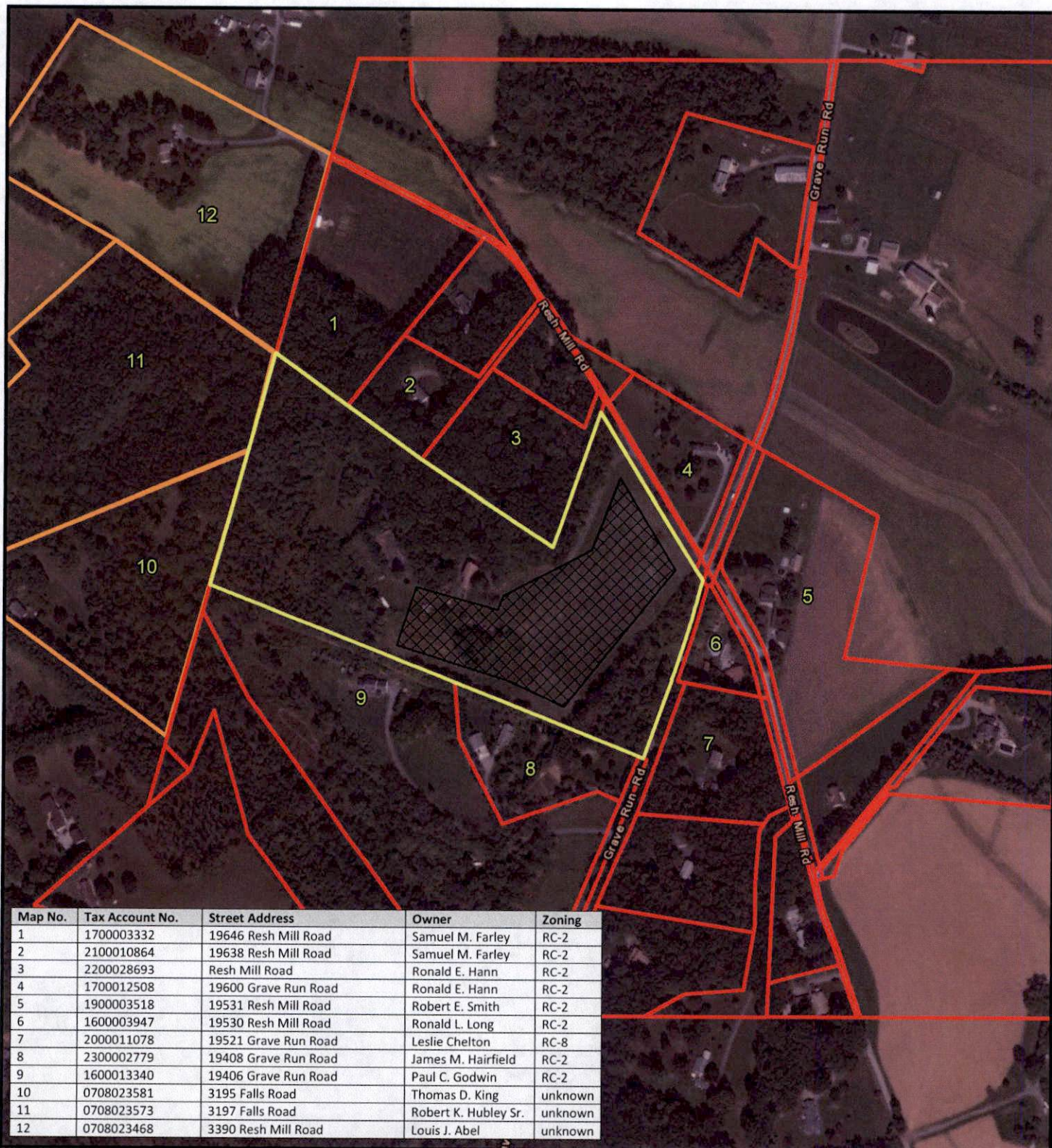
 **TETRA TECH**

 **Summit Ridge ENERGY**

Attachment 1
Project Location
Hampstead Solar

19620 Resh Mill Road
Reisterstown, MD

Service Layer Credits: Service Layer Credits: U.S. Geological Survey, 20180220, USGS US Topo 7.5-minute map for Worden, IL 2018: USGS - National Geospatial Technical Operations Center (NGTOC).



Legend

*Proposed project parcel located in
Council District 3 and Election District 05

Approximate project parcel boundary
(zoned RC-2)

Approximate Carroll County parcels

Approximate surrounding property
parcels

Approximate project area

Approximate scale:

0 375 750 1,500 Feet



TETRA TECH



Surrounding Properties
Hampstead Solar Project

19620 Resh Mill Road
Reisterstown, MD 21136

Service Layer Credits: Esri, HERE, Garmin, © OpenStreetMap contributors

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Mason County GIS data
(<http://www.masoncountyll.org/assessment.htm>)

ATTACHMENT B

SITE PLAN

ATTACHMENT C
LEASE AND EASEMENTS

ATTACHMENT D

USFWS THREATENED AND ENDANGERED SPECIES



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Chesapeake Bay Ecological Services Field Office

177 Admiral Cochrane Drive

Annapolis, MD 21401-7307

Phone: (410) 573-4599 Fax: (410) 266-9127

<http://www.fws.gov/chesapeakebay/>

<http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html>

In Reply Refer To:

October 24, 2018

Consultation Code: 05E2CB00-2019-SLI-0183

Event Code: 05E2CB00-2019-E-00415

Project Name: Hampstead Solar

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
(410) 573-4599

Project Summary

Consultation Code: 05E2CB00-2019-SLI-0183

Event Code: 05E2CB00-2019-E-00415

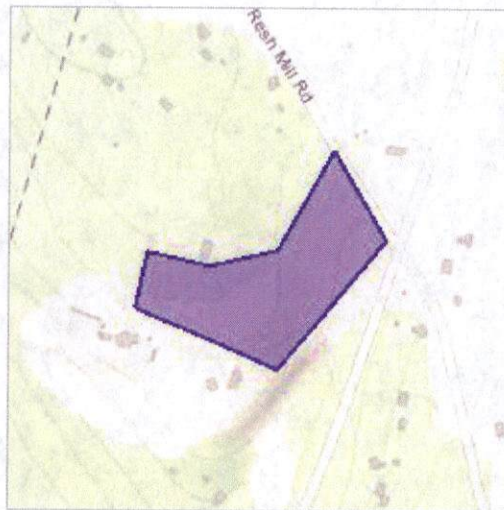
Project Name: Hampstead Solar

Project Type: SPECIAL USE PERMIT

Project Description: Tetra Tech, Inc. on behalf of SRE Solar Origination 1 LLC is initiating consultation with the USFWS to determine potential impacts to federally-listed threatened and endangered species for a proposed commercial solar facility.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/39.6623880930815N76.8051368551134W>



Counties: Baltimore, MD

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Reptiles

NAME	STATUS
Bog Turtle <i>Clemmys muhlenbergii</i> Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6962	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

REFUGE INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED.
PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

ATTACHMENT E
OPERATION & MAINTENANCE PLAN

SCOPE OF MAINTENANCE SERVICES

During the term, Provider shall provide the services at the frequency indicated below, in accordance with the terms and conditions of this Agreement (as set forth in further detail below). It is expected that Provider shall exert best efforts to note items of concern outside the scope of scheduled visits; inspecting and assessing items that seem to be problematic even if not part of the scheduled visits and later discussing with the owner to seek remedy.

Item #	Service	Service Description	Frequency
1. Monitoring, Reporting, and Inventory			
1.1	Active Site Monitoring	Monitor inverters and meter output data for issues and alarms.	Daily
1.2	Annual Maintenance Plan	Provision of Annual Maintenance Plan, including baseline schedule for all maintenance services contemplated to occur in such year	Annually, by November 1 of each calendar year during the Term
1.3	Monthly Reporting	Provide monthly operating report for the projects including a summary of (i) operations; (ii) weather data, power and environmental attributes; (iii) Project performance; (iv) reports of any environmental or site disturbances; (v) safety/accident reports; (vi) Non-Covered Services; (vii) maintenance and inspection reporting; and (viii) any scheduled or recommended maintenance for the upcoming month.	Monthly, by the 15th day of the following month
1.4	Annual Reporting	Provide annual maintenance/inspection reports for the Project for the preceding calendar year	Annually, by February 1 of each calendar year during the Term
1.5	Emergency Services and Incident Reporting	Provide written report (in .pdf format) on any event involving Emergency Services, personnel injury associated with the Projects, or material damage to any Project or any part thereof.	No later than five (5) business days after the occurrence, or immediately for OSHA recordable events, but no later than 24 hours after obtaining knowledge of the event.
1.6	Security Incident Reporting	Notify Project Owner following provider receiving information indicative of a security issue on site	Immediately, but no later than 24 hours after obtaining

Item #	Service	Service Description	Frequency
			knowledge of the event.
1.7	Maintain Spare Parts	Store, maintain, and replenish spare parts inventory at Project Owner's expense. Inventory will be stored, at Provider's option either on-site in an O&M storage structure or off-site at a centralized storage facility or warehouse.	As Needed
2. Site Property Inspection/Maintenance			
2.1	Vegetation Management	Maintain vegetation and debris removal/control and landscaping, for all property within the fence line and all property immediately surrounding fencing (within reason), specifically ensuring vegetation does not encroach on modules.	2 X per year, maximum
2.2	Perimeter and Fence Inspection	Inspect all fencing for signs of damage, intrusion, and overgrowth of vegetation. Inspect signage to ensure all originally installed signs are present and legible	2 X per year
2.3	Roads	Inspect all roads for soil erosion concerns	2 X per year
2.4	Site Security Systems	Inspect security systems (if installed) for proper operation according to original security plan and design. Inspect entire site for general vandalism or other signs of security related issues.	2 X per year
3. DC Systems			
3.1	Racking Inspection	Inspect all racking, racking mounts and conduits on racking for damage, corrosion, settling and stability	1 X per year
3.2	Module Inspections	Visually inspect a 25% sampling of modules for soiling, breakage, delamination, discoloring and hot spots (only via aerial thermal audits). Inspections may be done either on the ground or via aerial visual analysis and aerial thermal imaging. If systemic issues are identified, notify Project Owner and propose a corrective action plan to be implemented as needed.	1 X per year
3.3	Broken Module Replacement	Replace modules that have previously been identified as broken (within reason), or identified as broken at the time of inspection. The cost of replacement modules (either for immediate use or to replenish spare parts) will be paid for by the Project Owner as needed. The procurement of replacement modules is conditional to Project Owner approval.	As Needed
3.4	Wire Inspection	Visually inspect for proper wire management and any possible damage on exposed conductors.	2 X per year

Item #	Service	Service Description	Frequency
3.5	Combiner Box and Re-Combiner Inspections	Electrical/mechanical inspection of combiners & disconnects. Visually inspect bonding bushings and grounding, check for wire damage especially at entrance/exit locations, terminal corrosion, any discoloration, and inspect fuses for proper functionality. Remove insects/pest debris from all enclosures.	2 X per year
3.6	Combiner Box and Re-Combiner Torque Inspections	Confirm and correct terminal torque settings for both sides of all fuse holders, grounded (negative) terminal bar, grounding bar, PV output circuit and DC Disconnects.	1 X per year
4. AC Systems			
4.1	Inverters	Perform annual inverter preventative maintenance work for all inverters per manufacturer's recommendations and manufacturer's warranty requirements.	Per Manufacturer's Recommendations and Manufacturer's Warranty Requirements
4.2	Inverter Air Filters and Transformer heat sinks	Inspect inverter air-filters and heat sinks, and clean or replace air filters if necessary.	2 X per year or Per Manufacturers Recommendations, whichever is more frequent.
4.3	Transformers	Visually inspect and clean all transformers per manufacturer recommendations, including but not limited to oil level measurement and clearing heat sink of debris.	1 X per year
4.4	AC Disconnect (if applicable)	Inspection of latches and seals on enclosure, verify proper operation of disconnect, visually inspect terminations and confirm and correct terminal torque settings. Check for signs of arcing.	1 X per year
5. DAS/SCADA Inspections			
5.1	General DAS Inspection	Perform monitoring system maintenance per manufacturer's specifications; verify orientation and attachment of pyranometers and module temperature sensors and MET station, and verify back up power supply functionality.	1 X per year
5.2	Pyranometers	Clean pyranometer domes with a soft cloth.	All scheduled & unscheduled site visits

Item #	Service	Service Description	Frequency
5.3	Pyranometer Calibration	Coordinate with Project Owner to cause calibration of pyranometers per manufacturer's specifications.	Per manufacturer specifications
5.4	Data/Instrument Accuracy and Communications Verification	Test MET station sensors (GHI and POA pyranometers, ambient temperature, back-of-module, anemometer, Revenue Grade Meter (including current transducers), and inverter direct	1 X per year
6. Testing			
6.1	Aerial Thermal Audits	100% Aerial Thermal Audits	1 X per year
6.2	Thermal Imaging	Thermal imaging of all: overcurrent protection devices (OCPD) and bolted electrical connections including terminations in combiners and all disconnects, inverters and transformers	1 X per year
6.3	Transformer Oil Testing	Conduct transformer oil sampling and testing per nationally and/or internationally recognized testing standards	1 X per two years
6.4	Point-to-Point Testing	For 5% random sampling of combiner boxes, inspect grounding from modules & rack to combiners for wear, corrosion, and secure connections, and test the point-to-point resistance between modules, rack and EGC per NETA-ATS 2013 Section 7.13; document location, measure resistance and record results. Investigate point-to-point resistance readings that exceed 0.5 ohms. Notify Project Owner of any issues identified and propose a corrective action plan to be implemented as needed.	1 X per year

ATTACHMENT F

SITE EQUIPMENT MANUFACTURER SPECIFICATIONS

powered by
Q.ANTUM

Q.PLUS L-G4.2 340-355

Q.ANTUM SOLAR MODULE

The Q.ANTUM solar module Q.PLUS L-G4.2 with power classes up to 355 Wp is the strongest module of its type on the market globally. Powered by 72 Q CELLS solar cells Q.PLUS L-G4.2 was specially designed for large solar power plants to reduce BOS costs. Only Q CELLS offers German engineering quality with our unique triple Yield Security.



LOW ELECTRICITY GENERATION COSTS

Higher yield per surface area and lower BOS costs thanks to higher power classes and an efficiency rate of up to 18.1 %.



INNOVATIVE ALL-WEATHER TECHNOLOGY

Optimal yields, whatever the weather with excellent low-light and temperature behavior.



ENDURING HIGH PERFORMANCE

Long-term yield security with Anti-PID Technology¹, Hot-Spot-Protect and Traceable Quality Tra.Q™.



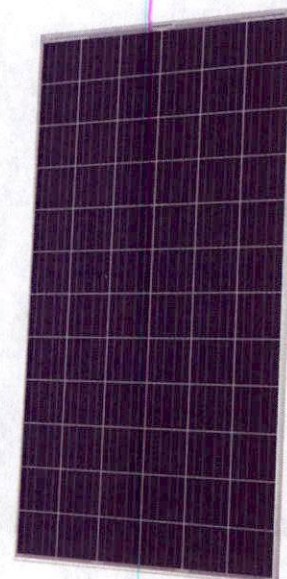
EXTREME WEATHER RATING

High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (2400 Pa).



A RELIABLE INVESTMENT

Inclusive 12-year product warranty and 25-year linear performance guarantee².



THE IDEAL SOLUTION FOR:



Ground-mounted
solar power plants

¹ APT test conditions: Cells at -1500 V against grounded, with conductive metal foil covered module surface, 25°C, 168h

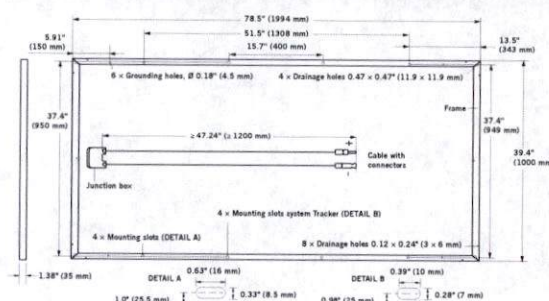
² See data sheet on rear for further information.

Engineered in **Germany**

Q CELLS

MECHANICAL SPECIFICATION

Format	78.5 in × 39.4 in × 1.38 in (including frame) (1994 mm × 1000 mm × 35 mm)
Weight	52.9 lbs (24 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Anodized aluminum
Cell	6 × 12 Q.ANTUM solar cells
Junction box	3.35-4.53 in × 2.36-3.15 in × 0.59-0.75 in (85-115 × 60-80 × 15-19 mm), Protection class ≥ IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥ 47.24 in (1200 mm), (-) ≥ 47.24 in (1200 mm)
Connector	MC4 or MC4-EVO 2, IP65 and IP68



ELECTRICAL CHARACTERISTICS

POWER CLASS			340	345	350	355
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5 W / -0 W)						
Minimum	Power at MPP ²	P _{MPP} [W]	340	345	350	355
	Short Circuit Current*	I _{SC} [A]	9.59	9.64	9.69	9.74
	Open Circuit Voltage*	V _{OC} [V]	47.07	47.46	47.71	47.97
	Current at MPP*	I _{MPP} [A]	9.03	9.09	9.15	9.21
	Voltage at MPP*	V _{MPP} [V]	37.63	37.93	38.23	38.52
	Efficiency ²	η [%]	≥17.1	≥17.3	≥17.6	≥17.8
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC ³						
Minimum	Power at MPP ²	P _{MPP} [W]	252.1	255.8	259.5	263.2
	Short Circuit Current*	I _{SC} [A]	7.73	7.77	7.81	7.85
	Open Circuit Voltage*	V _{OC} [V]	43.92	44.29	44.53	44.77
	Current at MPP*	I _{MPP} [A]	7.09	7.14	7.19	7.24
	Voltage at MPP*	V _{MPP} [V]	35.56	35.83	36.10	36.36

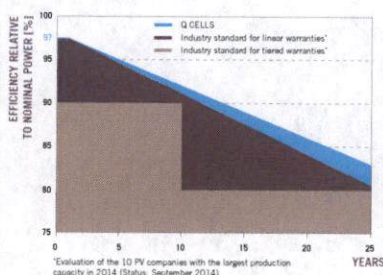
¹ 1000 W/m², 25 °C, spectrum AM 1.5 G

² Measurement tolerances STC ± 3%; NOC ± 5%

³ 800 W/m², NOCT, spectrum AM 1.5 G

* typical values, actual values may differ

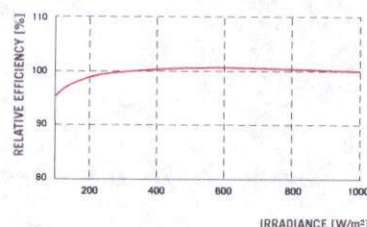
Q CELLS PERFORMANCE WARRANTY



At least 97% of nominal power during first year. Thereafter max. 0.6% degradation per year.
At least 92% of nominal power up to 10 years.
At least 83% of nominal power up to 25 years.

All data within measurement tolerances.
Full warranties in accordance with the warranty terms of the Q CELLS sales organization of your respective country.

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I_{SC}	α	[%/K]	+0.04	Temperature Coefficient of V_{OC}	β	[%/K]	-0.29
Temperature Coefficient of P_{MPP}	γ	[%/K]	-0.40	Normal Operating Cell Temperature	NOCT	[°F]	113 ± 5.4 (45 ± 3 °C)

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V_{SYS}	[V]	1500 (IEC) / 1500 (UL)	Safety Class	II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating	C (IEC) / TYPE 1 (UL)
Design load, push (UL) ²	[lbs/ft ²]	75 (3600 Pa)	Permitted module temperature on continuous duty	-40 °F up to +185 °F (-40 °C up to +85 °C)
Design load, pull (UL) ²	[lbs/ft ²]	33 (1600 Pa)	² safety factor of 1.5 included, see installation manual	

QUALIFICATIONS AND CERTIFICATES

IEC 61215 (Ed. 2); IEC 61730 (Ed. 1), Application class A



PACKAGING INFORMATION

Number of Modules per Pallet	29
Number of Pallets per 53' Container	26
Number of Pallets per 40' Container	22
Pallet Dimensions (L × W × H)	81.3 × 45.3 × 46.9 in (2065 × 1150 × 1190 mm)
Pallet Weight	1671 lbs (758 kg)

NOTE: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

Hanwha Q CELLS America Inc.

300 Spectrum Center Drive, Suite 1250, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL inquiry@us.q-cells.com | WEB www.q-cells.us

Engineered in Germany

Q CELLS

SELF-POWERED CONTROLLER

COMPONENT DATA SHEET

CONTROL SYSTEM OVERVIEW

With over 5GW of solar trackers delivered on five continents, NEXTracker's NX Horizon™ is the world's leading single-axis tracker. NX Horizon includes a comprehensive communications and control system for maximum tracker accuracy and system reliability. This consists of three types of control units, all networked together via ZigBee® wireless mesh communications.

SELF-POWERED CONTROLLER

Our patent-pending Self-Powered Controller (SPC) is mounted on each tracker row and autonomously commands the tracker to follow the sun throughout the day. Tracker operation is derived from on-board GPS, clock, and inclinometer, ensuring superior tracking accuracy. The SPC is powered by a small, dedicated PV panel and includes a backup battery to eliminate the need for any tracker power wiring. All SPCs communicate over a ZigBee wireless mesh network for monitoring and global control functions.

NETWORK CONTROL UNIT

A Network Control Unit (NCU) aggregates communication and control for up to 100 SPCs via the same ZigBee network. Each NCU monitors real-time SPC parameters and issues global commands to its associated SPCs. During wind or snow events, stowing commands are generated and issued automatically based on real-time data from Weather Stations located

on-site. Manual operator-generated commands are available via local switches on the NCU.

Each NCU is accessible via a Modbus interface for SCADA integration. NCUs are typically located at inverter pads with other electrical equipment to easily connect to the required AC power. As with the SPCs, a battery backup is built into each NCU unit.

WEATHER STATION

A Weather Station measures real-time wind speed and snow depth and reports this data to the NCUs over the ZigBee network. When conditions warrant, the NCUs will propagate a stowing command out to their associated SPCs within seconds. Like the SPCs, each Weather Station is powered by a small, dedicated PV panel and includes a backup battery eliminating the need for power wiring. The quantity and location of Weather Stations is defined on a per project basis.

