

HISTORIC AND DESIGN REVIEW COMMISSION

May 02, 2018

HDRC CASE NO: 2018-187
ADDRESS: 544 HAMMOND AVE
LEGAL DESCRIPTION: NCB 3303 BLK 35 LOT 11 AND 12
ZONING: MF-33,HL
CITY COUNCIL DIST.: 3
LANDMARK: House
APPLICANT: Stephanie Bailey/Speir Innovations
OWNER: Rudolfo and Edna Martinez
TYPE OF WORK: Installation of solar panels
APPLICATION RECEIVED: April 13, 2018
60-DAY REVIEW: June 12, 2018
REQUEST:

The applicant is requesting a Certificate of Appropriateness for approval to install a 30-panel solar array on the roof of the primary structure located at 544 Hammond Ave.

APPLICABLE CITATIONS:

Historic Design Guidelines, Chapter 3, Guidelines for Additions

C. SOLAR COLLECTORS

- i. *Location*—Locate solar collectors on side or rear roof pitch of the primary historic structure to the maximum extent feasible to minimize visibility from the public right-of-way while maximizing solar access. Alternatively, locate solar collectors on a garage or outbuilding or consider a ground-mount system where solar access to the primary structure is limited.
- ii. *Mounting (sloped roof surfaces)*—Mount solar collectors flush with the surface of a sloped roof. Select collectors that are similar in color to the roof surface to reduce visibility.
- iii. *Mounting (flat roof surfaces)*—Mount solar collectors flush with the surface of a flat roof to the maximum extent feasible. Where solar access limitations preclude a flush mount, locate panels towards the rear of the roof where visibility from the public right-of-way will be minimized.

FINDINGS:

- a. The primary structure located at 544 Hammond Ave is a 2 ½-story single family home constructed circa 1910 in the Queen Anne style. The home is situated on a corner lot and features a dominant front-facing gable with a Palladian window, an asymmetrical wraparound porch with second story balcony, eave bracketing, wood shingle gable detailing, and a red composite shingle roof. The structure is an individually listed local landmark.
- b. LOCATION – The applicant is requesting approval to install 30 solar panels on the west side of the front-facing gable, on both sides of the rear-facing gable, and on the west side of the primary rooflines. The panels on the front-facing gable and those on the east side of the rear-facing gable, totaling twelve panels, will be highly visible from the public right-of-way due to their placement. The visibility is increased due to the red color of the roof and the black color of the panels. According to the Historic Design Guidelines for Additions 6.C.i, solar collectors should be located on a side or rear roof pitch to the maximum extent possible to minimize visibility from the street. Staff finds the remaining eighteen panels appropriate, but due to the corner lot location of this structure, staff does not find the aforementioned twelve panels consistent with the Guidelines due to their high visibility from the public right-of-way.
- c. PITCH – The panels will be installed flush with the roof pitch. Staff finds the pitch consistent with the Guidelines.

RECOMMENDATION:

Staff does not recommend approval based on finding b. Staff recommends that the applicant relocates the six panels on the front gable and the six panels on the east-facing side of the rear gable to an alternative location on the structure or to a