TRACKER CONTROLLER SPECIFICATIONS (GEN 2)

INPUT

Max PV Input Power	80W
Max PV Input Voltage	30V _{DC}
Maximum PV Input Current	3.5A
MPPT Voltage Range	16-27V
Battery Nom. Voltage/Range	14.5V/12-16V

OUTPUT

Rated Power	150W
Motor Voltage (Nominal / Range)	24V/0-24V
Motor Typical Operating Current	1.0-2.0A
Motor Peak Current	10A

COMMUNICATIONS

Interface to NCU	ZigBee (2.4GHz)
------------------	-----------------

OPERATING PERFORMANCE

Tracking Range	+/- 60 degrees
Standby Consumption	<0.5W

MECHANICAL

Enclosure Rating	NEMA 4X / IP65
Dimensions (LxWxD)	14"x8"x4"
Weight	<9 lbs.
Enclosure Material	Polymer
EMI Compliance	FCC Part 15 Subpart B EN 55022: 2010 AS/NZS CISPR
Safety Compliance	UL 3703 in USA

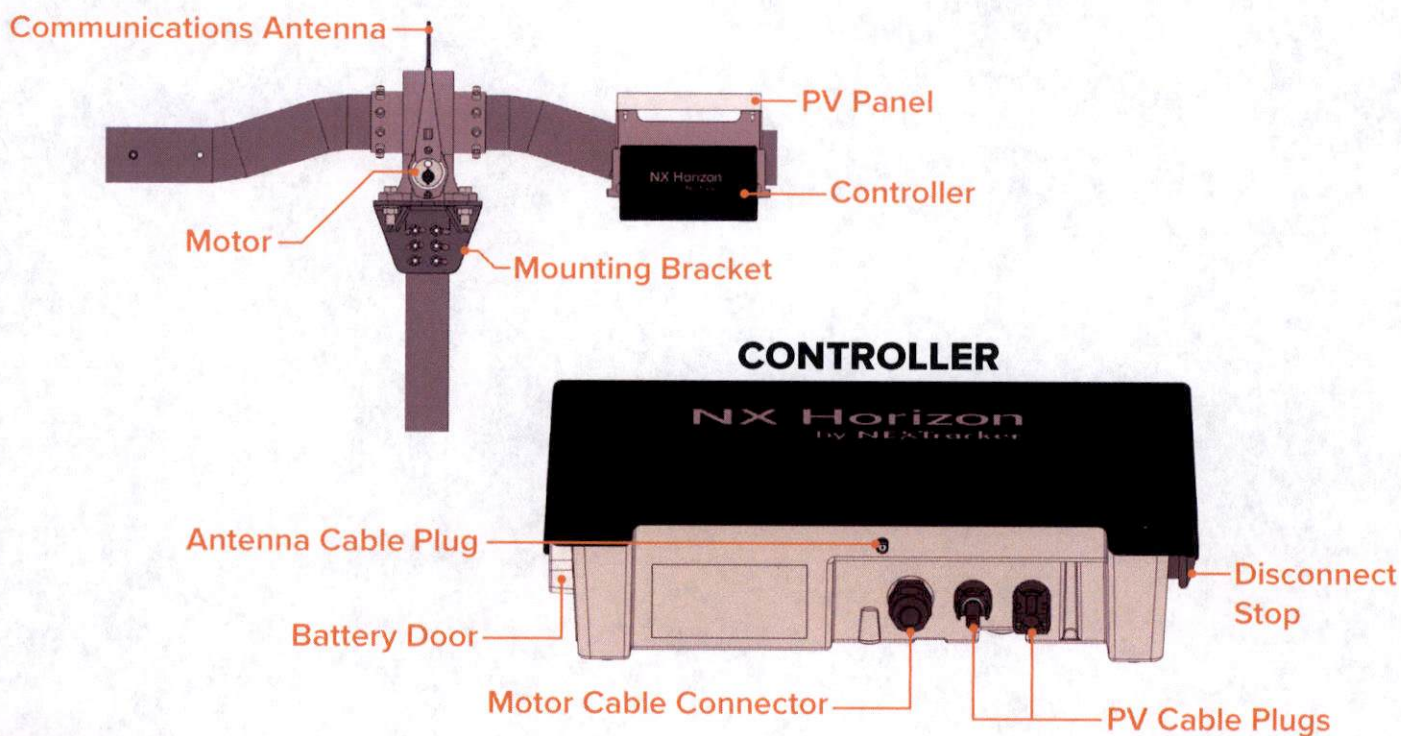
ENVIRONMENT

Operating Temperature	-30C to 60C
Storage Temperature	0C to 40C
Relative Humidity	0-95%

BACKUP BATTERY

Battery Technology	Lithium Ion
Expected Battery Life	10 years
Backup Storage Capacity	3 days

SELF-POWERED CONTROLLER



WEATHER STATION CONTROLLER SPECIFICATIONS

INPUT

Max PV Input Power	65W
Max PV Input Voltage	30V _{DC}
Maximum PV Input Current	3A
MPPT Voltage Range	10-25V
Battery Nom. Voltage/Range	14.5V/12-16V

COMMUNICATIONS

Interface to NCU	ZigBee (2.4GHz)
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WEATHER STATION SENSORS

Wind	NovaLynx Wind
	Sonic 65
Snow/Flood	NovaLynx 260-700

MECHANICAL

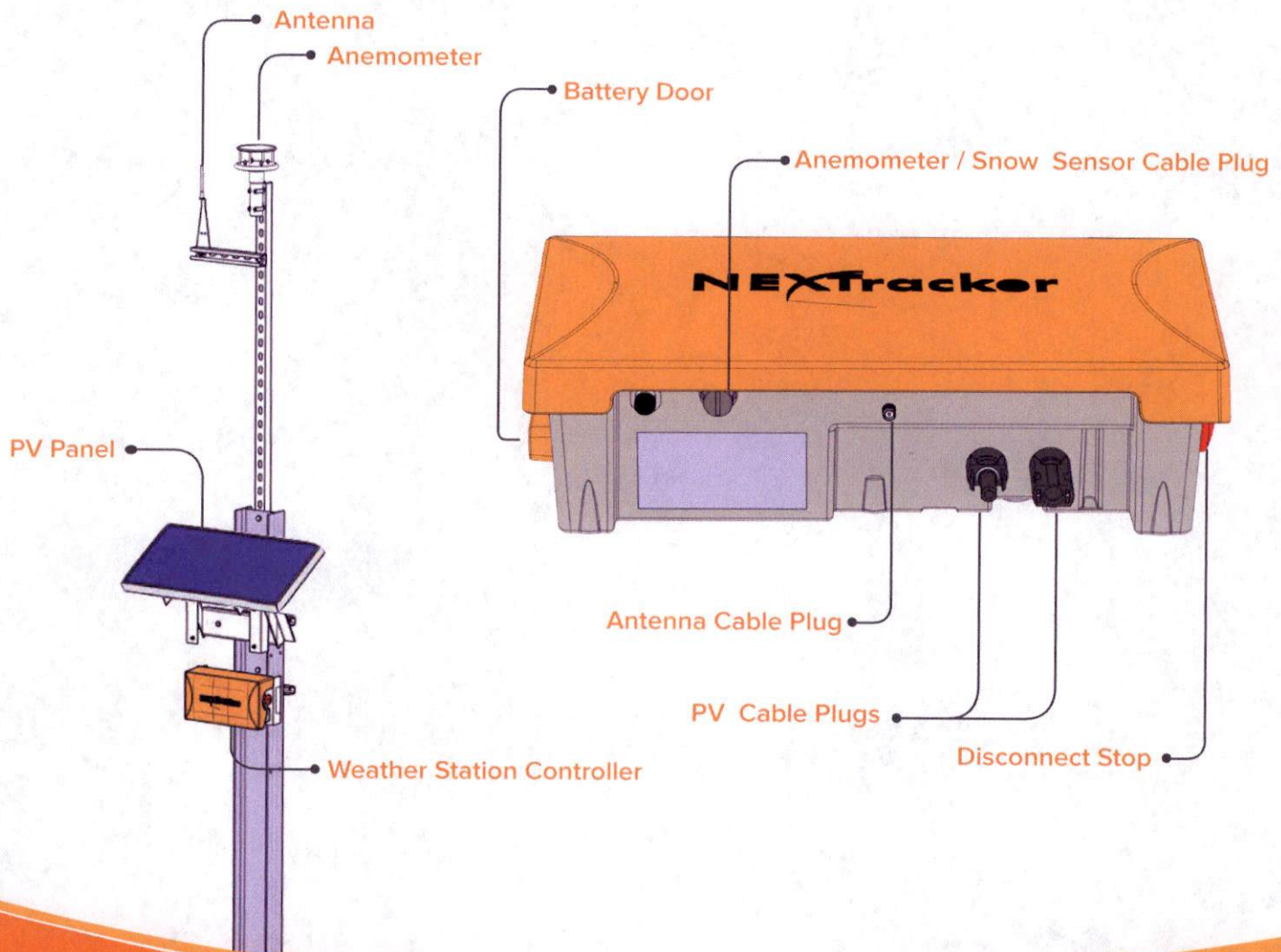
Enclosure Rating	NEMA 4X / IP65
Dimensions (LxWxD)	20"x6"x5"
Weight	<25 lbs.

ENVIRONMENT

Operating Temp. - Standard	0C to 50C
Operating Temp. - Optimal	-30C to 50C
Storage Temperature	0C to 40C
Relative Humidity	0-95%

BACKUP BATTERY

Battery Technology	Lithium Ion
Expected Battery Life	10 years
Backup Storage Capacity	3 days



NETWORK CONTROL UNIT SPECIFICATIONS

INPUT		MECHANICAL	
AC Input Voltage	100-265VAC	Enclosure Rating	NEMA 4X
Operational Power Consumption	<10W	Dimension in mm. (LxWxD)	491x452x200
Min. Over Current Device Rating	1A	Weight	<20 lbs.
BACKUP BATTERY		ENVIRONMENT	
Battery Technology	Lithium Ion	Operating Temperature	-30C to 60C
Expected Battery Life	10 years	Storage Temperature	0C to 40C
Backup Storage Capacity	3 days	Relative Humidity	0-95%
Shelf Life (In Storage)	3 months	HARDWARE	
COMMUNICATIONS		CPU (Processor)	Cortex A8
Remote Interface	ZigBee (2.4GHz)	On board Storage	4GB
Local Control Switches	Auto/Manual; Wash Position	Additional Storage Option	SD Slot
Network Interface	Ethernet RJ45	Onboard Screen	VFD

NETWORK CONTROL UNIT



MECHANICAL SYSTEMS OVERVIEW

COMPONENT DATA SHEET

With over 5GW of solar trackers delivered on five continents, NEXTracker's NX Horizon™ is the world's leading single-axis tracker. The NX Horizon is a self-powered, decentralized tracking system where each row is independent of one another - an industry first. Prior to this pioneering innovation, single-axis trackers included a drive shaft connecting each row, which impeded overall operations and maintenance of solar power plants. For NX Horizon, each row is driven by a brushless DC motor coupled to a slew gear. Power for the motor is provided by our patent-pending Self-Powered Controller (SPC) and a dedicated PV module.

BRUSHLESS DC MOTOR SPECIFICATIONS

MECHANICAL

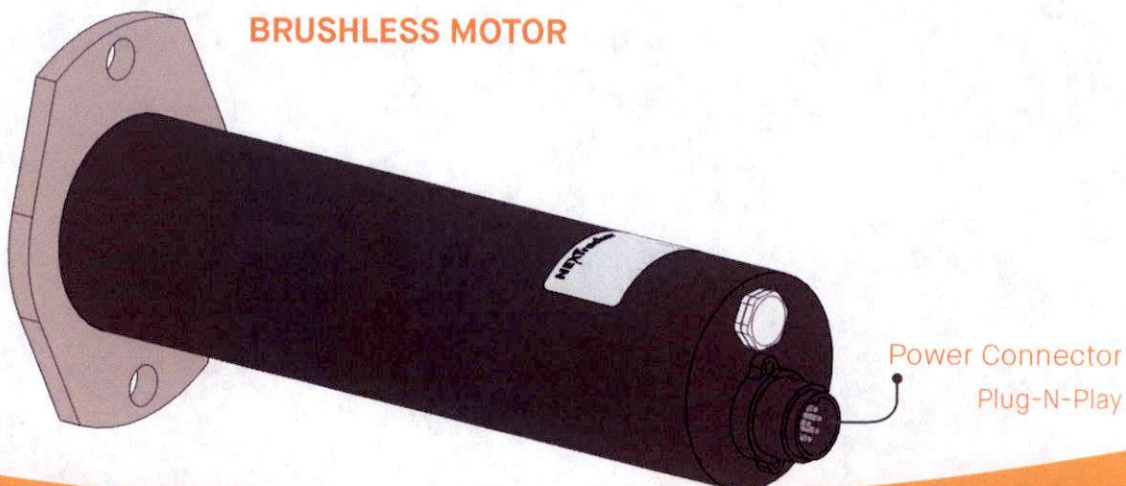
Protection Class	IP 65
Isolation Class	EN62114 (120C)
Certification	UL 1004-1
Operating Temperature	-40°C to 85°C
Motor Type	Brushless
Weight	1.7kg
Relative Humidity	0-95%

POWER RATINGS

Nominal Voltage	24 V DC
Motor Continuous Current (85C)	< 6.25 A
No load Current at 24VDC (85C)	< 1 A
Max Power at Rated Torque	150 W

OUTPUT

Rated Gear Output Torque (1 hr. continuous)	150 N-m
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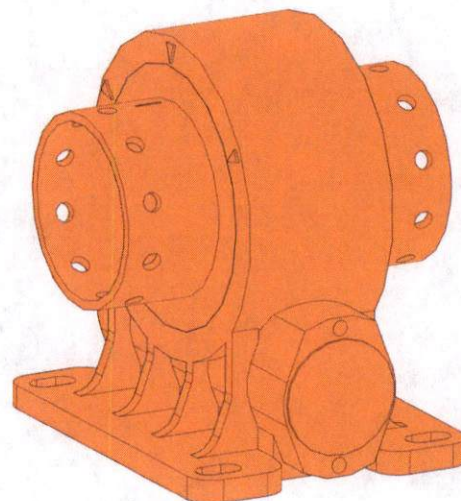
SLEW GEAR SPECIFICATIONS

MECHANICAL

Protection Class	IP 55 per IEC60529
Ambient Temp. Range	-40C to 60C
Housing Material	Ductile Iron
Rotation Range	±65°
Weight	77.5kg

LOAD RATINGS

Normal Output Torque, min	± 2000 N-m
High Output Torque, min	± 5000 N-m



SLEW GEAR

The NX Horizon slew gear is a single stage, worm gear speed reducer. The slew gear is designed to adjust the tracker tilt position to follow the sun each day, as well as hold the tracker position fixed during periods of wind stow. The brushless motor is directly coupled to the input worm shaft of the slew gear, with the tracker torque tubes permanently connected to the output collars. The slew gear is sealed and requires no scheduled maintenance for the life of the product.



NX Horizon Solar Tracker
UL 2703 & 3703 Certified

ATTACHMENT G
GLARE ANALYSIS

FORGESOLAR GLARE ANALYSIS

Project: **Summit Ridge Maryland**

Site configuration: **Hampstead**

Analysis conducted by Jodi Hunt (jodi.hunt@tetrattech.com) at 13:19 on 25 Oct, 2018.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	N/A	No flight paths analyzed
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis and observer eye characteristics are as follows:

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at <https://www.federalregister.gov/d/2013-24729>

SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m²
Time interval: 1 min
Ocular transmission
coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3
mrad
Site Config ID: 22123.3820



PV Array(s)

Name: PV array 1
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 30.0°
Max tracking angle: 60.0°
Resting angle: 60.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	39.663234	-76.804711	737.90	7.00	744.90
2	39.662433	-76.805446	755.34	7.00	762.34
3	39.662000	-76.806149	769.45	7.00	776.45
4	39.662194	-76.807082	766.13	7.00	773.13
5	39.661859	-76.807270	753.41	7.00	760.41
6	39.661302	-76.805419	752.84	7.00	759.84
7	39.662470	-76.804137	739.51	7.00	746.51

Discrete Observation Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	39.662479	-76.806395	778.83	6.00
OP 2	2	39.663511	-76.803858	755.77	6.00
OP 3	3	39.662933	-76.804217	741.89	5.00
OP 4	4	39.661186	-76.806014	755.23	6.00
OP 5	5	39.661591	-76.807468	733.54	6.00
OP 6	6	39.660269	-76.804893	726.08	5.00
OP 7	7	39.662363	-76.803279	769.15	6.00

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt (°)	Orient (°)	"Green" Glare min	"Yellow" Glare min	Energy kWh
PV array 1	SA tracking	SA tracking	24,651	23,726	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
OP 1	23724	12131
OP 2	0	0
OP 3	927	11595
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0

Results for: PV array 1

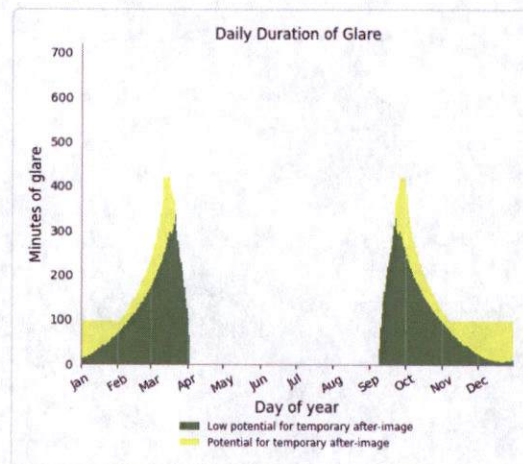
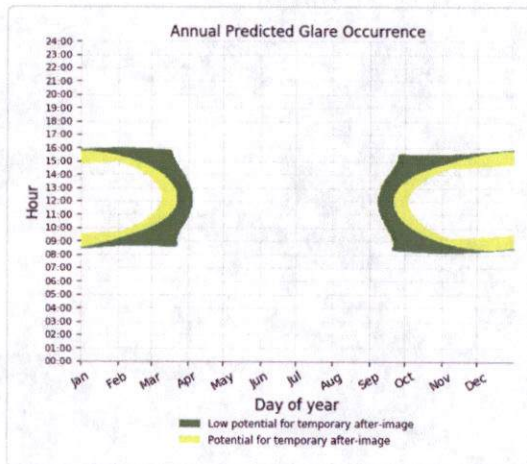
Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	23724	12131
OP 2	0	0
OP 3	927	11595
OP 4	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 5	0	0
OP 6	0	0
OP 7	0	0

Point Receptor: OP 1

12131 minutes of yellow glare

23724 minutes of green glare



Point Receptor: OP 2

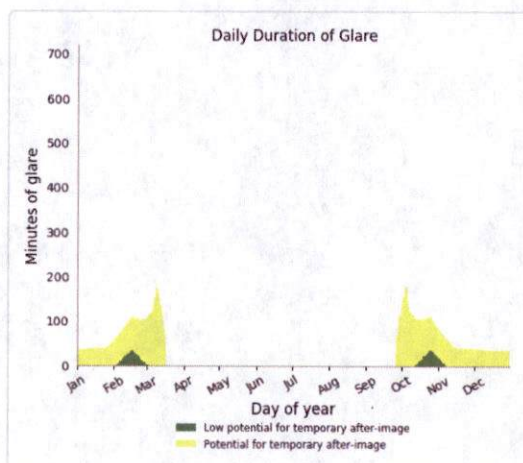
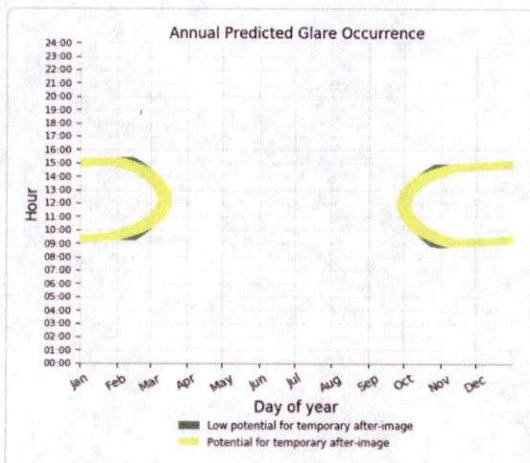
0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 3

11595 minutes of yellow glare

927 minutes of green glare



Point Receptor: OP 4

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare

0 minutes of green glare

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.

The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values may differ.

Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

FORGESOLAR GLARE ANALYSIS

Project: **Summit Ridge Maryland**

Site configuration: **Hampstead**

Analysis conducted by Jodi Hunt (jodi.hunt@tetrattech.com) at 13:23 on 25 Oct, 2018.

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COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	N/A	No flight paths analyzed
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis and observer eye characteristics are as follows:

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at <https://www.federalregister.gov/d/2013-24729>

SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m²
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 22123.3820



PV Array(s)

Name: PV array 1
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 30.0°
Max tracking angle: 60.0°
Resting angle: 60.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
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4	39.662194	-76.807082	766.13	7.00	773.13
5	39.661859	-76.807270	753.41	7.00	760.41
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Discrete Observation Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
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OP 2	2	39.663511	-76.803858	755.77	16.00
OP 3	3	39.662933	-76.804217	741.89	9.00
OP 4	4	39.661186	-76.806014	755.23	16.00
OP 5	5	39.661591	-76.807468	733.54	16.00
OP 6	6	39.660269	-76.804893	726.08	9.00
OP 7	7	39.662363	-76.803279	769.15	16.00

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt	Orient	"Green" Glare	"Yellow" Glare	Energy
	(°)	(°)	min	min	kWh
PV array 1	SA tracking	SA tracking	42,327	21,548	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
OP 1	38527	7336
OP 2	85	0
OP 3	3715	14212
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0

Results for: PV array 1

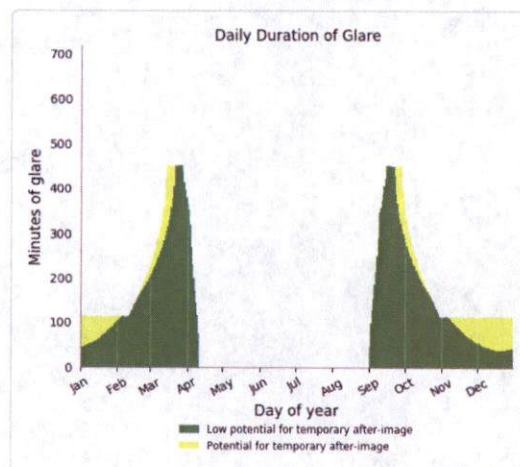
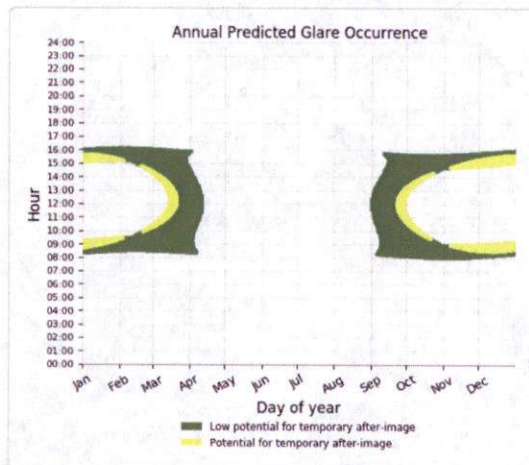
Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	38527	7336
OP 2	85	0
OP 3	3715	14212
OP 4	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 5	0	0
OP 6	0	0
OP 7	0	0

Point Receptor: OP 1

7336 minutes of yellow glare

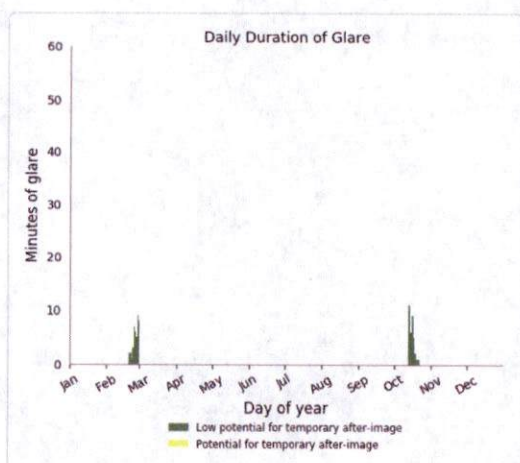
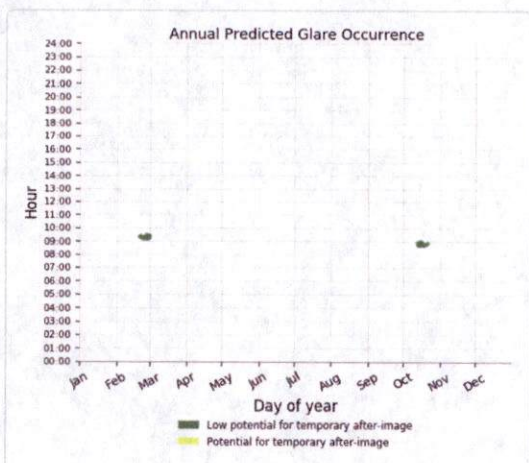
38527 minutes of green glare



Point Receptor: OP 2

0 minutes of yellow glare

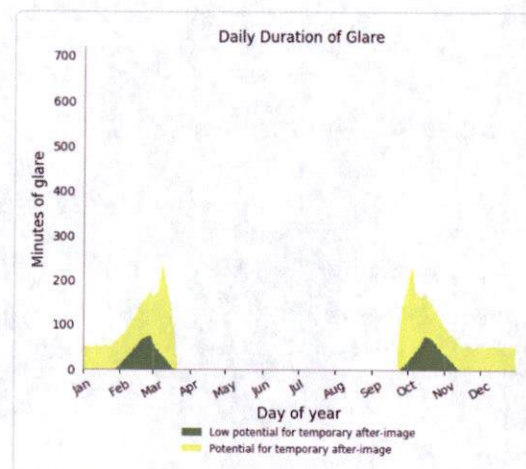
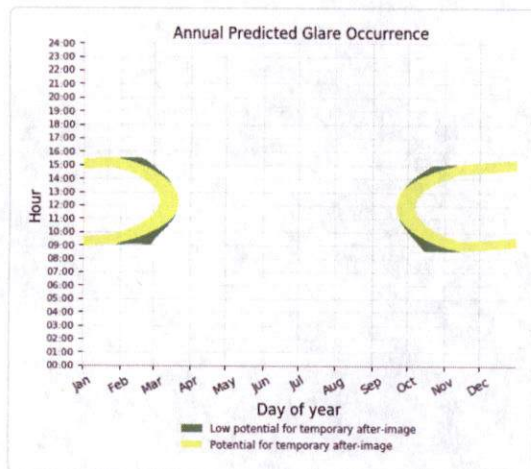
85 minutes of green glare



Point Receptor: OP 3

14212 minutes of yellow glare

3715 minutes of green glare



Point Receptor: OP 4

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare

0 minutes of green glare

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.

The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values may differ.

Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

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ATTACHMENT H

FEDERAL AVIATION ADMINISTRATION SCREEN



Notice Criteria Tool

Notice Criteria Tool - Desk Reference Guide V_2014.2.0

The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference [CFR Title 14 Part 77.9](#).

You must file with the FAA at least 45 days prior to construction if:

- your structure will exceed 200ft above ground level
- your structure will be in proximity to an airport and will exceed the slope ratio
- your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)
- your structure will emit frequencies, and does not meet the conditions of the [FAA Co-location Policy](#)
- your structure will be in an instrument approach area and might exceed part 77 Subpart C
- your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
- your structure will be on an airport or heliport
- filing has been requested by the FAA

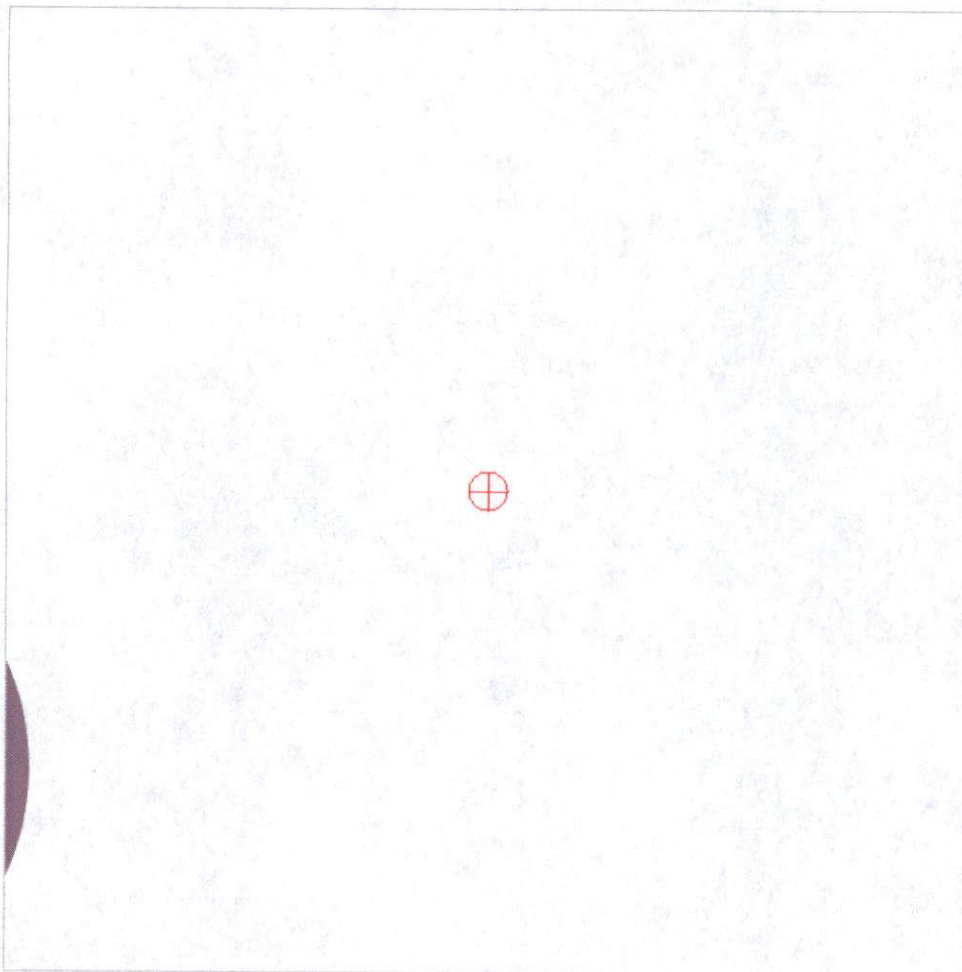
If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the [Air Traffic Areas of Responsibility map](#) for Off Airport construction, or contact the [FAA Airports Region / District Office](#) for On Airport construction.

The tool below will assist in applying Part 77 Notice Criteria.

Latitude:	39 Deg 39 M 43.19 S N ▼
Longitude:	76 Deg 48 M 18.59 S W ▼
Horizontal Datum:	NAD83 ▼
Site Elevation (SE):	766 (nearest foot)
Structure Height :	7 (nearest foot)
Traverseway:	No Traverseway ▼ (Additional height is added to certain structures under 77.9(c)) User can increase the default height adjustment for Traverseway, Private Roadway and Waterway
Is structure on airport:	☒ No ☐ Yes

Results

You do not exceed Notice Criteria.



ATTACHMENT I
VEGETATIVE MAINTENANCE PLAN

VEGETATIVE MAINTENANCE

Hampstead Ground Mounted Solar Project

Project Information

Project Name: Hampstead Solar
Address: 19620 Resh Mill Road, Hampstead, MD 21074
Project Area: Approximately 6.3 Acres

Background

Following construction of the solar facility, disturbed grounds will be re-established with low growth/low maintenance ground cover. The vegetative maintenance contractor will be responsible for inspecting and maintaining the vegetative integrity of the solar facility. The contractor will conduct on-site activities during growing months at the frequency of approximately 2-3 times per year. The contractor is expected to adjust site maintenance frequency based on time of year and weather conditions. To avoid rutting, erosion, and soil compaction, weather forecasts will be consulted and on-site field inspections will be conducted prior to mowing or cutting to ensure that these practices occur when the site is able to withstand this type of activity.

It is important to note this scope of work covers work along the access road and w/in the fence line of the project. Remaining lands outside the fence will continue to be utilized for agricultural purposes and maintained by the landowner or their representative.

Site Activities

- Perimeter Maintenance
 - The perimeter fence line will be inspected for items of trash, that may have accumulated since the previous site visit. These items will be collected and disposed of offsite. Vegetative growth along the fence line will also be trimmed and maintained to prevent the growth of weeds or tall grasses.
- Mowing
 - Mowing is a three-step process. First, the mower or bush hog trims the large areas. Second, trimmers are used to cut around structural elements and other places the mower couldn't reach. Finally, any vegetation that was thrown and stuck to the modules will be cleaned off. Additionally, spot-mowing is recommended for reducing invasive plants while native species are becoming established. Spot-mowing should be done at a raised height to avoid damaging native plants.

- Site Inspections
 - During each maintenance visit, the site will be inspected for signs of erosion. Any areas of concern will be immediately communicated to the project owner/developer to evaluate and implement corrective measures. Should the contractor observe a non-typical condition or change in site conditions the project owner/developer will be immediately notified.
- Screening Maintenance
 - Should vegetative screening be installed at the PV facility, the contractor will be responsible for monitoring the general health of each plant. If any plant succumbs and fails to establish its self, contractor will work with the responsible nursery to redeem the warranty and replace the deceased plant with another of the same species.
- Access Road Maintenance
 - During maintenance activities, the access road will be inspected and maintained to ensure that vegetative creep does not occur. This will include the mowing of at least a 3-foot strip paralleling each side of the road. Additionally, any observed vegetative creep within the road will be removed.

Table 1: Scope of Work

Activity	Frequency	Timing
Perimeter Maintenance	8-12 Weeks	May - October
Mowing	8-12 Weeks	May - October
Site Inspections	8-12 Weeks	May - October
Screening Maintenance*	4-8 Weeks	May - October
Access Road Maintenance	8-12 Weeks	May - October

*Two years only to ensure vegetation planted for screening is adequately established

ATTACHMENT J
DECOMMISSIONING PLAN

DECOMMISSIONING PLAN

Hampstead Ground Mounted Solar Project



ICFTS MD Solar, LLC
1401 Wilson Blvd., Suite 800
Arlington, VA 22209

ICFTS MD Solar, LLC
Decommissioning Plan

Contents

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 Site Restoration 6

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4. DECOMMISSIONING ASSURANCE 8

 Use of Assurance 8

1. BACKGROUND

Facility Description

ICFTS MD Solar, LLC (Summit Ridge) proposes to develop a solar photovoltaic (PV) facility (the "Project") with a total maximum nameplate capacity of 850 kilowatt alternating current (kWac), located on private property at 19620 Resh Mill Road, Hampstead, Baltimore County, Maryland, (the "Property"), as shown in Figure 1.

The Project occupies approximately 6.3 acres of a larger 20.5-acre parcel of private land located north east of the Town of Hampstead, County of Baltimore. The Project will produce electricity delivered to Baltimore Gas and Electric's local distribution system utilizing existing lines. Interconnection to Baltimore Gas and Electric's system will include both underground and overhead wires along with new utility poles located on the Property.

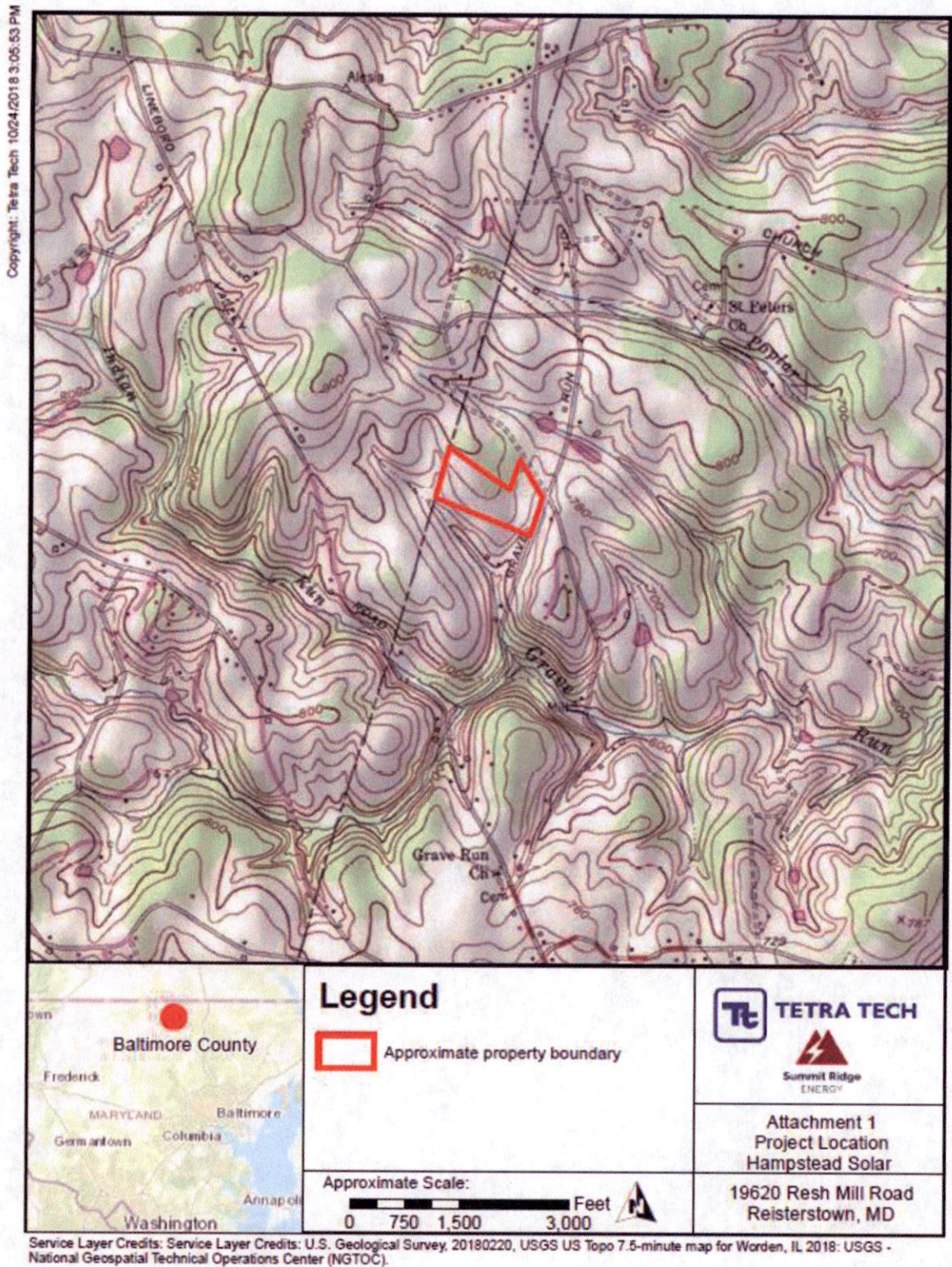
The solar PV modules will be installed on single-axis metal racking structures secured to the ground utilizing either direct push or anchor screw technology. Direct Current (DC) wiring with the Project will be secured behind the modules, collected at a common point and transition underground from the string inverters to the transformer. From the transformer pad, AC wiring will run underground until a point before the interconnection where it will surface and connect to a series of utility poles on the Property before connecting to the existing grid.

Access to the Project will be from Resh Mill Road utilizing a 20-foot wide crushed stone road constructed for access to the facility.

The transformer skid will be mounted on a concrete pad located within the array. The pad used for a skid unit will be approximately 13-feet x 13-feet.

The site will be secured with a perimeter chain link fence.

Figure 1: Project Location



2. DECOMMISSIONING ACTIVITIES

Introduction

The Decommissioning Plan (the “Plan”) describes anticipated activities and process for decommissioning of the proposed facility following its useful life. The purpose of decommissioning is to restore the property to a clean, safe and, usable condition for continued use by the landowner.

Decommissioning consists of the removal of above-ground and below-ground facility components, management of excess materials and waste as well as the restoration of Project lands, as applicable. Activities are expected to take between 8-10 weeks but no longer than four-months.

Potential negative environmental effects from decommissioning of the facility will be mitigated through use of erosion and sediment control measures, limiting the use of heavy machinery (where possible), and maintaining a buffer from natural features. These control measures, as well as other mitigation measures used during construction will be re-implemented during the decommissioning phase and until the site is stabilized.

Future consultation will occur with the municipality prior to decommissioning to discuss preferences and commitments to restore the Project to its pre-construction condition or a similar state. All decommissioning and restoration activities will adhere to the requirements set forth by Occupational Health and Safety Administration (OSHA) and will be in accordance with all applicable federal, state and local permitting requirements. As with the construction phase, an onsite manager responsible for safety will be present on-site (generally the contractor’s project manager) while decommissioning activities are taking place.

The decommissioning plan is based on current procedures and experience. These procedures may be subject to revision based on new experiences and requirements over time. At the time of decommissioning, various options and procedures will be re-evaluated to ensure that decommissioning is safe and beneficial to the environment.

Equipment Removal

A significant amount of the components of the Project will include recyclable or re-saleable components, including copper, aluminum, galvanized steel, and modules. Due to their resale monetary value, these components will be dismantled and disassembled rather than being demolished and disposed of.

Following coordination with the local utility company regarding timing and required procedures for disconnecting the Facility from the private utility, electrical connections to the system will be disconnected and connections will be tested locally to confirm that no electric current is running through them before proceeding. Electrical connections to the panels will be cut at the panel and then removed from their framework by cutting or dismantling the connections to the supports. Inverters, transformers, and switchgear will be lifted, secured onto flat beds, and transported off-site for processing.

ICFTS MD Solar, LLC
Decommissioning Plan

Modules will be detached from the racking system and stacked for removal. In the event of a module fracture, the silicon-based module will be disposed of at a landfill as non-hazardous waste.

The metal piling systems used to secure the PV system in the ground will be removed entirely. If full removal is not possible, the piling will be terminated at a depth greater than four-feet from grade or at bedrock whichever is shallower. The piling materials will be collected and recycled. Additionally, all associated metal mounting structures along with the metal perimeter fencing and gates will be removed and either reused or sent for recycling.

Grade slabs will be broken, removed, and disposed of off-site or recycled. Unless requested by the landowner for the access road to remain, materials from road construction will be removed, shipped off-site for either re-use or disposal. If necessary, the former road bed will be backfilled and graded with material native to the region to blend it with the immediately adjacent and existing topography.

Aboveground utility poles owned by the Project will be completely removed and disposed of off-site in accordance with utility best practices. Overhead wires will be removed from the area of the solar modules and terminated at the point of interconnection. Underground wiring at depths of less than four-feet will be removed and recycled.

Prior to final demobilization, a final walkthrough of the Project area and the property will be completed to ensure all debris is collected and removed.

Site Restoration

Those areas disturbed during decommissioning activities will be graded as necessary to ensure a uniform slope for proper storm water management, prevent the ponding of waters and address any rutting or other depressions caused by removal equipment. The disturbed areas will then be seeded either by hand or via hydro seeding to reestablish vegetation compatible with the property and region. It is anticipated that a seed mix native to the area will be used by the decommissioning contractor, unless the landowner instructs that they will begin using the property for agricultural purposes and will reestablish the area with agricultural vegetation.

3. PERMITTING

Permitting & Approvals

Prior to the initiation of decommissioning activities, local code will be reviewed for applicability with decommissioning activities. The municipality will be consulted to confirm and applications made for appropriate permits and approvals, if any. At a minimum, it is anticipated that a new storm water pollution prevention plan (SWPPP) will be required along with a building permit. It is assumed that neither a new or revised site plan nor special use permit would be necessary because decommissioning activities are associated with the originally issued approvals.

Throughout the decommissioning process, the municipality will be provided with regular updates and notice upon completing the restoration activities.

4. DECOMMISSIONING ASSURANCE

Form of Assurance

The Operator/Owner will secure a bond as assurance for decommissioning of the project if the Solar Energy System ceases to be used for its intended purpose for 150 consecutive days and the Operator/Owner does not provide reasonable evidence of intent to restart operations within six (6) months thereafter. Removal of the Solar Energy System, obsolete and/or unused structures shall be completed within three (3) months thereafter or as soon as feasible due to weather restrictions. The bond will be maintained and upon Town's request, within thirty (30) days prior to the end of each five (5)-year period after the establishment of the bond, the Operator/Owner shall provide the Town with an updated Removal Letter setting forth an updated estimate for the removal of such obsolete and or unused structures and the bond shall be altered to reflect the updated estimate for such removal. The bond will remain in place through the completion of decommissioning activities at the Project.

Use of Assurance

In the event that the Operator/Owner fails to undertake decommissioning activities within the established period of the Agreement, the municipality shall have the right to undertake decommissioning activities and make a claim against the decommissioning assurance. In such circumstances, the municipality shall have such access to the Property as may be necessary to allow its qualified contractors to conduct decommissioning activities.

MEMORANDUM

DATE: February 7, 2019
TO: Zoning Review Office
FROM: Office of Administrative Hearings
RE: Case No. 2019-0144-SPHA – Appeal Period Expired

The appeal period for the above-referenced case expired on February 6, 2019. There being no appeal filed, the subject file is ready for return to the Zoning Review Office and is placed in the 'pick up box.'

c: ✓ Case File
Office of Administrative Hearings

/dlw

IN RE: **PETITIONS FOR SPECIAL HEARING ***

AND VARIANCE

(1401-1417 Merritt Blvd)

12th Election District

7th Council District

Oekos Dundalk, LLC

Legal Owner

Petitioner

BEFORE THE

OFFICE OF

ADMINISTRATIVE HEARINGS

FOR BALTIMORE COUNTY

Case No. 2019-0144-SPHA

* * * * *

OPINION AND ORDER

This matter comes before the Office of Administrative Hearings (OAH) for consideration of Petitions for Special Hearing and Variance filed on behalf of Oekos Dundalk, LLC, legal owner ("Petitioner"). The Special Hearing was filed pursuant to Section 500.7 of the Baltimore County Zoning Regulations ("BCZR") to approve an amendment to the site plan approved in Case No. 2008-0336-A. A petition for variance seeks to allow a total of 990 off-street parking spaces in lieu of the required 1,131 parking spaces. A site plan was marked and accepted into evidence as Petitioner's Exhibit 1.

Gary Getz, Mark Keeley, Ken Myers and Laurie Mazzotta appeared in support of the requests. David H. Karceski, Esq. represented the Petitioner. There were no protestants or interested citizens in attendance. The Petition was advertised and posted as required by the BCZR. A substantive Zoning Advisory Committee (ZAC) comment was received from the Department of Planning ("DOP"). That agency did not oppose the requests.

SPECIAL HEARING

The special hearing request is essentially a housekeeping matter, in that it seeks only to amend a site plan approved in a 2008 zoning case which also granted variance relief in connection

ORDER RECEIVED FOR FILING

Date 1-7-19

By Den

with off-street parking at this shopping center. As such the petition for special hearing will be granted.

VARIANCE

A variance request involves a two-step process, summarized as follows:

- (1) It must be shown the property is unique in a manner which makes it unlike surrounding properties, and that uniqueness or peculiarity must necessitate variance relief; and
- (2) If variance relief is denied, Petitioner will experience a practical difficulty or hardship.

Cromwell v. Ward, 102 Md. App. 691 (1995).

The property has an irregular shape and is therefore unique. If the Regulations were strictly interpreted Petitioner would experience a practical difficulty because it would be unable to attract new tenants to the shopping center. Finally, I find that the variance can be granted in harmony with the spirit and intent of the BCZR, and in such manner as to grant relief without injury to the public health, safety and general welfare. This is demonstrated by the lack of County and/or community opposition. In addition, Mr. Keeley, a transportation planner accepted as an expert, conducted a parking utilization study at the site and determined that even at peak periods the off-street parking at the center would only be 73% occupied. As such, I do not believe granting the petition will have any discernable impact upon the community.

THEREFORE, IT IS ORDERED this 7th day of **January, 2019**, by this Administrative Law Judge, that the Petition for Special Hearing pursuant to Section 500.7 of the BCZR to approve an amendment to the site plan approved in Case No. 2008-0336-A, to reflect the variance relief granted herein, be and is hereby GRANTED.

IT IS FURTHER ORDERED that the Petition for Variance to allow a total of 990 off-street parking spaces in lieu of the required 1,131 parking spaces, be and is hereby GRANTED.

ORDER RECEIVED FOR FILING

Date

1-7-19

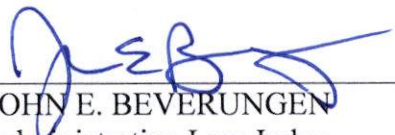
By

Sen

The relief granted herein shall be subject to the following:

1. Petitioner may apply for necessary permits and/or licenses upon receipt of this Order. However, Petitioner is hereby made aware that proceeding at this time is at its own risk until 30 days from the date hereof, during which time an appeal can be filed by any party. If for whatever reason this Order is reversed, Petitioner would be required to return the subject property to its original condition.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.



JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB:sln

ORDER RECEIVED FOR FILING

Date 1-7-19

By sln



PETITION FOR ZONING HEARING(S)

To be filed with the Department of Permits, Approvals and Inspections

To the Office of Administrative Law of Baltimore County for the property located at:

Address 1401-1417 Merritt Boulevard

which is presently zoned BM

Deed References: 20541-471

10 Digit Tax Account # 1220027000

Property Owner(s) Printed Name(s) Oekos Dundalk LLC

(SELECT THE HEARING(S) BY MARKING **X** AT THE APPROPRIATE SELECTION AND PRINT OR TYPE THE PETITION REQUEST)

The undersigned legal owner(s) of the property situate in Baltimore County and which is described in the description and plan attached hereto and made a part hereof, hereby petition for:

1. **X** a **Special Hearing** under Section 500.7 of the Zoning Regulations of Baltimore County, to determine whether or not the Zoning Commissioner should approve an amendment to the site plan approved in Case No. 08-336-A.

2. _____ a **Special Exception** under the Zoning Regulations of Baltimore County to use the herein described property for

3. **X** a **Variance** from Section(s) 409.6 of the Baltimore County Zoning Regulations to allow a total of 990 off-street parking spaces in lieu of the required 1,131 parking spaces.

of the zoning regulations of Baltimore County, to the zoning law of Baltimore County, for the following reasons: (Indicate below your hardship or practical difficulty or indicate below "TO BE PRESENTED AT HEARING". If you need additional space, you may add an attachment to this petition)

TO BE PRESENTED AT HEARING

Property is to be posted and advertised as prescribed by the zoning regulations.

I, or we, agree to pay expenses of above petition(s), advertising, posting, etc. and further agree to and are to be bounded by the zoning regulations and restrictions of Baltimore County adopted pursuant to the zoning law for Baltimore County.

Legal Owner(s) Affirmation: I / we do so solemnly declare and affirm, under the penalties of perjury, that I / We are the legal owner(s) of the property which is the subject of this / these Petition(s).

Contract Purchaser/Lessee:

Name- Type or Print

Signature

Mailing Address

City

State

Zip Code

Telephone #

Email Address

Attorney for Petitioner:

David H. Karceski, Esquire

Name- Type or Print

Signature Venable LLP

210 W. Pennsylvania Ave., Ste. 500 Towson MD

Mailing Address City State

21204 / 410-494-6285 / dhkarceski@venable.com

Zip Code Telephone # Email Address

Legal Owners (Petitioners):

Oekos Dundalk LLC

By: Christos Economides, Manager

Name #1- Type or Print

Name #2 - Type or Print

Signature #1

Signature #2

8300 Guilford Road, Suite C, Columbia, MD

Mailing Address City State

21046

Zip Code

Telephone #

Email Address

Representative to be contacted:

David H. Karceski, Esquire

Name - Type or Print

Signature Venable LLP

210 W. Pennsylvania Ave., Ste. 500 Towson MD

Mailing Address City State

21204 / 410-494-6285 / dhkarceski@venable.com

Zip Code Telephone # Email Address

CASE NUMBER 2019-0144 SPHA

Filing Date 10/30/18

Do Not Schedule Dates:

Reviewer JCM



PETITION FOR ZONING HEARING(S)

To be filed with the Department of Permits, Approvals and Inspections

To the Office of Administrative Law of Baltimore County for the property located at:

Address 401-1417 Merritt Boulevard

which is presently zoned BM

Deed Reference 80541-471

10 Digit Tax Account # 2002400

Property Owner(s) Printed Name Oekos Dundalk LLC

(SELECT THE HEARING(S) BY MARKING ☒ AT THE APPROPRIATE SELECTION AND PRINT OR TYPE THE PETITION REQUEST)

The undersigned legal owner(s) of the property situate in Baltimore County and which is described in the description and plan attached hereto and made a part hereof, hereby petition for:

X1. a Special Hearing under Section 500.7 of the Zoning Regulations of Baltimore County, to determine whether or not the Zoning Commissioner should approve amendment to the site plan approved in Case No. 08-336-A.

2. a Special Exception under the Zoning Regulations of Baltimore County to use the herein described property for

X3. a Variance from Section 499.6 of the Baltimore County Zoning Regulations to allow a total of 990 off-street parking spaces in lieu of the required 1,131 parking spaces.

of the zoning regulations of Baltimore County, to the zoning law of Baltimore County, for the following reasons:
(Indicate below your hardship or practical difficulty or indicate below "TO BE PRESENTED AT HEARING". If you need additional space, you may add an attachment to this petition)

TO BE PRESENTED AT HEARING

Property is to be posted and advertised as prescribed by the zoning regulations.

I, or we, agree to pay expenses of above petition(s), advertising, posting, etc. and further agree to and are to be bounded by the zoning regulations and restrictions of Baltimore County adopted pursuant to the zoning law for Baltimore County.

Legal Owner(s) Affirmation: I / we do so solemnly declare and affirm, under the penalties of perjury, that I / We are the legal owner(s) of the property which is the subject of this / these Petition(s).

Contract Purchaser/Lessee:

Name- Type or Print

Signature

Mailing Address

Zip Code

Telephone #

Email Address

Attorney for Petitioner:

David H. Karceski, Esquire

Name- Type or Print

Signature

210 W. Pennsylvania Ave., Ste. 500 Towson MD

Mailing Address

City

State

21204

Zip Code

410-494-6285

Telephone #

dhkarceski@venable.com

Email Address

Legal Owners (Petitioners):

Oekos Dundalk LLC

By: Christos Economides, Manager

Name #1 - Type or Print

Name #2 - Type or Print

Signature #1

Signature #2

8300 Guilford Road, Suite C, Columbia, MD

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State

21046

Zip Code

Telephone #

Email Address

Representative to be contacted:

David H. Karceski, Esquire

Name - Type or Print

Signature

210 W. Pennsylvania Ave., Ste. 500 Towson MD

Mailing Address

City

State

21204

Zip Code

410-494-6285

Telephone #

dhkarceski@venable.com

Email Address

CASE NUMBER

Filing Date / /

Do Not Schedule Dates:

Reviewer

REV. 10/4/11

PROPERTY DESCRIPTION FOR ATTACHMENT TO PETITION FOR VARIANCE

ZONING PROPERTY DESCRIPTION FOR: 1401-1417 Merritt Boulevard, Dundalk,
Maryland 21222

Beginning at a point on the east side of Merritt Boulevard, which is 120 feet wide at the distance of 511 feet southeast of the centerline of the nearest improved intersecting street, German Hill Road, which is 70 feet wide.

Being Lot #1, in the subdivision of Laurelwood as recorded in Baltimore County Plat Book #31, Folio #56, containing 16.109 acres. Located in the 12th Election District and 7th Council District.



Wiley

JB 1/4/19
10 Am

SGT ROBERT BLACK <1opie@comcast.net>
Thursday, January 03, 2019 5:35 PM
Barbara Lukasevich; DKarceski@Venable.com; Administrative Hearings
Recertification's For 2019-0144-SPHA
Re-Cert 1 2019-0144-SPHA.doc; Re-Cert 2 2019-0144-SPHA.doc

1401-1417 Merritt Boulevard. Invoice will be sent to Barb in another email.



Recertification
Subject
Attachments
Debra

RECEIVED
JAN 10 1960
ALABAMA POLICE DEPARTMENT
MONTGOMERY

for

ots:

CERTIFICATE OF POSTING

2019-0144-SPHA

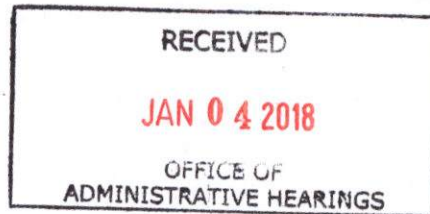
RE: Case No.: _____

Petitioner/Developer: _____

Oekos Dundalk, LLC

January 4, 2019
Date of Hearing/Closing: _____

ty Department of
als and Inspections
uilding, Room 111
eake Avenue
d 21204



under the penalties of perjury that the necessary sign(s) required by law were
on the property located at: _____

Boulevard

SIGN 1 Recertification

December 15, 2018

(Month, Day, Year)

Sincerely,

January 3, 2018

(Signature of Sign Poster)

(Date)

SSG Robert Black

(Print Name)

1508 Leslie Road

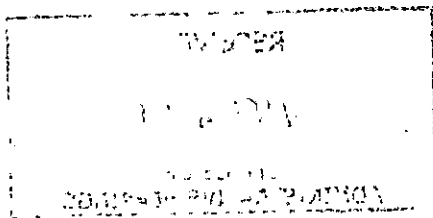
(Address)

Maryland 21222

(City, State, Zip Code)

82-7940

(Phone Number)



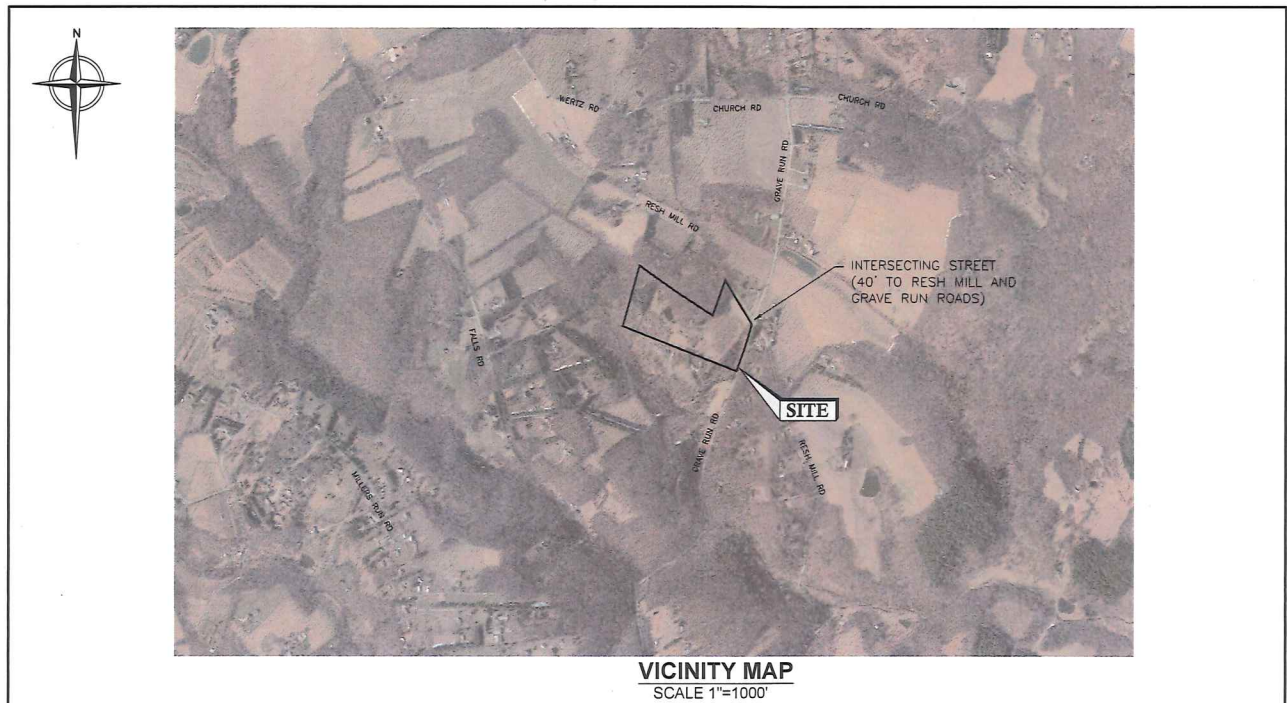


HAMPSTEAD SOLAR PROJECT

19620 RESH MILL RD

BALTIMORE COUNTY, HAMPSTEAD, MD 21074

DISCRETIONARY PERMITTING PLAN TO ACCOMPANY ZONING HEARING FOR SPECIAL EXCEPTION PERMIT



VICINITY MAP
SCALE 1"=1000'

PROJECT DEVELOPER

ICFTS MD SOLAR, LLC
1401 WILSON BLVD.
SUITE 800
ARLINGTON, VA. 22209

SCOPE OF WORK

THIS DESIGN PACKAGE PROVIDES DRAWINGS FOR THE INSTALLATION OF A PHOTOVOLTAIC SYSTEM AT 19620 RESH MILL RD, HAMPSTEAD, BALTIMORE COUNTY, MARYLAND. ENVIRONMENTAL PLANS ARE NOT PART OF THE SCOPE OF THIS PLAN SET.

CIVIL ENGINEER

TETRA TECH
1200 SCOTTSVILLE RD, BUILDING C, SUITE 320
ROCHESTER, NEW YORK 14624
(877) 294-9070

LICENSED ENGINEER:
ADAM S. LARKY, P.E.
MARYLAND PE No. 41078

PROJECT DESCRIPTION

SYSTEM SIZE (DC)	0.97 MW
SYSTEM SIZE (AC)	--
MODULE TYPE	HANWHA Q-CELL 345W SOLAR MODULES
MODULE QTY.	2808
INVERTERS	1
SEISMIC DESIGN CAT.	
SNOWLOAD	20 PSF
WINDSPEED	105 MPH
LATITUDE/LONGITUDE	39.394362 / -76.482003
AZIMUTH	180°
TILT	VARIABLE
PROJECT AREA	6.3 ACRES
RACKING TYPE	PILE DRIVEN

APPLICABLE CODES AND STANDARDS

- MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION, ACCESS MANUAL, LATEST EDITION.
- MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION, S.H.A.
- ENVIRONMENTAL GUIDE FOR ACCESS AND DISTRICT PERMIT APPLICANTS, JANUARY 2017.
- MARYLAND DEPARTMENT OF STATE POLICE, FIRE PREVENTION COMMISSION, STATE OF MARYLAND FIRE PREVENTION CODE, JANUARY 2016.
- MARYLAND DESIGN GUIDES, USDA NATURAL RESOURCES CONSERVATION SERVICE, LATEST EDITION.
- BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS.

CIVIL SHEETS	
SHEET NUMBER	SHEET TITLE
C-001	CIVIL TITLE SHEET
C-002	EXISTING CONDITIONS PLAN
C-003	SITE PLAN
C-004	PROJECT DETAILS
C-005	FENCE AND GATE DETAILS
C-006	EROSION & SEDIMENT CONTROL DETAILS

ZONING SETBACKS		
SITE	TOWN	REQUIREMENTS
HAMPSTEAD	BALTIMORE COUNTY	SETBACKS: FRONT -50 FT FROM TRACT BOUNDARY TO EQUIPMENT, REAR - 50 FT, SIDE - 50 FT
STANDARD	ZONE (RC-2)	PROPOSED SOLAR FARM IN ZONE (RC-2)
MINIMUM FRONT SETBACK	50 FT	50 FT (MIN.)
MAXIMUM FRONT SETBACK	NA	NA
MINIMUM SIDE SETBACK	50 FT	50 FT (MIN.)
MINIMUM REAR SETBACK	50 FT	50 FT (MIN.)



Summit Ridge
ENERGY

ICFTS MD SOLAR, LLC
1401 WILSON BLVD, SUITE 800
ARLINGTON, VA. 22209



TETRA TECH

PREPARED BY:
CORNERSTONE ENVIRONMENTAL GROUP, LLC
100 SCOTTSVILLE ROAD, SUITE 320
ROCHESTER, NEW YORK 14624

STAMP:



ADAM S. LARKY, P.E. DATE
MD. P.E. Lic. NO. 41078

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 41078 EXPIRATION DATE: 10/26/19

HAMPSTEAD SOLAR

19620 RESH MILL RD
HAMPSTEAD, MD 21074

PROJECT NUMBER:
194-6537.05.05

SHEET TITLE:

CIVIL TITLE SHEET

SHEET SIZE:
ARCH "D"
24" X 36" (610 x 914)
0 1/2" 1"

NO.	REVISION	DATE	INIT.

DATE: 10/26/2018
DRAWN BY: DSS
ENGINEER: AGB
APPROVED BY: ASL

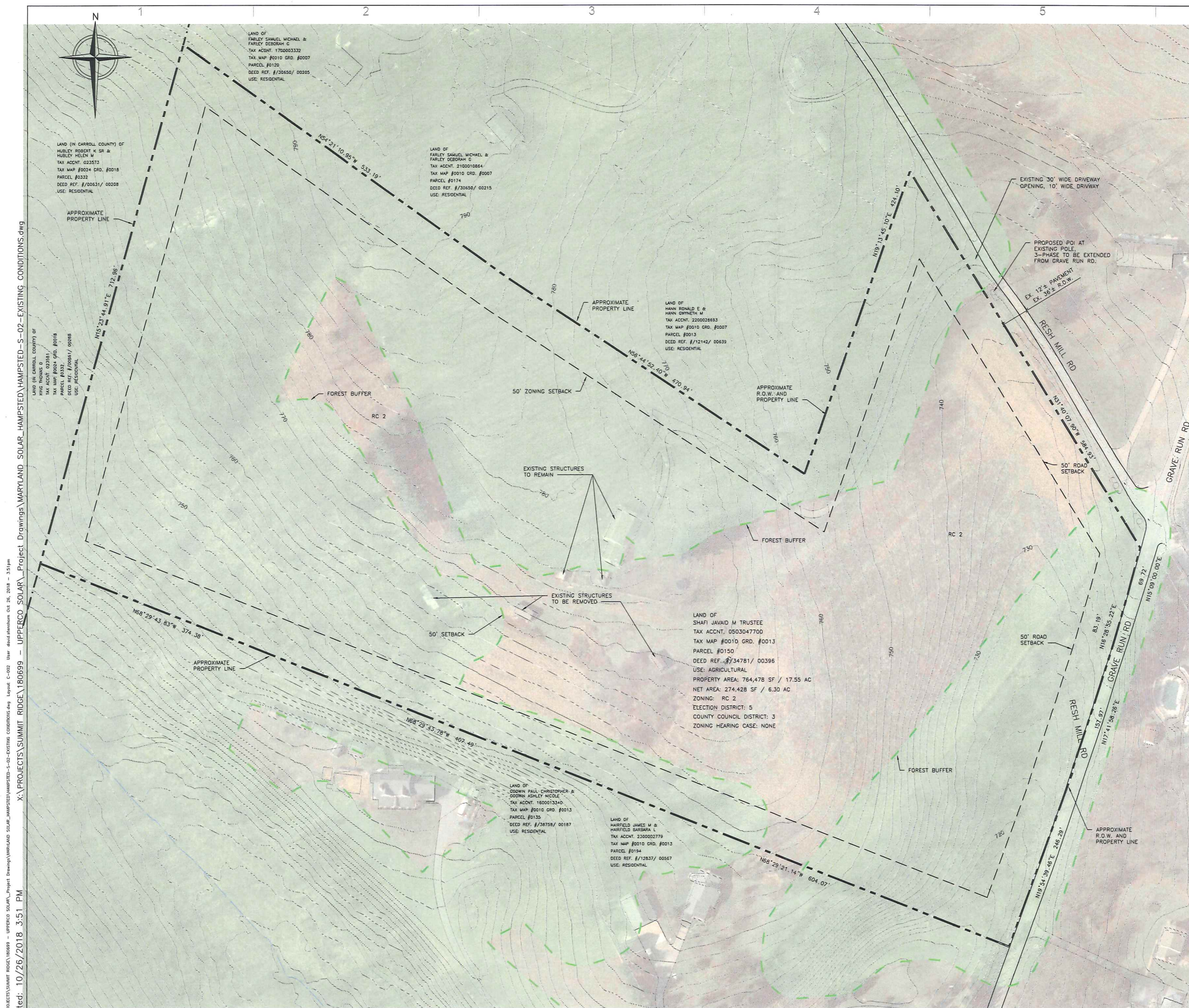
PROJECT PHASE:
DISCRETIONARY PERMITTING

SCALE:
AS SHOWN

SHEET NO.:

C-001

NOT FOR
CONSTRUCTION



- LEGEND**
- PROPERTY LINE
 - ZONING SETBACK
 - ROAD CENTERLINE
 - INDEX CONTOUR (EXISTING)
 - INTERMEDIATE CONTOUR (EXISTING)
 - WATER COURSE (EXISTING)
 - UTILITY POLE (EXISTING)
 - FOREST BUFFER (EXISTING)

PROPERTY DESCRIPTION FOR
19620 RESH MILL RD, HAMPSTEAD, MD 21074
BEGINNING AT A POINT ON THE WEST SIDE OF RESH MILL ROAD, WHICH IS 12.75 FT WIDE AT A DISTANCE OF 586 FEET NORTH WEST OF THE CENTERLINE OF THE NEAREST IMPROVED INTERSECTING STREET, GRAVE RUN ROAD WHICH IS 18 FEET WIDE, THENCE THE FOLLOWING COURSES AND DISTANCES: (1ST POINT OF CALL - "POC") N19°13'45.10"E 424.00', (2ND POC) N56°44'52.40"W 470.94', (3RD POC) N54°21'10.95"W 533.19', (4TH POC) N15°23'44.91"E 712.96', (5TH POC) N68°29'43.83"W 374.38', (6TH POC) N68°29'43.78"W 407.49', (7TH POC) N68°29'21.14"W 604.07', (8TH POC) N19°54'39.46"E 246.29', (9TH POC) N17°41'56.26"E 157.97', (10TH POC) N16°28'55.22"E 83.19', (11TH POC) N15°09'00.00"E 69.72', (12TH POC) N31°40'07.90"W 584.93', BACK TO THE POINT OF BEGINNING AS DESCRIBED, CONTAINING 20.5 ACRES, LOCATED IN THE 5TH ELECTION DISTRICT AND 3RD COUNCIL DISTRICT.

NOTE: THE PROPERTY DESCRIPTIONS HEREIN WERE OBTAINED FROM BALTIMORE COUNTY GIS DATA.

- NOTES:**
- EXISTING CONDITIONS INFORMATION OBTAINED FROM BALTIMORE COUNTY GIS DATA PORTAL.
 - THIS DATA IS REFERENCED HORIZONTALLY TO THE HARN/MD MARYLAND STATE PLANE ZONE, US FOOT, VERTICALLY TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
 - AERIAL IMAGERY OBTAINED FROM BALTIMORE COUNTY GIS DATA PORTAL AND IMAGERY IS DATED 2017.
 - CONTOURS SHOWN HEREIN WERE FROM THE BALTIMORE COUNTY GIS DATA PORTAL.
 - BEARINGS AND DISTANCES SHOWN ARE LABELS PLACED ON GIS LAYOUT AND HAS NOT BEEN REVIEWED BY A LICENSED SURVEYOR TO MATCH THE DEED INFORMATION.
 - PROPERTY OWNERSHIP INFORMATION OBTAINED FROM BALTIMORE COUNTY REAL PROPERTY GIS DATA PORTAL.

0 60 120
SCALE IN FEET

**NOT FOR
CONSTRUCTION**



ICFETS MD SOLAR, LLC
1401 WILSON BLVD. SUITE 800
ARLINGTON, VA 22209



PREPARED BY:
CONCRETE ENVIRONMENTAL GROUP, LLC
100 SCOTTSDALE ROAD, SUITE 200
ROCHESTER, NEW YORK 14623

STAMP:

STATE OF MARYLAND
ADAM S. LARKY, P.E.
No. 41078
10/26/18
10/26/18
ADAM S. LARKY, P.E. DATE
MD. P.E. Lic. NO. 41078
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 41078, EXPIRATION DATE 9/1/19.

HAMPSTEAD SOLAR
19620 RESH MILL RD
HAMPSTEAD, MD 21074

PROJECT NUMBER:
194-6537.05.05

SHEET TITLE:
EXISTING CONDITIONS
PLAN

SHEET SIZE:
ARCH "D"
24" X 36" (610 X 914)
0 1/2 1"

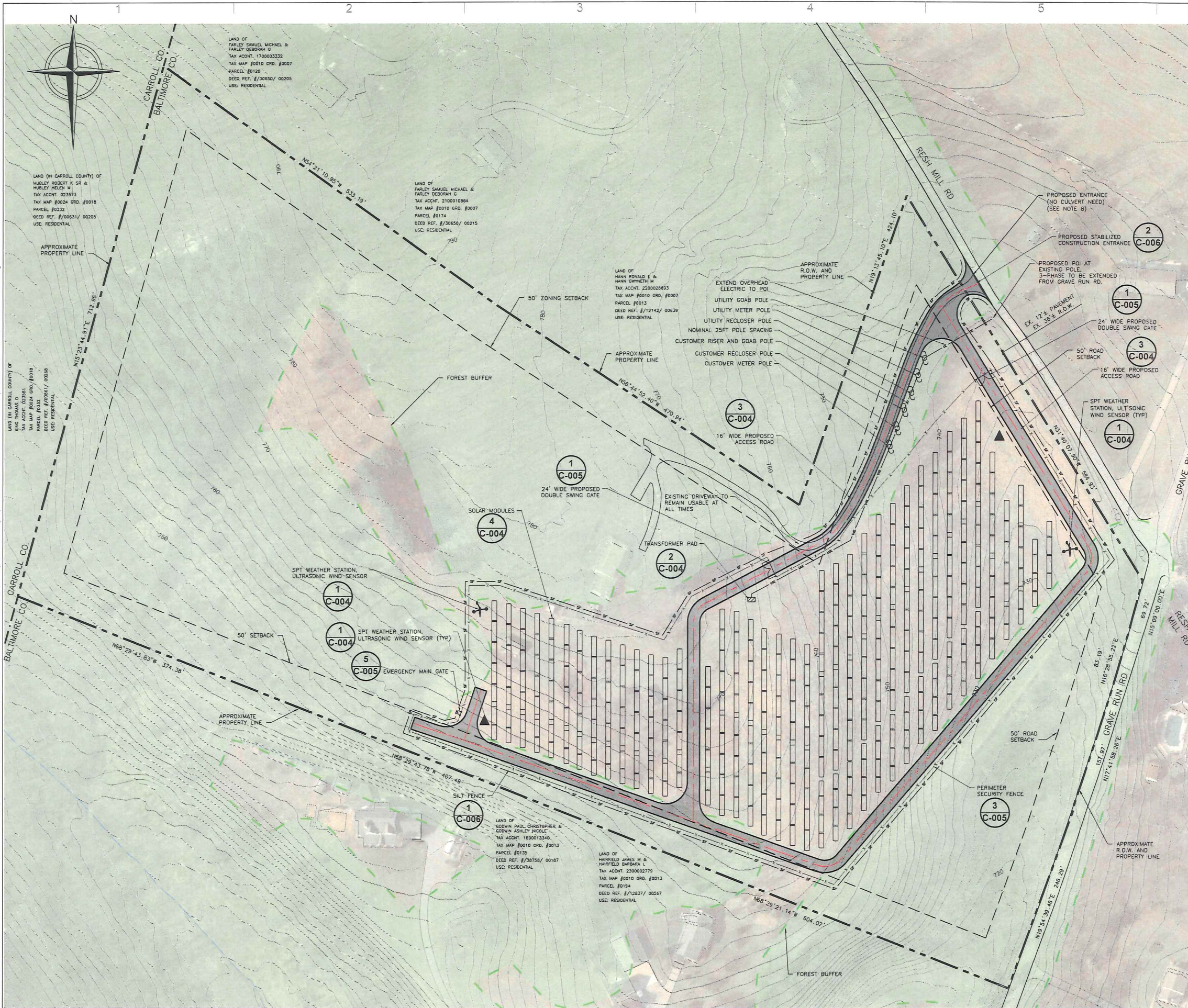
NO.	REVISION	DATE	INIT.

DATE: 10/26/2018
DRAWN BY: DSS
ENGINEER: AGB
APPROVED BY: ASL

PROJECT PHASE:
DISCRETIONARY PERMITTING

SCALE: 1"=60'

SHEET NO.:
C-002



LEGEND

- PROPERTY LINE
- MUNICIPAL BOUNDARY
- ZONING LIMITS (EXISTING)
- ZONING SETBACK
- CENTERLINE
- WATER COURSE (EXISTING)
- UNDERGROUND ELECTRIC (PROPOSED)
- OVERHEAD ELECTRIC (PROPOSED)
- INDEX CONTOUR (EXISTING)
- INTERMEDIATE CONTOUR (EXISTING)
- EDGE OF ROAD / TRAIL (EXISTING)
- FENCE (EXISTING)
- FENCE (PROPOSED)
- WATER COURSE (EXISTING)
- TREE LINE (EXISTING)
- UTILITY POLE (EXISTING)
- FOREST BUFFER (EXISTING)
- SILT FENCE (PROPOSED)
- UTILITY POLE (PROPOSED)
- ACCESS ROAD (PROPOSED)
- WEATHER STATION (PROPOSED)
- SOLAR MODULE (PROPOSED)

- NOTES:**
- EXISTING CONDITIONS INFORMATION OBTAINED FROM BALTIMORE COUNTY GIS DATA PORTAL.
 - FOREST BUFFER INFORMATION OBTAINED FROM BALTIMORE COUNTY GIS.
 - THIS DATA IS REFERENCED HORIZONTALLY TO THE HARN/MD MARYLAND STATE PLANE ZONE, US FOOT, VERTICALLY TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
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 - BEARINGS AND DISTANCES SHOWN ARE LABELS PLACED ON GIS LINEWORK AND HAS NOT BEEN REVIEWED BY A LICENSED SURVEYOR TO MATCH THE DEED INFORMATION.
 - PROPERTY OWNERSHIP INFORMATION OBTAINED FROM BALTIMORE COUNTY REAL PROPERTY GIS DATA PORTAL.
 - FINAL LOCATION AND DIMENSIONS OF ROADS, CULVERTS, AND ASSOCIATED ITEMS SHALL BE DESIGNED BY AN MARYLAND STATE PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION AND BE IN ACCORDANCE WITH ALL LOCAL AND STATE STANDARDS.
 - ANY PROPOSED SIGNS SHALL BE DESIGNED TO COMPLY WITH SECTION 450B.02 OF THE BALTIMORE COUNTY ZONING REQUIREMENTS.
 - A LANDSCAPE BUFFER SHALL BE PROVIDED AROUND ANY PORTION OF THE SOLAR FACILITY THAT IS VISIBLE FROM ADJACENT RESIDENTIAL PROPERTY OR A PUBLIC STREET. LANDSCAPE BUFFER WILL BE DESIGNED IN ACCORDANCE WITH THE BALTIMORE COUNTY LANDSCAPE MANUAL.
 - THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST BUFFER, EXCEPT AS PERMITTED BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY.
 - SILT FENCE MAY NEED TO BE EXTENDED BEYOND LIMITS SHOWN BASED ON FIELD CONDITIONS, FLOW PATHS ENCOUNTERED DURING CONSTRUCTION, AND ACTUAL DISTURBANCE LIMITS.
 - SEE ELECTRICAL/STRUCTURAL DRAWINGS (UNDER SEPARATE COVER) FOR INVERTER, ELECTRICAL UTILITY POLE AND CONNECTION DETAILS.

0 60 120
SCALE IN FEET

NOT FOR CONSTRUCTION

ICFTS MD SOLAR, LLC
1401 WILSON BLVD. SUITE 800
ARLINGTON, VA 22209

PREPARED BY:
CORNERSTONE ENVIRONMENTAL GROUP, LLC
100 SCOTTSVILLE ROAD, SUITE 200
ROCHESTER, NEW YORK 14624

10/26/18
ADAM S. LARKY, P.E. DATE
MD P.E. Lic. NO. 41078
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 1078, EXPIRATION DATE: 9/1/19.

HAMPSTEAD SOLAR
19620 RESH MILL RD
HAMPSTEAD, MD 21074

PROJECT NUMBER:
194-6537.05.05

SHEET TITLE:
SITE PLAN

SHEET SIZE:
ARCH "D"
24" X 36" (610 x 914)

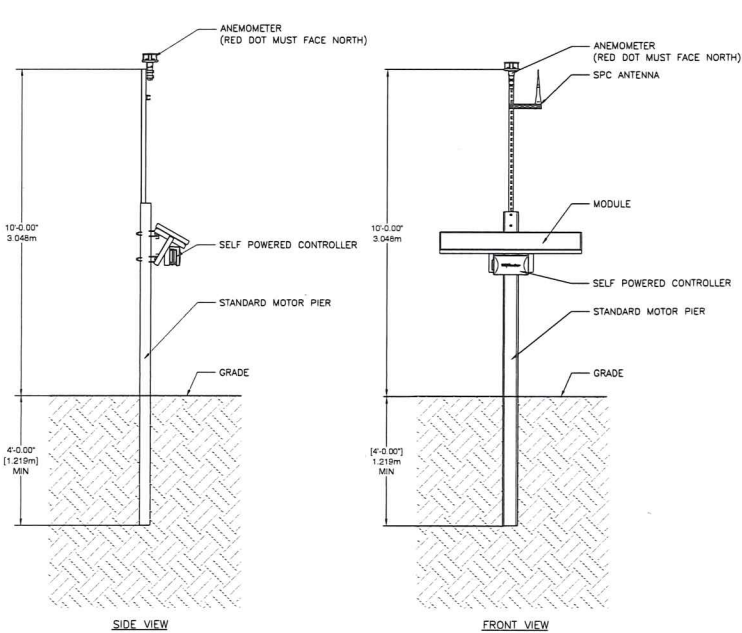
NO.	REVISION	DATE	INIT.

DATE: 10/26/2018
DRAWN BY: DSS
ENGINEER: AGB
APPROVED BY: ASL

PROJECT PHASE:
DISCRETIONARY PERMITTING

SCALE:
1"=60'

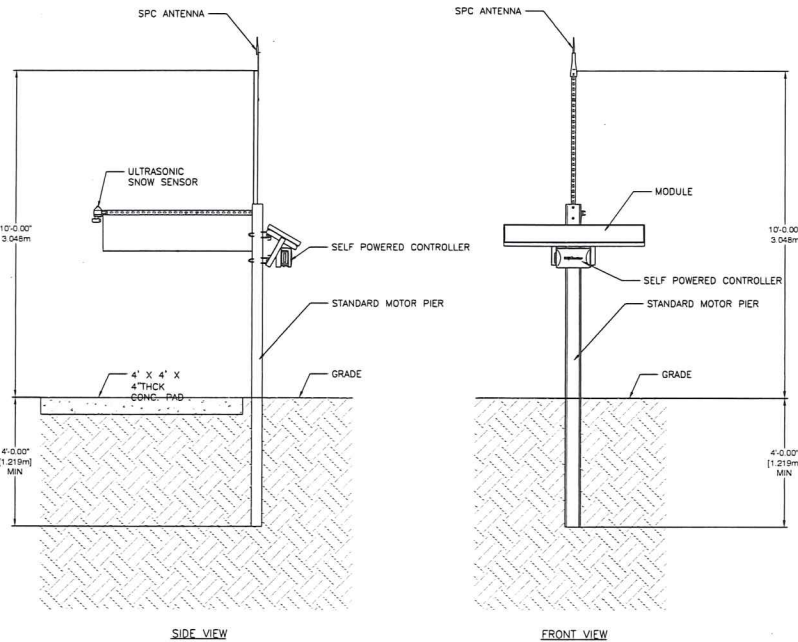
SHEET NO.:
C-003



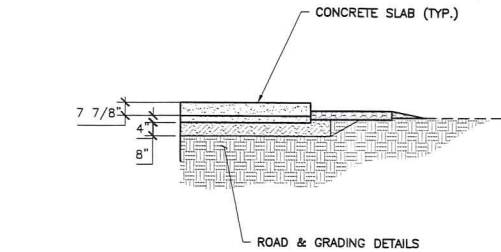
ULTRASONIC WIND SENSOR

SPT WEATHER STATION, ULTRASONIC WIND SENSOR

DETAIL
SCALE: N.T.S. 1 C-004

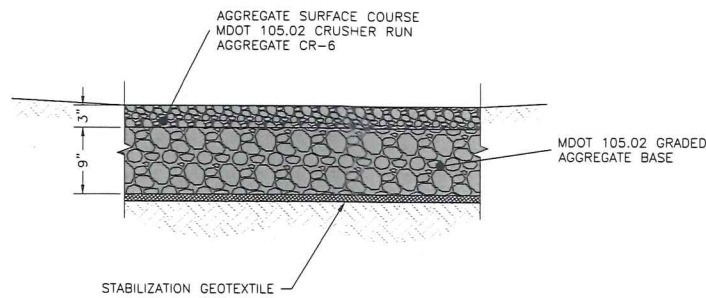


SPT WEATHER STATION



INVERTER CONCRETE SLAB

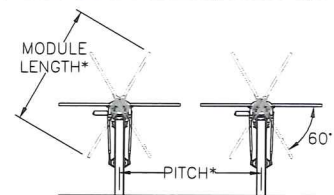
DETAIL
SCALE: N.T.S. 2 C-004



ACCESS ROAD

DETAIL
SCALE: 1" = 1' 3 C-004

SYSTEM SPECIFICATIONS			
AC	- MW	TOTAL MODULES	2808
DC	0.969 MW	MODULES PER STRING	VARIES
MODULE CAPACITY	345 W	NUMBER OF STRINGS	VARIES
INVERTER CAPACITY	- MW	NUMBER OF INVERTERS	1
DC/AC	-	MODULE NAME	HANWHA
PITCH	18.50 FT	MODULE MODEL	Q.PLUS L-G4.2
MODULE(S) LENGTH	6.541 FT	GROUND COVER RATIO (GCR)%	35.36



*SEE SYSTEM SPECIFICATIONS

NEXTRACKER SYSTEM

DETAIL
SCALE: N.T.S. 4 C-004

NOT FOR
CONSTRUCTION



Summit Ridge
ENERGY

ICFTS MD SOLAR, LLC
1401 WILSON BLVD. SUITE 800
ARLINGTON, VA. 22209



TETRA TECH

PREPARED BY:
CORNERSTONE ENVIRONMENTAL GROUP, LLC
1200 SCOTTSVILLE ROAD, SUITE 200
ROCHESTER, NEW YORK 14620

STAMP:



ADAM S. LARKY, P.E. DATE 10/26/18
MD. P.E. Lic. No. 41078

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE
DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A
FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE
STATE OF MARYLAND, LICENSE NO. 41078, EXPIRATION DATE 6/14/19

HAMPSTEAD SOLAR

19620 RESH MILL RD
HAMPSTEAD, MD 21074

PROJECT NUMBER:
194-6537.05.05

SHEET TITLE:

PROJECT DETAILS

SHEET SIZE:
ARCH "D"
24" X 36" (610 x 914)

NO.	REVISION	DATE	INIT.

DATE: 10/26/2018
DRAWN BY: DSS
ENGINEER: AGB
APPROVED BY: ASL

PROJECT PHASE:
DISCRETIONARY PERMITTING

SCALE:
AS SHOWN

SHEET NO.:
C-004

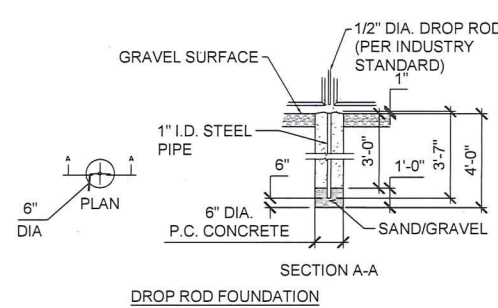
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TYPICAL ACCESS GATE

DETAIL

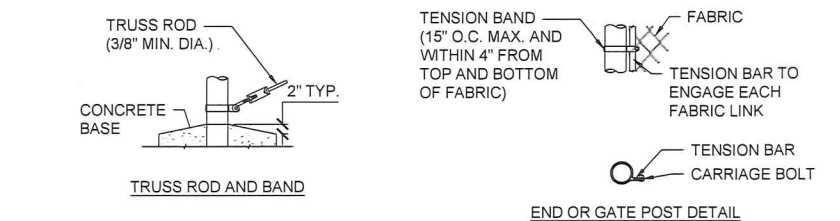
SCALE: 1/4" = 1'-0" C-005



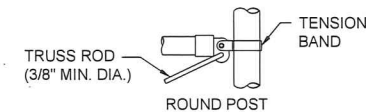
ACCESS GATE HARDWARE

DETAIL

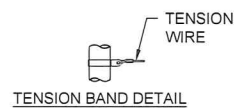
SCALE: N.T.S. C-005



END OR GATE POST DETAIL



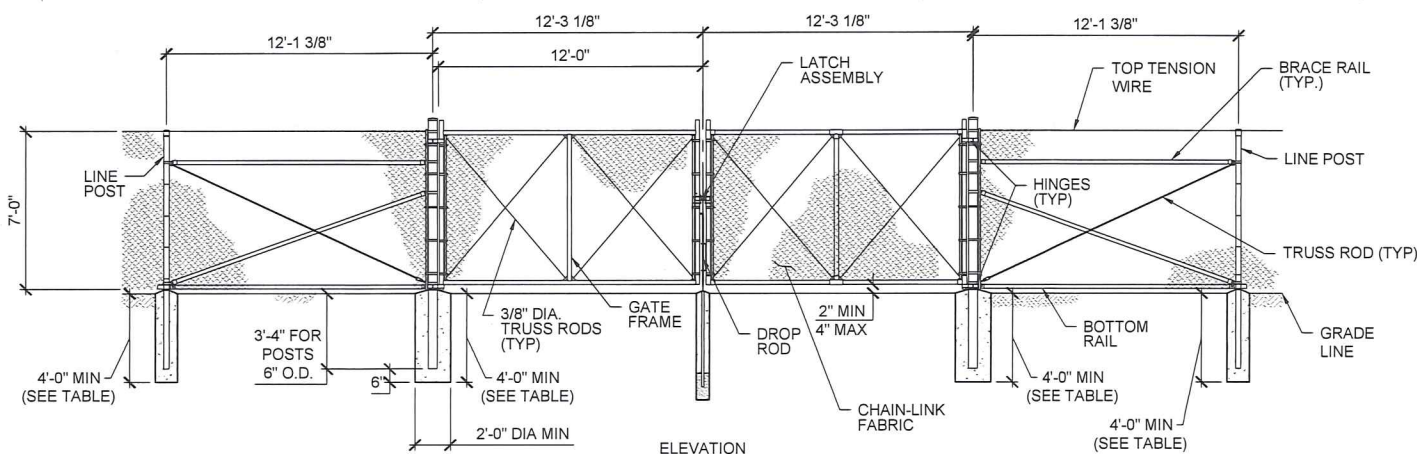
BRACE RAIL CLAMP DETAILS



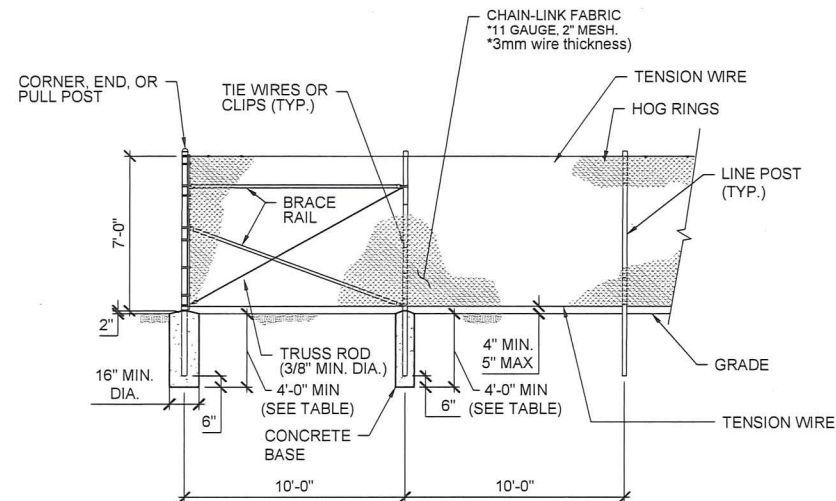
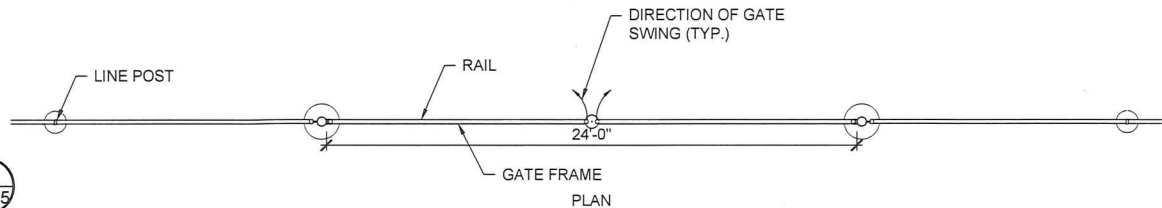
CHAINLINK FENCE HARDWARE

DETAIL

SCALE: N.T.S. C-005



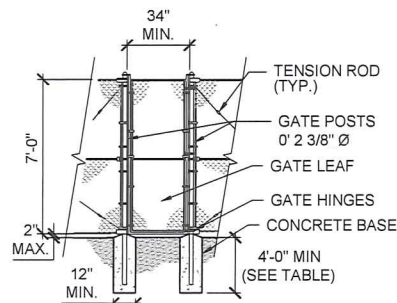
ELEVATION



PERIMETER FENCE

DETAIL

SCALE: 1/4" = 1'-0" C-005



EMERGENCY MAN GATE

DETAIL

SCALE: 1/4" = 1'-0" C-005

SHEET NOTES

- WIRE TIES, RAILS, POSTS, AND BRACES SHALL BE CONSTRUCTED ON THE SECURE SIDE OF THE FENCE ALIGNMENT. CHAIN-LINK FABRIC SHALL BE PLACED ON THE OPPOSITE SIDE OF THE SECURE AREA.
- SWING GATES SHALL BE CONSTRUCTED WITH DROP RODS, PADLOCKS, LATCH ASSEMBLY, AND GATE KEEPERS EXCEPT AS NOTED.
- ALL GATE FRAMES SHALL BE ACCORDING TO STEEL POST SCHEDULE GATE FRAMES SHALL BE OF WELDED CONSTRUCTION OR SHALL BE ASSEMBLED USING HEAVY FITTINGS. AT THE CONTRACTOR'S OPTION A WELDED HORIZONTAL BRACE MAY BE USED IN LIEU OF TRUSS RODS TO BRACE ALL WELDED GATE FRAMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER RIGID CONSTRUCTION OF ALL GATES SUPPLIED.
- GATES SHALL BE DESIGNATED AS FOLLOWS:
FENCE TYPE - FE5, FE6, ETC.
FABRIC WIDTH - INCHES
TYPE OPENING - SO (SINGLE)
- DO (DOUBLE)
HINGE - RA (STANDARD)
- HO (OFFSET)
OPENING - INCHES (CLEAR OPENING BETWEEN GATE POSTS)
EXAMPLES: FE6-120-DO-RA-144
FE5-120-SO-HO-144
- CHAIN-LINK FABRIC SHALL BE 11 GAUGE WITH 2" OPENINGS.
- LINE POSTS SHALL BE 10 FEET LONG 1-7/8" SCHEDULE 40 GRADE 50 PIPE DIRECTLY DRIVEN 4 FEET INTO NATIVE SOIL.
- SLATS NOT PERMITTED WITHOUT EOR APPROVAL AND SIGN-OFF.
- SIGNAGE ON FENCING SHALL BE IN ACCORDANCE WITH COUNTY OF BALTIMORE ZONING CODE.

STEEL POST SCHEDULE

USE AND SECTION	MINIMUM OUTSIDE DIMENSIONS
CORNER-END AND PULL POSTS (TUBULAR ROUNDS)	0'-2 3/8"
LINE POST (TUBULAR) ROUND	0'-1 7/8"

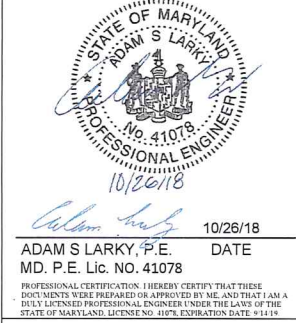
SOIL TYPE	EMBEDMENT DEPTH (FT)		
	WIND SPEED (MPH)		
	90	105	120
SOFT CLAY	5.5	6	6.5
STIFF CLAY	4.5	5	5.5
VERY STILL CLAY	4	4.5	5
HARD CLAY	4	4	4.5
LOOSE SAND	6	6.5	7
Medium Dense Sand	5.5	6	6.5
Dense Sand	5	6	6.5

NOT FOR CONSTRUCTION



PREPARED BY:
CORNERSTONE ENVIRONMENTAL GROUP, LLC
100 SCOTTSDALE ROAD, SUITE 200
ROCHESTER, NEW YORK 14621

STAMP:



HAMPSTEAD SOLAR
19620 RESH MILL RD
HAMPSTEAD, MD 21074

PROJECT NUMBER:
194-6537.05.05

SHEET TITLE:
FENCE AND GATE DETAILS

SHEET SIZE:
ARCH "D"
24" X 36" (610 X 914)

NO.	REVISION	DATE	INIT.

DATE: 10/26/2018
DRAWN BY: DSS
ENGINEER: AGB
APPROVED BY: ASL

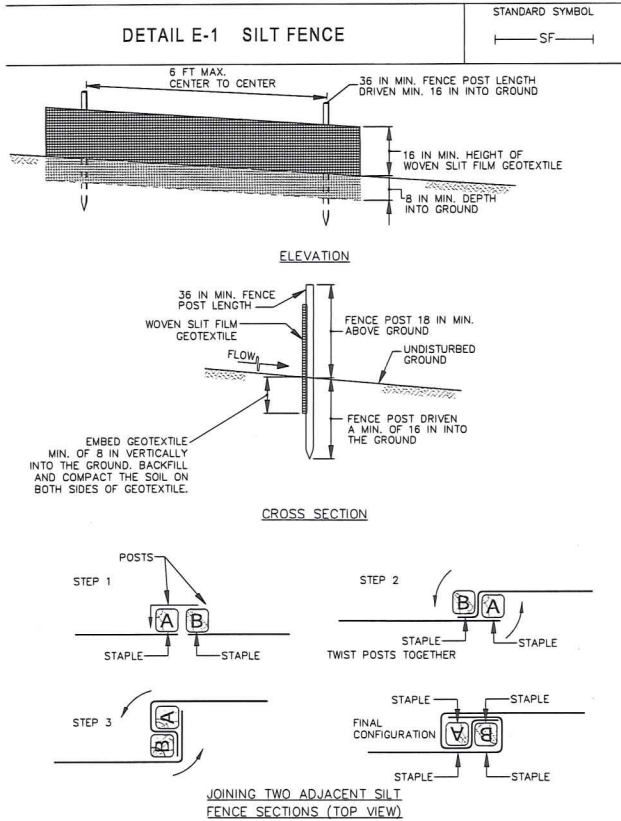
PROJECT PHASE:
DISCRETIONARY PERMITTING

SCALE: AS SHOWN

SHEET NO.:
C-005

X:\PROJECTS\SUMMIT RIDGE\PROJECT Drawings\MARYLAND SOLAR_HAMPSTEAD\S-06-EROSION CONTROL DETAILS.dwg

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CONSTRUCTION SPECIFICATIONS

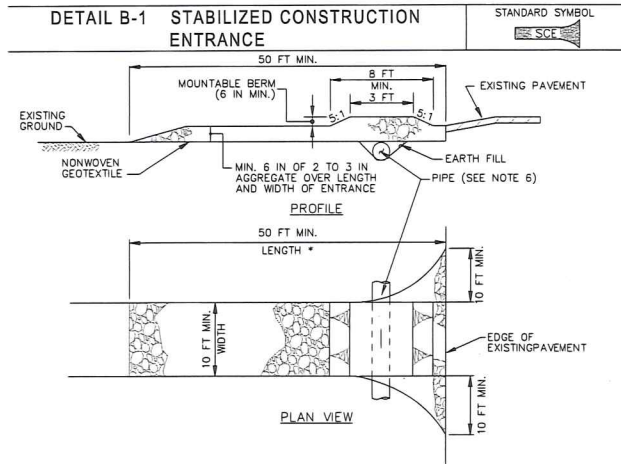
- USE WOOD POSTS $1\frac{1}{2}$ X $1\frac{1}{2}$ X $\frac{1}{2}$ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD, AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
- USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
- WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
- EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL FENCE.

SILT FENCE

DETAIL

SCALE: N.T.S.

1
C-006



CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOTS). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

STABILIZED CONSTRUCTION ENTRANCE

DETAIL

SCALE: N.T.S.

2
C-006

SEDIMENT AND EROSION CONTROL NOTES:

- SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE USE OF TEMPORARY OR PERMANENT MEASURES.
- SOIL EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF HYDROLOGIC DISTURBANCE OF UPLAND AREAS.
- DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN 7 CALENDAR DAYS OF THE END OF ACTIVE HYDROLOGIC DISTURBANCE OR REDISTURBANCE.
- AREAS OR EMBANKMENTS HAVING SLOPES GREATER THAN OR EQUAL TO 3 HORIZONTAL: 1 VERTICAL SHALL BE STABILIZED WITH EROSION CONTROL BLANKET IN COMBINATION WITH SEEDING.
- CONSTRUCTION DITCHES REQUIRED FOR CONSTRUCTION SHALL BE STABILIZED WITH EROSION CONTROL BLANKET IN COMBINATION WITH SEEDING.
- ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES MUST BE MAINTAINED AND REPAIRED AS NEEDED. CONTRACTOR SHALL ULTIMATELY BE RESPONSIBLE FOR MAINTENANCE AND REPAIR.
- A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT OF WAY, STREET OR PARKING AREA. ANY SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY, STREET, OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.
- SOIL STOCKPILES SHALL HAVE SILT FENCE ERECTED AROUND THEM THAT ARE TO REMAIN EXPOSED FOR PERIODS LESS THAN 7 DAYS.
- SOIL STOCKPILES SHALL NOT BE LOCATED IN A FLOOD PRONE AREA OR A DESIGNATED BUFFER PROTECTING WATERS OF THE UNITED STATES OR ISOLATED WATERS OF BALTIMORE COUNTY. ALL EXCESS EXCAVATED MATERIALS SHALL BE REMOVED FROM WATERS OF THE UNITED STATES OR ISOLATED WATERS OF BALTIMORE COUNTY IMMEDIATELY UPON COMPLETION OF THE RELATED CONSTRUCTION ACTIVITY.
- IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION. DISCHARGES SHALL BE ROUTED THROUGH AN EFFECTIVE SEDIMENT CONTROL MEASURE SUCH AS A SEDIMENT TRAP, SEDIMENT BASIN OR OTHER APPROPRIATE MEASURE.
- THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER OR GOVERNING AGENCY.

VEGETATIVE COVER SPECIFICATIONS

SITE PREPARATION:

- INSTALL NEEDED WATER AND EROSION CONTROL MEASURES AND BRING AREA TO BE SEED TO DESIRED GRADES USING A MINIMUM OF 4 INCHES OF TOPSOIL.
- PREPARE SEEDBED BY LOOSENING SOIL TO A DEPTH OF AT LEAST 3-5 INCHES.
- FERTILIZER OR LIME IS GENERALLY NOT RECOMMENDED FOR NATIVE VEGETATION ESTABLISHMENT UNLESS SOIL TESTS INDICATE A PH < 5.5. PHOSPHOROUS (P) < 15 LB./AC., OR POTASH (K) < 150 LB./ACRES. IF LEVELS ARE BELOW THIS, APPLY LIME AND FERTILIZER ACCORDING TO A SOIL TEST AND THE NEED OF THE VEGETATION SELECTED.
- APPLY LIME AND FERTILIZER INTO THE TOP 3-5 INCHES OF SOIL.
- APPLY LIME FERTILIZER BETWEEN MARCH 1 AND MAY 30 OR AUGUST 1 AND SEPTEMBER 30TH.

TEMPORARY VEGETATIVE COVER (DURING CONSTRUCTION)

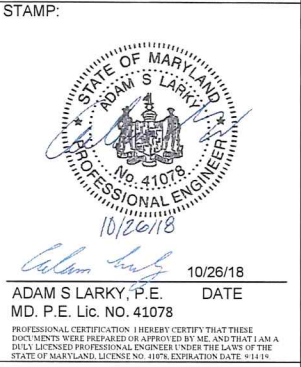
- SEED WITH ANNUAL RYEGRASS AT A RATE OF 40 LBS/AC.
- SEEDING TIMES: IN USDA PLANT HARDINESS ZONE 7A, THE PLANTING TIMES SHALL BE FEBRUARY 15 TO APRIL 30 AND AUGUST 15 TO NOVEMBER 30.
- FERTILIZER RATE (10-20-20), 436 LBS/AC.
- LIME RATE: 2 TONS/AC.
- WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

PERMANENT VEGETATIVE COVER (AFTER CONSTRUCTION):

1. SEED MIXTURES

PROVIDE SEED MIXTURES CONFORMING TO THE FOLLOWING MIXTURES: MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) CLASS 11 MIXTURE	
SPECIES VARIETY	LBS/ACRE
CREeping RED FESCUE	30
CHEWINGS FESCUE	30
KENTUCKY BLUEGRASS	20
ROUGH BLUEGRASS	15

- SEEDING TIMES: IN USDA PLANT HARDINESS ZONE 7A, THE PLANTING TIMES SHALL BE FEBRUARY 15 TO APRIL 30 AND AUGUST 15 TO OCTOBER 31.
- SEEDING DEPTH SHALL BE 1/4 TO 1/2 INCH.
- FERTILIZER RATE (10-20-20), NITROGEN: 45 LBS/AC. PHOSPHOROUS PENTOXIDE: 90 LBS/AC. POTASSIUM OXIDE: 90 LBS/AC.
- LIME RATE: 2 TONS/AC.



HAMPSTEAD SOLAR

19620 RESH MILL RD

HAMPSTEAD, MD 21074

PROJECT NUMBER:
194-6537.05.05

SHEET TITLE:
EROSION & SEDIMENT CONTROL DETAILS

SHEET SIZE:
ARCH "D"
24" X 36" (610 X 914)
0 1/2 1"

NO.	REVISION	DATE	INIT.

DATE: 10/26/2018
DRAWN BY: DSS
ENGINEER: AGB
APPROVED BY: ASL

PROJECT PHASE:
DISCRETIONARY PERMITTING

SCALE:
AS SHOWN

SHEET NO.:
C-006

NOT FOR CONSTRUCTION

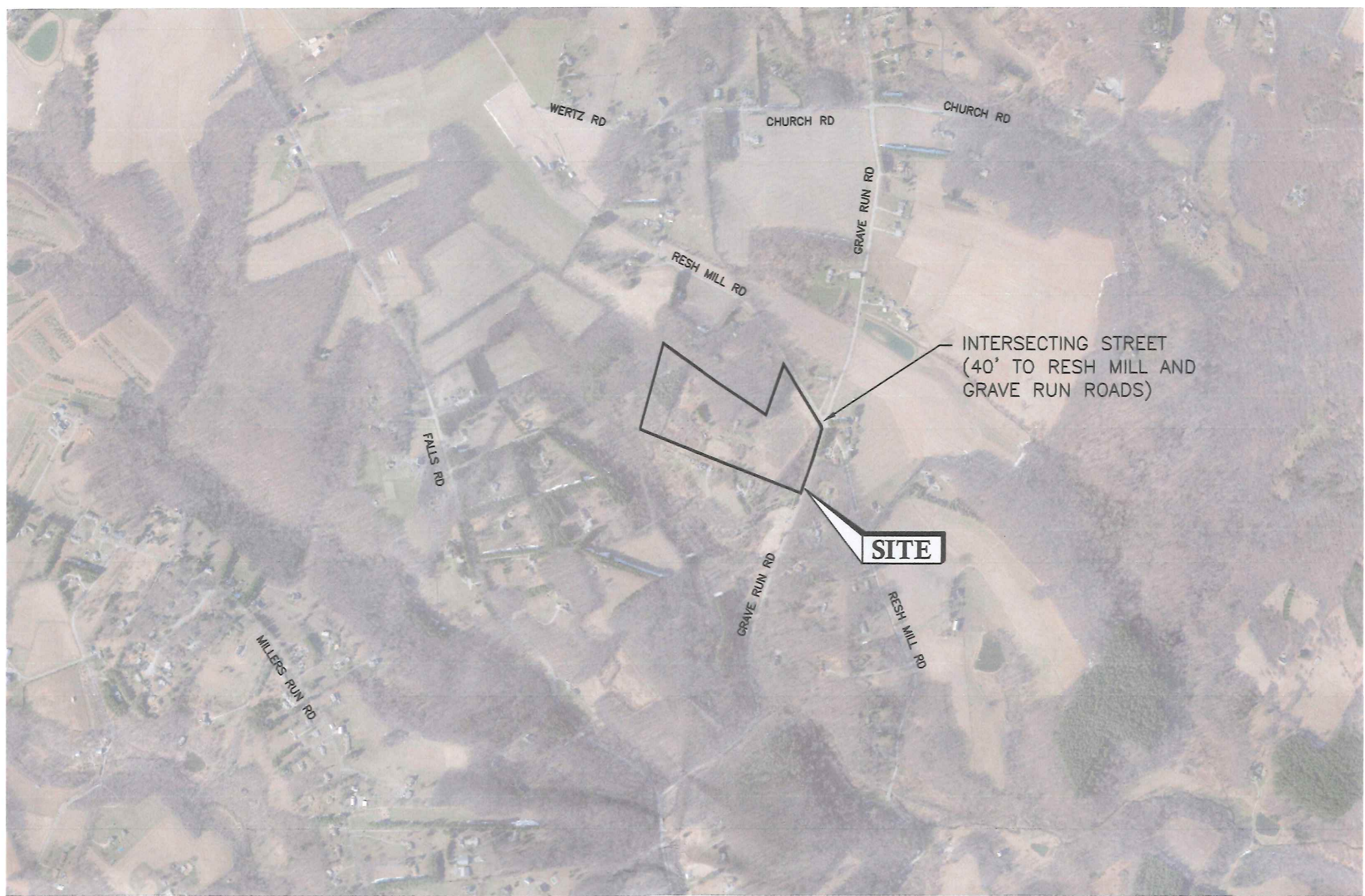


HAMPSTEAD SOLAR PROJECT

19620 RESH MILL RD

BALTIMORE COUNTY, HAMPSTEAD, MD 21074

DISCRETIONARY PERMITTING PLAN TO ACCOMPANY ZONING HEARING FOR SPECIAL EXCEPTION PERMIT



VICINITY MAP
SCALE 1"=1000'

CIVIL SHEETS	
SHEET NUMBER	SHEET TITLE
C-001	CIVIL TITLE SHEET
C-002	EXISTING CONDITIONS PLAN
C-003	SITE PLAN
C-004	PROJECT DETAILS
C-005	FENCE AND GATE DETAILS
C-006	EROSION & SEDIMENT CONTROL DETAILS

ZONING SETBACKS		
SITE	TOWN	REQUIREMENTS
HAMPSTEAD	BALTIMORE COUNTY	SETBACKS: FRONT - 50 FT FROM TRACT BOUNDARY TO EQUIPMENT, REAR - 50 FT, SIDE - 50 FT

STANDARD	ZONE (RC-2)	PROPOSED SOLAR FARM IN ZONE (RC-2)
MINIMUM FRONT SETBACK	50 FT	50 FT (MIN.)
MAXIMUM FRONT SETBACK	NA	NA
MINIMUM SIDE SETBACK	50 FT	50 FT (MIN.)
MINIMUM REAR SETBACK	50 FT	50 FT (MIN.)

PROJECT DEVELOPER

ICFTS MD SOLAR, LLC
1401 WILSON BLVD.
SUITE 800
ARLINGTON, VA. 22209

SCOPE OF WORK

THIS DESIGN PACKAGE PROVIDES DRAWINGS FOR THE INSTALLATION OF A PHOTOVOLTAIC SYSTEM AT 19620 RESH MILL RD, HAMPSTEAD, BALTIMORE COUNTY, MARYLAND. ENVIRONMENTAL PLANS ARE NOT PART OF THE SCOPE OF THIS PLAN SET.

CIVIL ENGINEER

TETRA TECH
1200 SCOTTSDALE RD, BUILDING C, SUITE 320
ROCHESTER, NEW YORK 14624
(877) 294-9070

LICENSED ENGINEER:
ADAM S. LARKY, P.E.
MARYLAND PE No. 41078

PROJECT DESCRIPTION

SYSTEM SIZE (DC)	0.97 MW
SYSTEM SIZE (AC)	--
MODULE TYPE	HANWHA Q-CELL 345W SOLAR MODULES
MODULE QTY.	2808
INVERTERS	1
SEISMIC DESIGN CAT.	
SNOWLOAD	20 PSF
WINDSPEED	105 MPH
LATITUDE/LONGITUDE	39.394362 / -76.482003
AZIMUTH	180°
TILT	VARIABLE
PROJECT AREA	6.3 ACRES
RACKING TYPE	PILE DRIVEN

APPLICABLE CODES AND STANDARDS

- MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION, ACCESS MANUAL, LATEST EDITION.
- MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION, S.H.A.
- ENVIRONMENTAL GUIDE FOR ACCESS AND DISTRICT PERMIT APPLICANTS, JANUARY 2017.
- MARYLAND DEPARTMENT OF STATE POLICE, FIRE PREVENTION COMMISSION, STATE OF MARYLAND FIRE PREVENTION CODE, JANUARY 2016.
- MARYLAND DESIGN GUIDES, USDA NATURAL RESOURCES CONSERVATION SERVICE, LATEST EDITION.
- BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS.



ICFTS MD SOLAR, LLC
1401 WILSON BLVD, SUITE 800
ARLINGTON, VA. 22209



PREPARED BY:
CORNERSTONE ENVIRONMENTAL GROUP, LLC
1200 SCOTTSDALE ROAD, SUITE 320
ROCHESTER, NEW YORK 14624

STAMP:



ADAM S. LARKY, P.E. DATE 10/26/18
MD. P.E. Lic. NO. 41078

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 41078, EXPIRATION DATE 9/1/19.

HAMPSTEAD SOLAR

19620 RESH MILL RD
HAMPSTEAD, MD 21074

PROJECT NUMBER:
194-6537.05.05

SHEET TITLE:
CIVIL TITLE SHEET

SHEET SIZE:
ARCH "D"
24" X 36" (610 x 914)
0 1/2" 1"

NO.	REVISION	DATE	INIT.

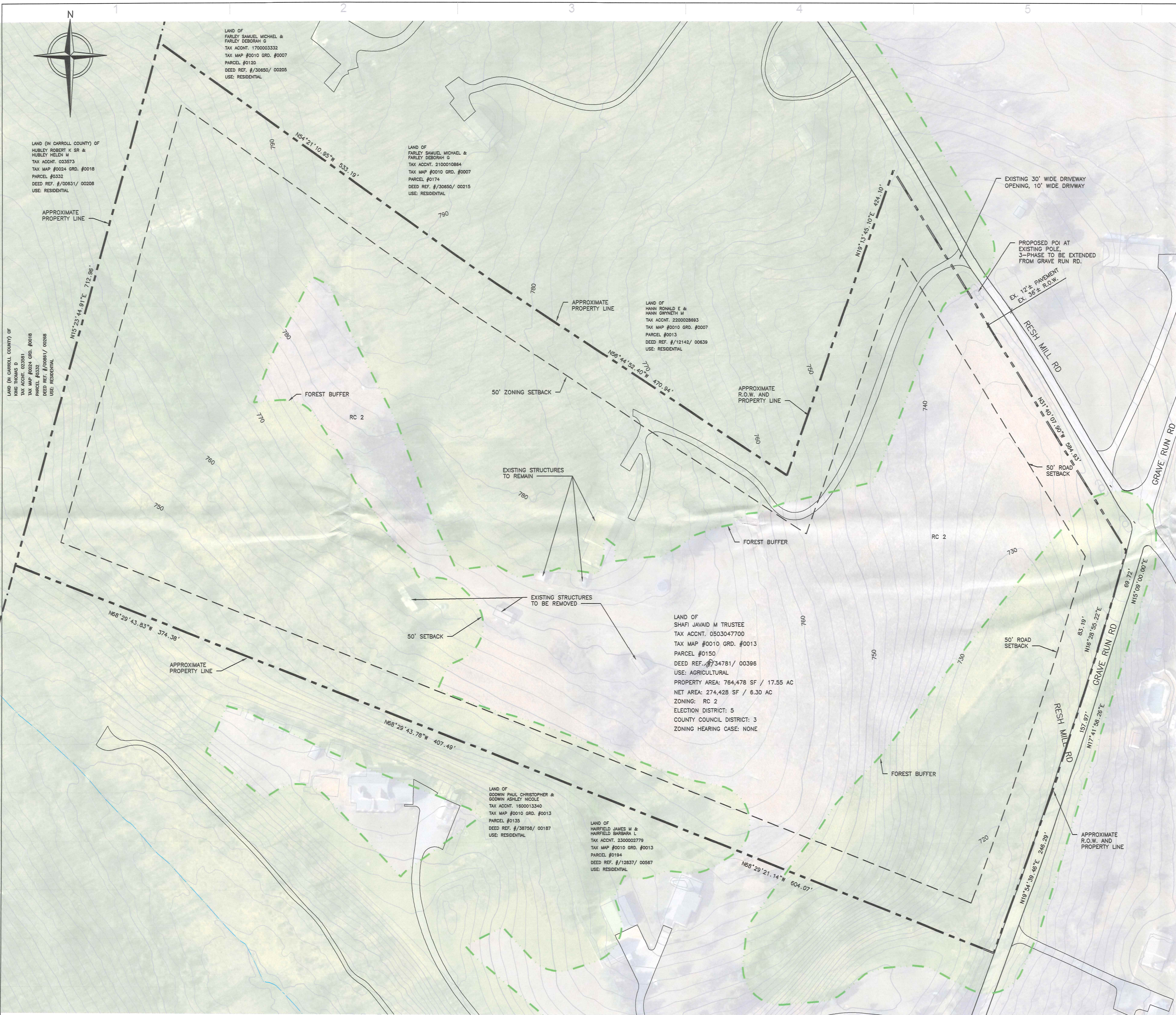
DATE: 10/26/2018
DRAWN BY: DSS
ENGINEER: AGB
APPROVED BY: ASL

PROJECT PHASE:
DISCRETIONARY PERMITTING

SCALE:
AS SHOWN

SHEET NO.:
C-001

NOT FOR
CONSTRUCTION



PROPERTY DESCRIPTION FOR

19620 RESH MILL RD, HAMPSTEAD, MD 21074

BEGINNING AT A POINT ON THE WEST SIDE OF RESH MILL ROAD, WHICH IS 12.75 FT WIDE AT A DISTANCE OF 586 FEET NORTH WEST OF THE CENTERLINE OF THE NEAREST IMPROVED INTERSECTING STREET, GRAVE RUN ROAD WHICH IS 18 FEET WIDE, THENCE THE FOLLOWING COURSES AND DISTANCES: (1ST POINT OF CALL - "POC") N19°13'45.10"E 424.0, (2ND POC) N56°44' 52.40"W 470.94", (3RD POC) N54°21' 10.95"W 533.19", (4TH POC) N15°23' 44.91"E 712.96", (5TH POC) N68°29' 43.83"W 374.38", (6TH POC) N68°29' 43.78"W 407.49", (7TH POC) N68°29' 21.14"W 604.07", (8TH POC) N19°54' 39.46"E 246.29", (9TH POC) N17°41' 58.26"E 157.97", (10TH POC) N18°28' 58.22"E 83.19", (11TH POC) N15°19' 00.01"E 69.72", (12TH POC) N31°40' 07.80"W 584.83, BACK TO THE POINT OF BEGINNING AS DESCRIBED, CONTAINING 2.05 ACRES. LOCATED IN THE 5TH ELECTION DISTRICT AND 3RD COUNCIL DISTRICT.

NOTE: THE PROPERTY DESCRIPTIONS HEREIN WERE OBTAINED FROM BALTIMORE COUNTY GIS DATA.

NOTES:

1. EXISTING CONDITIONS INFORMATION OBTAINED FROM BALTIMORE COUNTY GIS DATA PORTAL.
2. THIS DATA IS REFERENCED HORIZONTALLY TO THE HARN/MD MARYLAND STATE PLANE ZONE, US FOOT, VERTICALLY TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. AERIAL IMAGERY OBTAINED FROM BALTIMORE COUNTY GIS DATA PORTAL AND IMAGERY IS DATED 2017.
4. CONTOURS SHOWN HEREIN WERE FROM THE BALTIMORE COUNTY GIS DATA PORTAL.
5. BEARINGS AND DISTANCES SHOWN ARE LABELS PLACED ON GIS LINEWORK AND HAS NOT BEEN REVIEWED BY A LICENSED SURVEYOR TO MATCH THE DEED INFORMATION.
6. PROPERTY OWNERSHIP INFORMATION OBTAINED FROM BALTIMORE COUNTY REAL PROPERTY GIS DATA PORTAL.

NOTES:

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2. THIS DATA IS REFERENCED HORIZONTALLY TO THE HARN/MD, MARYLAND STATE PLANE ZONE, US FOOT. VERTICALLY TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD83).
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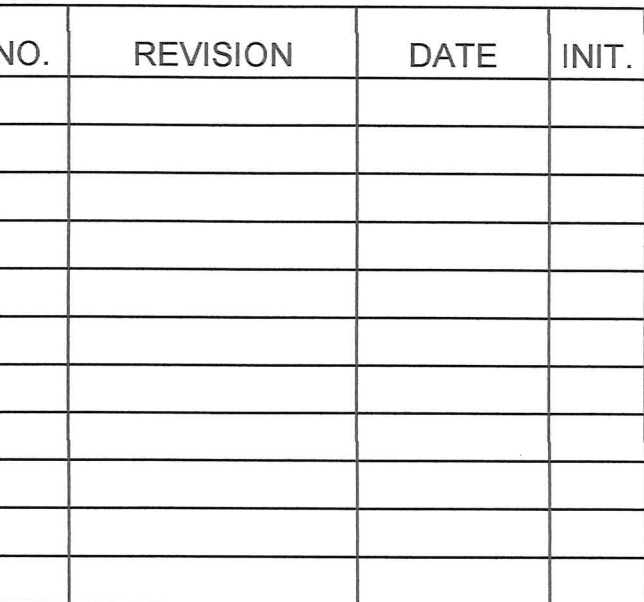
NOTES:

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2. THIS DATA IS REFERENCED HORIZONTALLY TO THE HARN/MD, MARYLAND STATE PLANE ZONE, US FOOT. VERTICALLY TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD83).
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4. CONTOURS SHOWN HEREIN WERE FROM THE BALTIMORE COUNTY GIS DATA PORTAL.
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6. PROPERTY OWNERSHIP INFORMATION OBTAINED FROM BALTIMORE COUNTY REAL PROPERTY GIS DATA PORTAL.

0 60 120
SCALE IN FEET

Downloaded from <http://ajph.org/>

**NOT FOR
CONSTRUCTION**

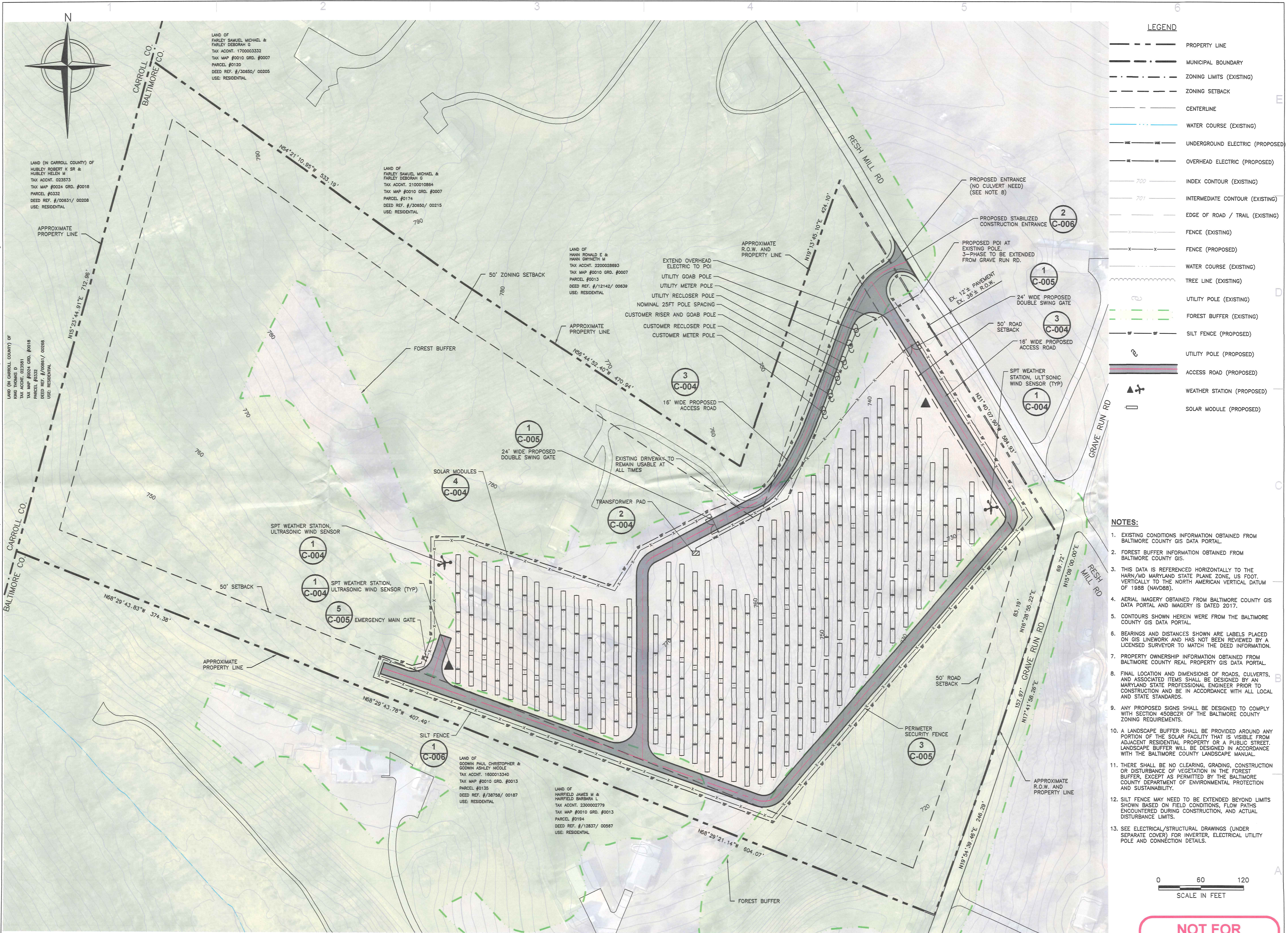


DATE:	10/26/2018
DRAWN BY:	DSS
ENGINEER:	AGB
APPROVED BY:	ASL

PROJECT PHASE:
DISCRETIONARY PERMITTING

SCALE: 1"=60'

SHEET NO.:
C-002



- LEGEND**
- PROPERTY LINE
 - MUNICIPAL BOUNDARY
 - ZONING LIMITS (EXISTING)
 - ZONING SETBACK
 - CENTERLINE
 - WATER COURSE (EXISTING)
 - UNDERGROUND ELECTRIC (PROPOSED)
 - OVERHEAD ELECTRIC (PROPOSED)
 - INDEX CONTOUR (EXISTING)
 - INTERMEDIATE CONTOUR (EXISTING)
 - EDGE OF ROAD / TRAIL (EXISTING)
 - FENCE (EXISTING)
 - FENCE (PROPOSED)
 - WATER COURSE (EXISTING)
 - TREE LINE (EXISTING)
 - UTILITY POLE (EXISTING)
 - FOREST BUFFER (EXISTING)
 - SILT FENCE (PROPOSED)
 - UTILITY POLE (PROPOSED)
 - ACCESS ROAD (PROPOSED)
 - WEATHER STATION (PROPOSED)
 - SOLAR MODULE (PROPOSED)
- NOTES:**
- EXISTING CONDITIONS INFORMATION OBTAINED FROM BALTIMORE COUNTY GIS DATA PORTAL.
 - FOREST BUFFER INFORMATION OBTAINED FROM BALTIMORE COUNTY GIS.
 - THIS DATA IS REFERENCED HORIZONTALLY TO THE HARN/MD MARYLAND STATE PLANE ZONE, US FOOT. VERTICALLY TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD83).
 - AERIAL IMAGERY OBTAINED FROM BALTIMORE COUNTY GIS DATA PORTAL AND IMAGERY IS DATED 2017.
 - CONTOURS SHOWN HEREIN WERE FROM THE BALTIMORE COUNTY GIS DATA PORTAL.
 - BEARINGS AND DISTANCES SHOWN ARE LABELS PLACED ON GIS LINEWORK AND HAS NOT BEEN REVIEWED BY A LICENSED SURVEYOR TO MATCH THE DEED INFORMATION.
 - PROPERTY OWNERSHIP INFORMATION OBTAINED FROM BALTIMORE COUNTY REAL PROPERTY GIS DATA PORTAL.
 - FINAL LOCATION AND DIMENSIONS OF ROADS, CULVERTS, AND ASSOCIATED ITEMS SHALL BE DESIGNED BY AN MARYLAND STATE PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION AND BE IN ACCORDANCE WITH ALL LOCAL AND STATE STANDARDS.
 - ANY PROPOSED SIGNS SHALL BE DESIGNED TO COMPLY WITH SECTION 450B.02 OF THE BALTIMORE COUNTY ZONING REQUIREMENTS.
 - A LANDSCAPE BUFFER SHALL BE PROVIDED AROUND ANY PORTION OF THE SOLAR FACILITY THAT IS VISIBLE FROM ADJACENT RESIDENTIAL PROPERTY OR A PUBLIC STREET. LANDSCAPE BUFFER WILL BE DESIGNED IN ACCORDANCE WITH THE BALTIMORE COUNTY LANDSCAPE MANUAL.
 - THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST BUFFER, EXCEPT AS PERMITTED BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY.
 - SILT FENCE MAY NEED TO BE EXTENDED BEYOND LIMITS SHOWN BASED ON FIELD CONDITIONS, FLOW PATHS ENCOUNTERED DURING CONSTRUCTION, AND ACTUAL DISTURBANCE LIMITS.
 - SEE ELECTRICAL/STRUCTURAL DRAWINGS (UNDER SEPARATE COVER) FOR INVERTER, ELECTRICAL UTILITY POLE AND CONNECTION DETAILS.

0 60 120
SCALE IN FEET

**NOT FOR
CONSTRUCTION**

ICFTS MD SOLAR, LLC
1401 WILSON BLVD, SUITE 800
ARLINGTON, VA. 22209

PREPARED BY:
CORNERSTONE ENVIRONMENTAL GROUP, LLC
1200 SCOTTSVILLE ROAD, SUITE 200
ROCHESTER, NEW YORK 14624

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STAMP:

ADAM S. LARKY, P.E. DATE 10/26/18
MD. P.E. Lic. NO. 41078

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 41078, EXPIRATION DATE 09/01/2019.

HAMPSTEAD SOLAR

19620 RESH MILL RD
HAMPSTEAD, MD 21074

PROJECT NUMBER:
194-6537.05.05

SHEET TITLE:
SITE PLAN

SHEET SIZE:
ARCH "D"
24" X 36" (610 x 914)
0 1/2 1"

NO.	REVISION	DATE	INIT.

DATE: 10/26/2018

DRAWN BY: DSS

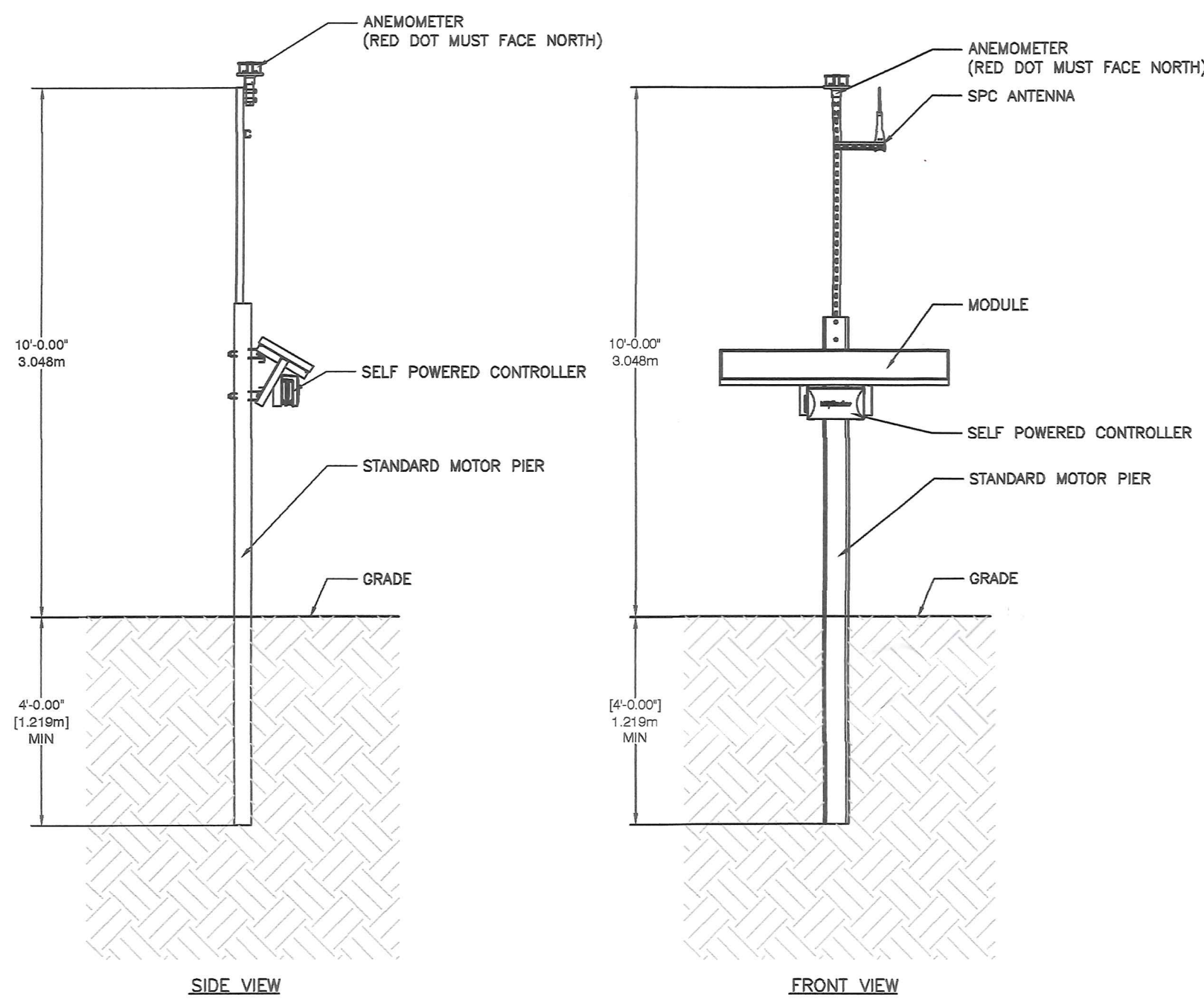
ENGINEER: AGB

APPROVED BY: ASL

PROJECT PHASE:
DISCRETIONARY PERMITTING

SCALE: 1"=60'

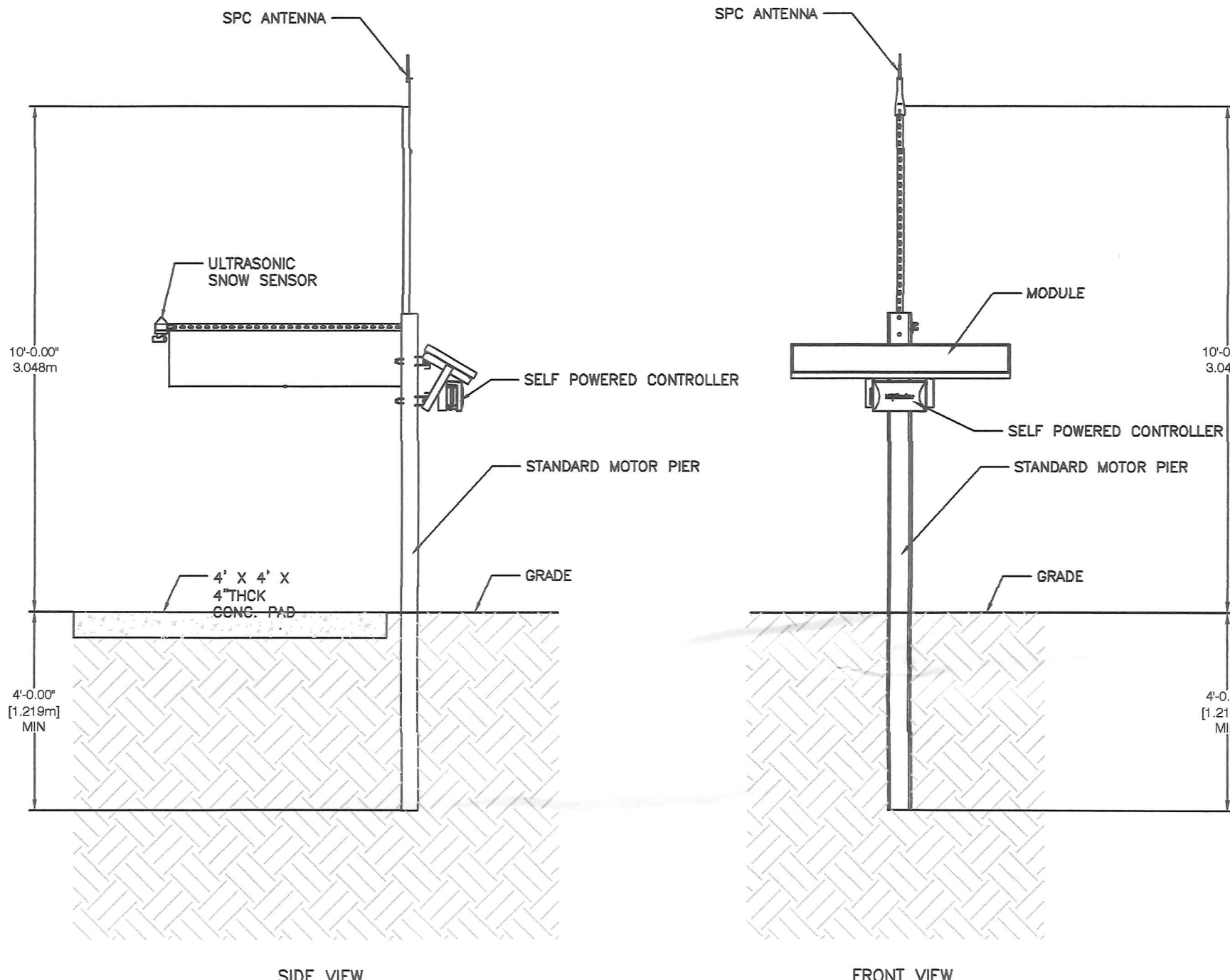
SHEET NO.:
C-003



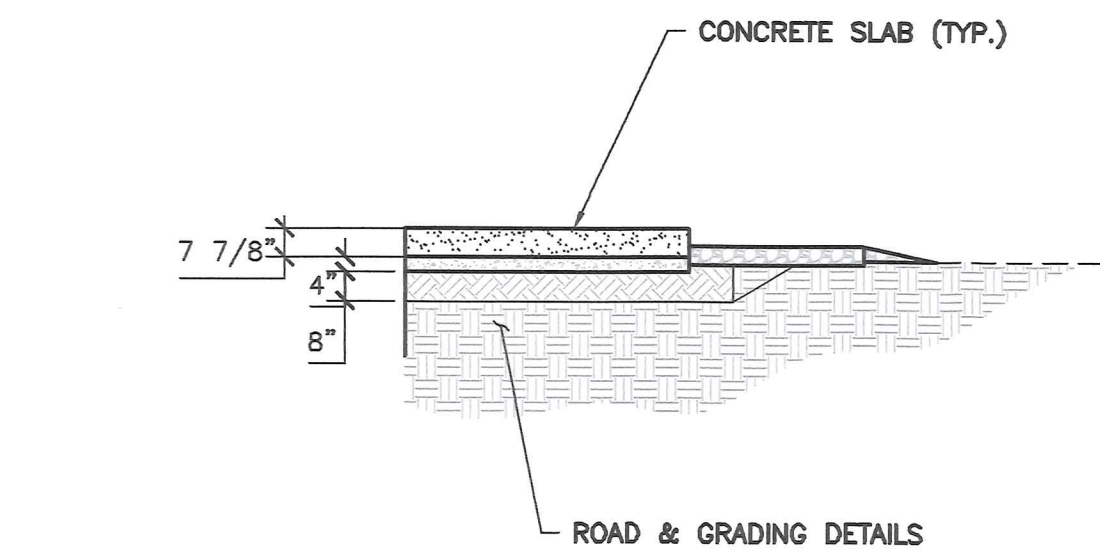
ULTRASONIC WIND SENSOR

SPT WEATHER STATION, ULTRASONIC WIND SENSOR

DETAIL
SCALE: N.T.S. 1 C-004

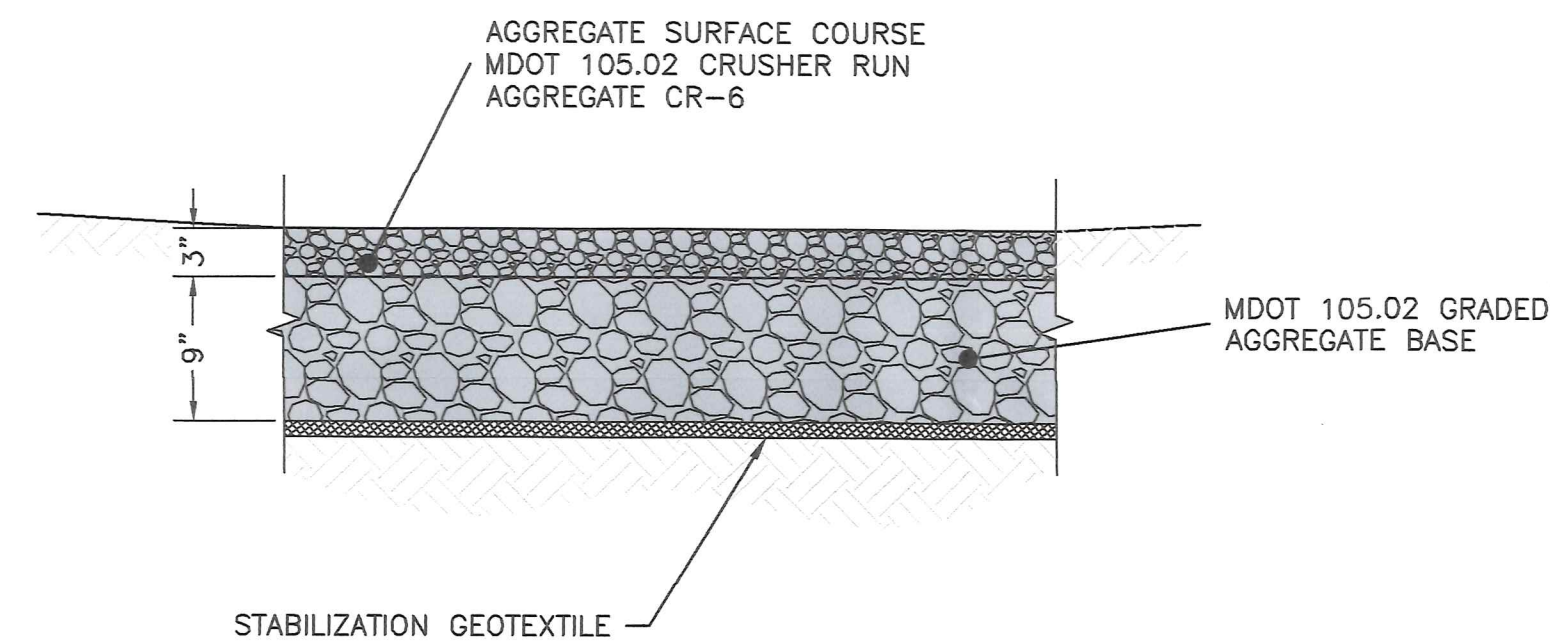


SPT WEATHER STATION



INVERTER CONCRETE SLAB

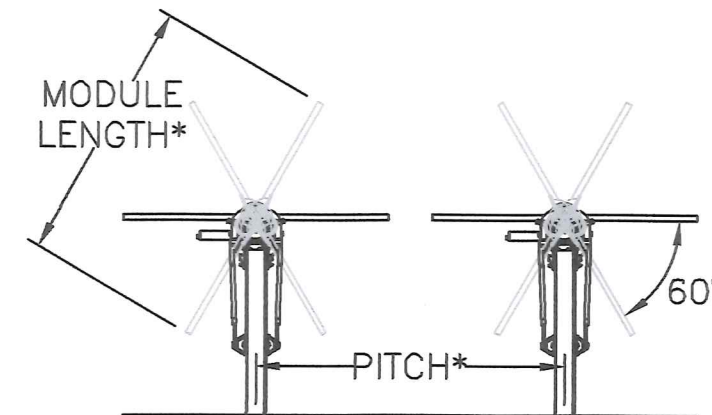
DETAIL
SCALE: N.T.S. 2 C-004



ACCESS ROAD

DETAIL
SCALE: 1" = 1' 3 C-004

SYSTEM SPECIFICATIONS			
AC	-MW	TOTAL MODULES	2808
DC	0.969MW	MODULES PER STRING	VARIES
MODULE CAPACITY	345W	NUMBER OF STRINGS	VARIES
INVERTER CAPACITY	-MW	NUMBER OF INVERTERS	1
DC/AC	-	MODULE NAME	HANWHA
PITCH	18.50 FT	MODULE MODEL	Q.PLUS L-G4.2
MODULE(S) LENGTH	6.541 FT	GROUND COVER RATIO (GCR)%	35.36



*SEE SYSTEM SPECIFICATIONS

NEXTRACKER SYSTEM

DETAIL
SCALE: N.T.S. 4 C-004

NOT FOR
CONSTRUCTION



ICFTS MD SOLAR, LLC
1401 WILSON BLVD. SUITE 800
ARLINGTON, VA. 22209



PREPARED BY:
CORNERSTONE ENVIRONMENTAL GROUP, LLC
1200 SCOTTSDALE ROAD, SUITE 200
ROCKETER, NEW YORK 14604

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STAMP:



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MD. P.E. Lic. NO. 41078

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HAMPSTEAD SOLAR
19620 RESH MILL RD
HAMPSTEAD, MD 21074

PROJECT NUMBER:
194-6537.05.05

SHEET TITLE:

PROJECT DETAILS

SHEET SIZE:
ARCH "D"
24" X 36" (610 x 914)
0 1/2" 1"

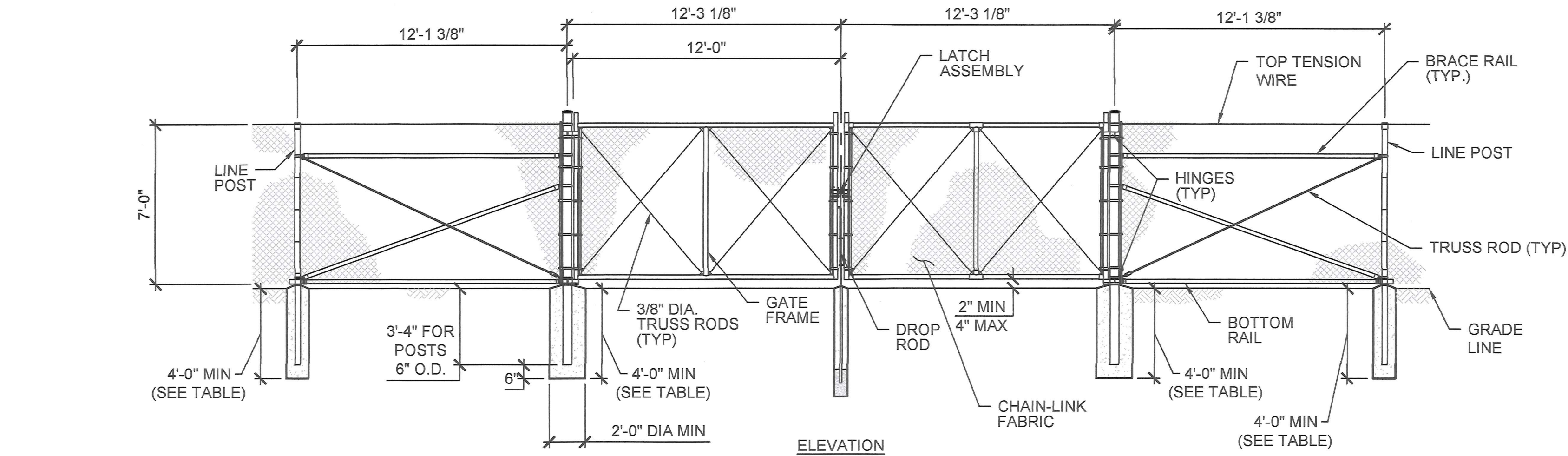
NO.	REVISION	DATE	INIT.

DATE: 10/26/2018
DRAWN BY: DSS
ENGINEER: AGB
APPROVED BY: ASL

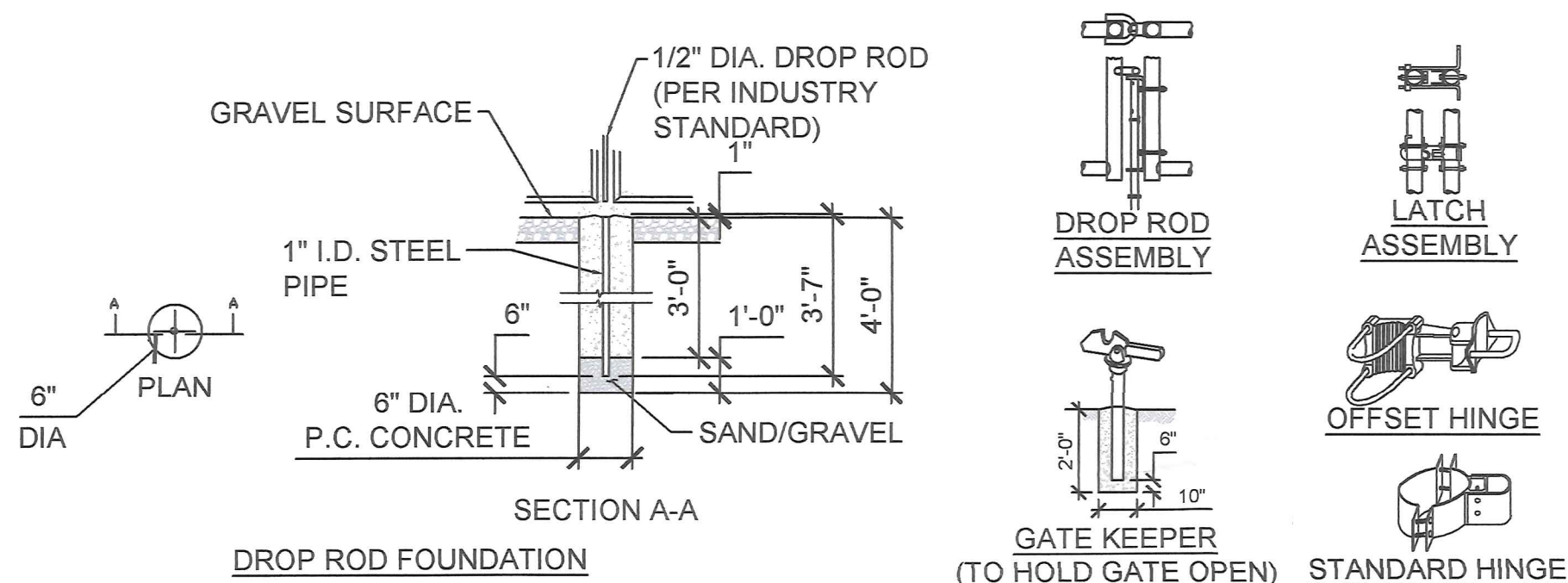
PROJECT PHASE:
DISCRETIONARY PERMITTING

SCALE:
AS SHOWN

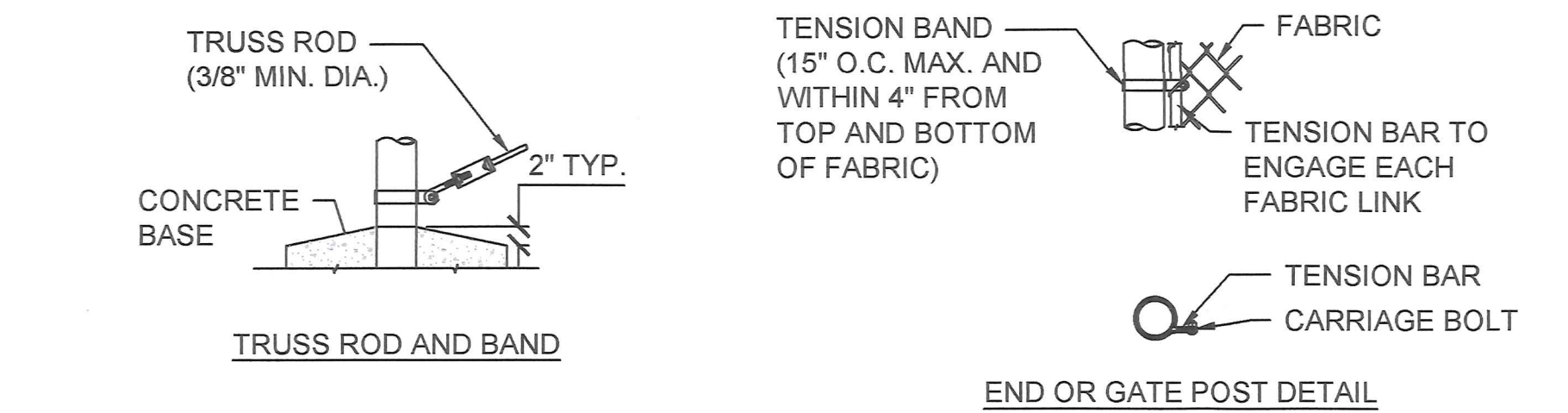
SHEET NO.:
C-004



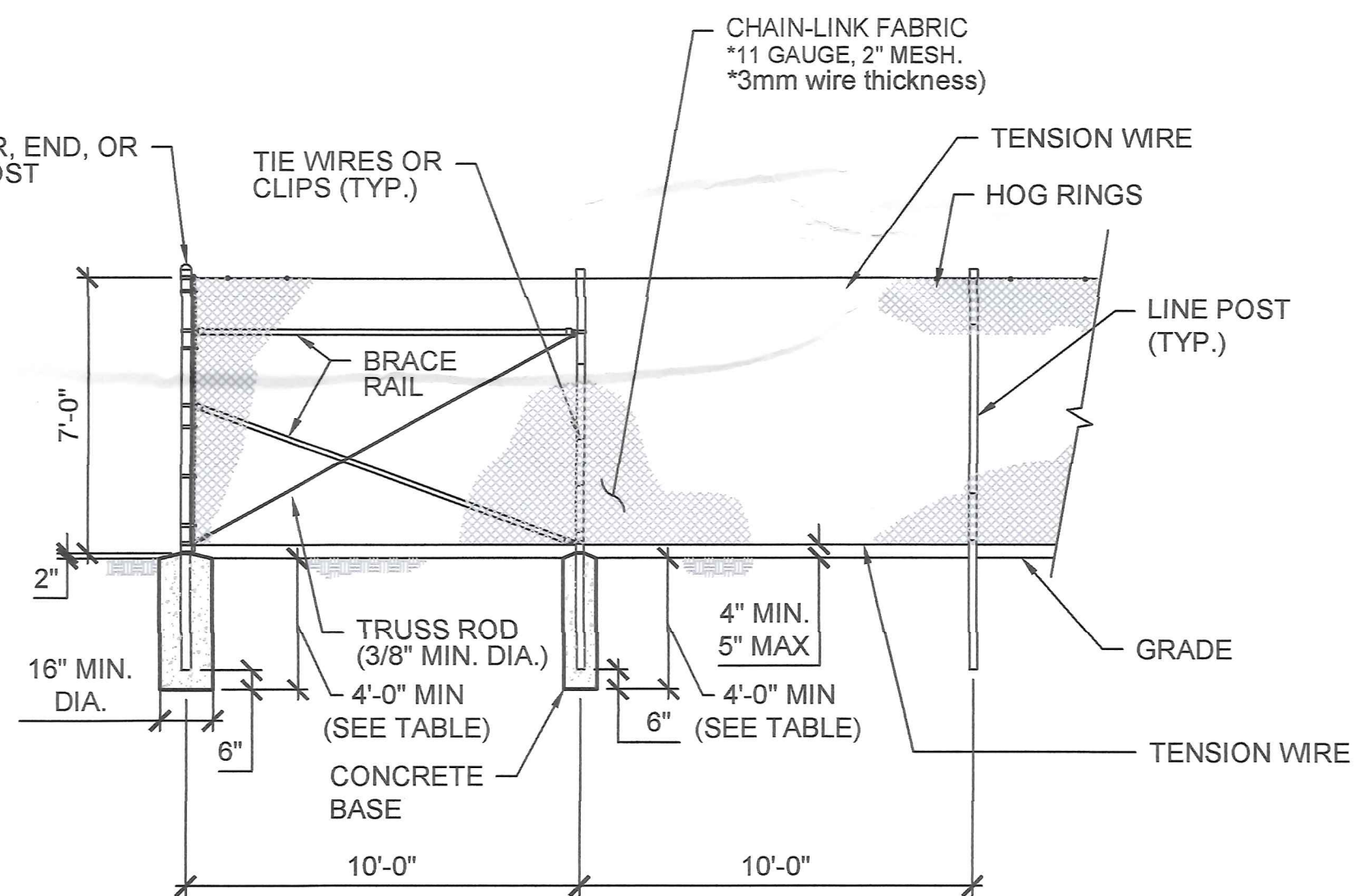
TYPICAL ACCESS GATE
DETAIL 1
SCALE: 1/4" = 1'-0" C-005



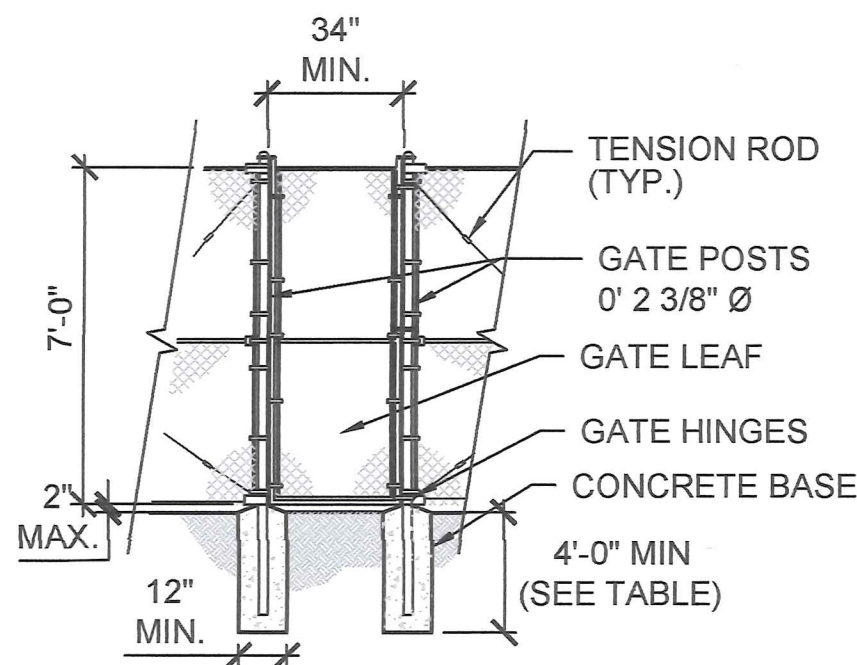
ACCESS GATE HARDWARE
DETAIL 2
SCALE: N.T.S. C-005



CHAINLINK FENCE HARDWARE
DETAIL 4
SCALE: N.T.S. C-005



PERIMETER FENCE
DETAIL 3
SCALE: 1/4" = 1'-0" C-005



EMERGENCY MAN GATE
DETAIL 5
SCALE: 1/4" = 1'-0" C-005

SHEET NOTES

- WIRE TIES, RAILS, POSTS, AND BRACES SHALL BE CONSTRUCTED ON THE SECURE SIDE OF THE FENCE ALIGNMENT. CHAIN-LINK FABRIC SHALL BE PLACED ON THE OPPOSITE SIDE OF THE SECURE AREA.
- SWING GATES SHALL BE CONSTRUCTED WITH DROP RODS, PADLOCKS, LATCH ASSEMBLY, AND GATE KEEPERS EXCEPT AS NOTED.
- ALL GATE FRAMES SHALL BE ACCORDING TO STEEL POST SCHEDULE GATE FRAMES SHALL BE OF WELDED CONSTRUCTION OR SHALL BE ASSEMBLED USING HEAVY FITTINGS. AT THE CONTRACTOR'S OPTION A WELDED HORIZONTAL BRACE MAY BE USED IN LIEU OF TRUSS RODS TO BRACE ALL WELDED GATE FRAMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER RIGID CONSTRUCTION OF ALL GATES SUPPLIED.
- GATES SHALL BE DESIGNATED AS FOLLOWS:
FENCE TYPE - FE5, FE6, ETC.
FABRIC WIDTH - INCHES
TYPE OPENING - SO (SINGLE)
HINGE - DO (DOUBLE)
RA (STANDARD)
HO (OFFSET)
OPENING - INCHES (CLEAR OPENING BETWEEN GATE POSTS)
EXAMPLES: FE6-120-DO-RA-144
FE5-120-SO-HO-144
- CHAIN-LINK FABRIC SHALL BE 11 GAUGE WITH 2" OPENINGS.
- LINE POSTS SHALL BE 10 FEET LONG 1-7/8" SCHEDULE 40 GRADE 50 PIPE DIRECTLY DRIVEN 4 FEET INTO NATIVE SOIL.
- SLATS NOT PERMITTED WITHOUT EOR APPROVAL AND SIGN-OFF.
- SIGNAGE ON FENCING SHALL BE IN ACCORDANCE WITH COUNTY OF BALTIMORE ZONING CODE.

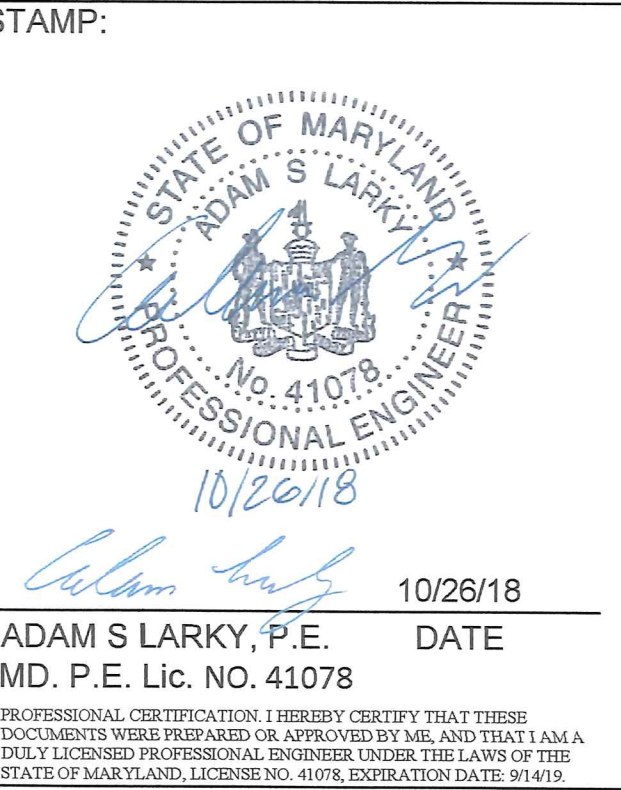
STEEL POST SCHEDULE	
USE AND SECTION	MINIMUM OUTSIDE DIMENSIONS
CORNER-END AND PULL POSTS (TUBULAR ROUNDS)	0'-2 3/8"
LINE POST (TUBULAR) ROUND	0'-1 7/8"

SOIL TYPE	EMBEDMENT DEPTH (FT)		
	WIND SPEED (MPH)		
	90	105	120
SOFT CLAY	5.5	6	6.5
STIFF CLAY	4.5	5	5.5
VERY STILL CLAY	4	4.5	5
HARD CLAY	4	4	4.5
LOOSE SAND	6	6.5	7
Medium Dense Sand	5.5	6	6.5
Dense Sand	5	6	6.5

NOT FOR CONSTRUCTION



PREPARED BY:
CORNERSTONE ENVIRONMENTAL GROUP, LLC
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ROCHESTER, NEW YORK 14624
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HAMPSTEAD SOLAR
19620 RESH MILL RD
HAMPSTEAD, MD 21074

PROJECT NUMBER:
194-6537.05.05

SHEET TITLE:
FENCE AND GATE DETAILS

SHEET SIZE:
ARCH "D"
24" X 36" (610 x 914)
0 1/2 1"

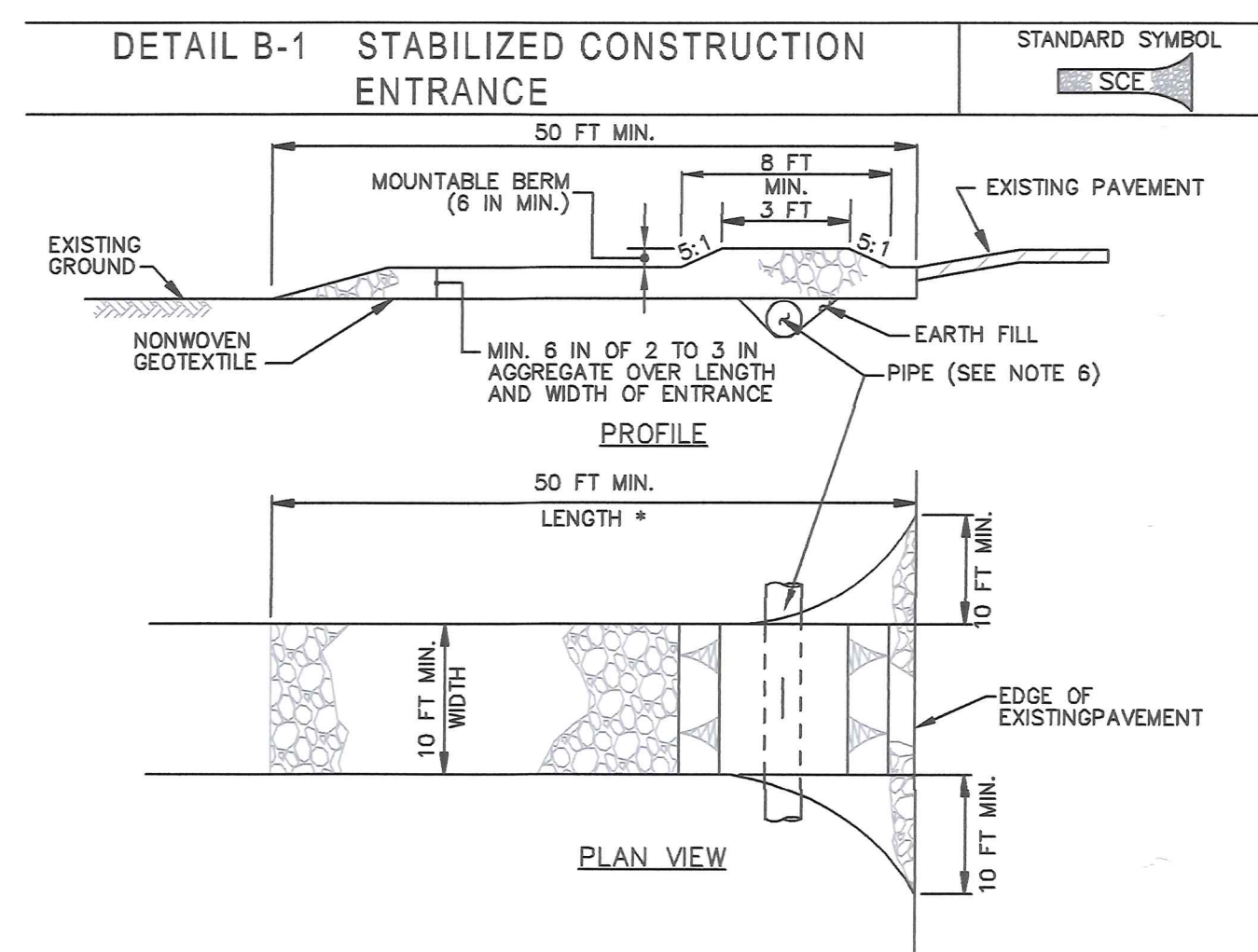
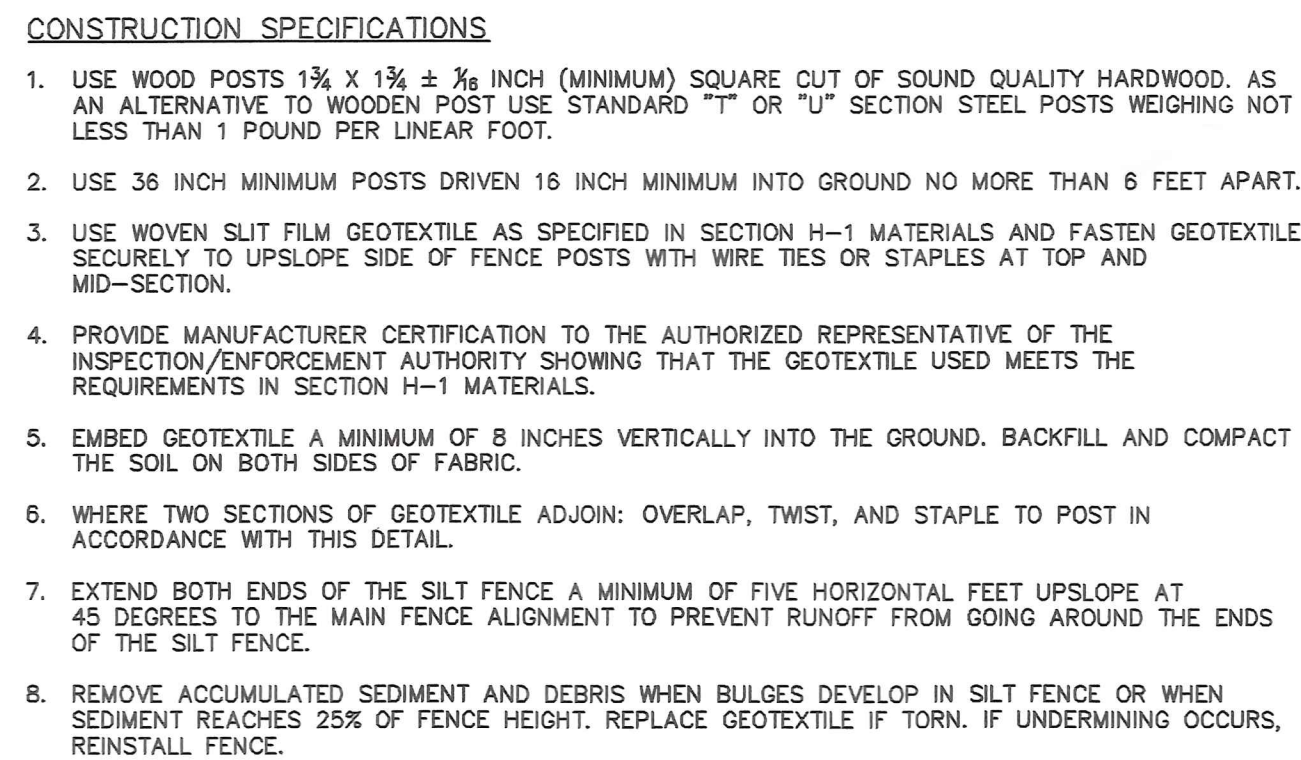
NO.	REVISION	DATE	INIT.

DATE: 10/26/2018
DRAWN BY: DSS
ENGINEER: AGB
APPROVED BY: ASL

PROJECT PHASE:
DISCRETIONARY PERMITTING

SCALE:
AS SHOWN

SHEET NO.:
C-005



1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAR/SLOPE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING TO REMOVE SEDIMENT FROM THE ENTRANCE IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

DETAIL

SCALE: N.T.S.

2

C-006

1. SEED MIXTURES

PROVIDE SEED MIXTURES CONFORMING TO THE FOLLOWING MIXTURES: MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) CLASS 11 MIXTURE

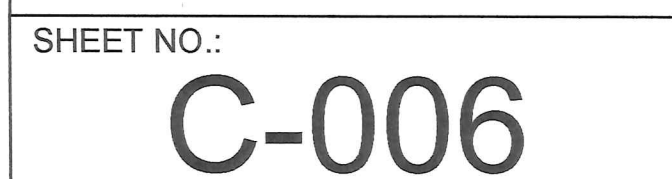
SPECIES VARIETY	LBS/ACRE
CREEPING RED FESCUE	30
CHEWINGS FESCUE	30
KENTUCKY BLUEGRASS	20
ROUGH BLUEGRASS	15

2. SEEDING TIMES: IN USDA PLANT HARDINESS ZONE 7A, THE PLANTING TIMES SHALL BE FEBRUARY 15 TO APRIL 30 AND AUGUST 15 TO OCTOBER 31.

3. SEEDING DEPTH SHALL BE 1/4 TO 1/2 INCH.

4. FERTILIZER RATE (10-20-20). NITROGEN: 45 LBS/AC. PHOSPHOROUS PENTOXIDE: 90 LBS/AC. POTASSIUM OXIDE: 90 LBS/AC.

5. LIME RATE: 2 TONS/AC.



**NOT FOR
CONSTRUCTION**