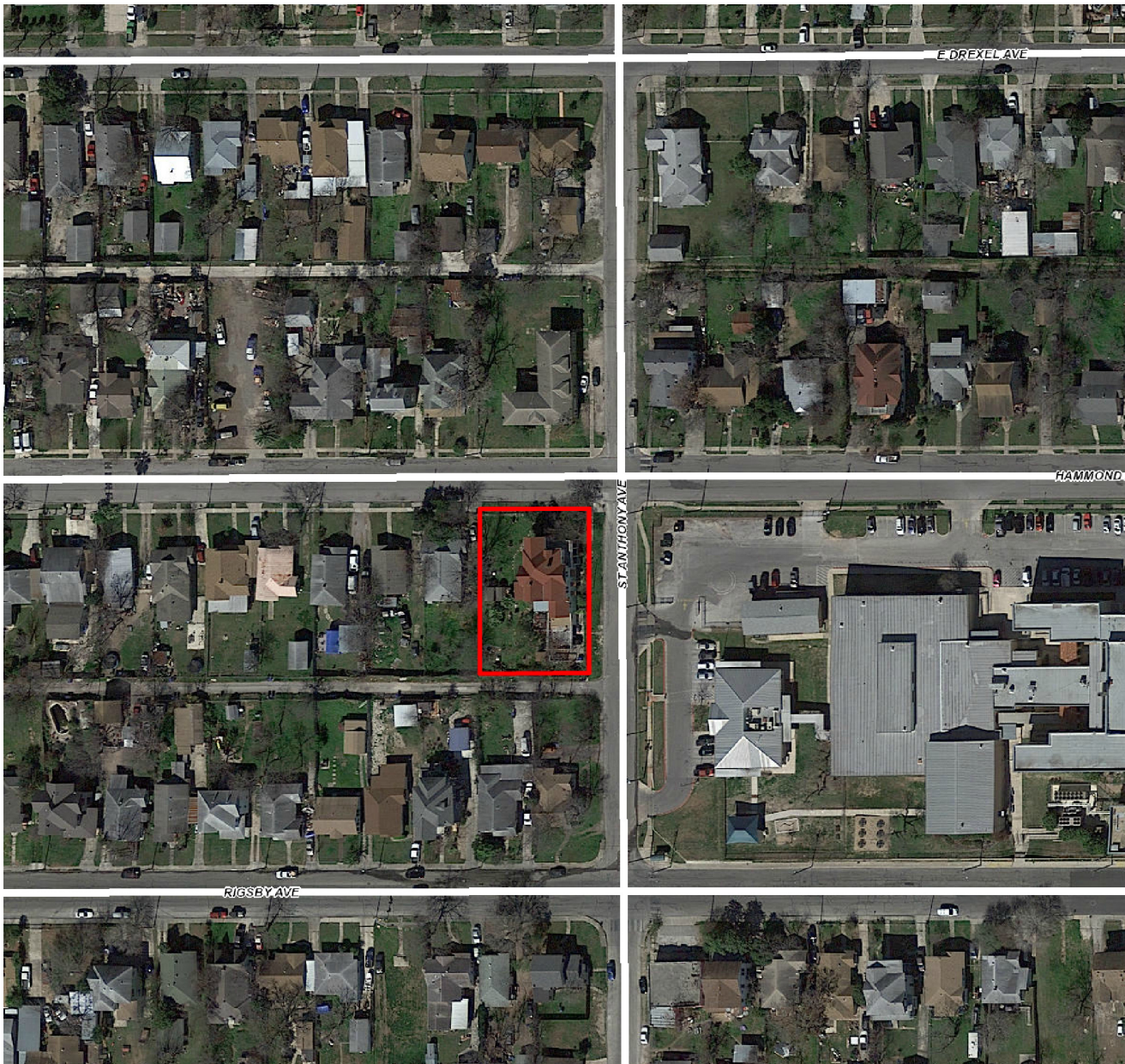
ground-mount system to significantly minimize the impact from the public right-of-way. The applicant is required to submit updated documents to staff that reflect this change prior to receiving a Certificate of Appropriateness.

If the HDRC approves the proposal as submitted, staff recommends that the following stipulation apply.

- i. That the solar panels maintain at least 18” of separation from the roof eaves.

CASE MANAGER:

Stephanie Phillips



Flex Viewer

Powered by ArcGIS Server

Printed: Apr 24, 2018

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NO
PARKING
ANYTIME



EQUIPMENT SUMMARY

- (30) MODULES : MISSIONSOLAR MSE280SO5T (40mm)
- (30) OPTIMIZERS : SOLAREEDGE P300
- (1) INVERTER : SOLAREEDGE SE7600H-US

SYSTEM RATING

8.40 kW DC STC
7.60 kW AC

ROOF DETAILS

COMPOSITE SHINGLE
TWO-STORY

15 - MissionSolar 280W Modules
Azimuth: 270°
Tilt: 35°

3 ft Access Paths from eaves to ridges

6 - MissionSolar 280W Modules
Azimuth: 270°
Tilt: 35°

CONSTRUCTION NOTES

- 1.) ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 2.) ALL OUTDOOR EQUIPMENT SHALL BE RAIN-TIGHT WITH MINIMUM NEMA 3R RATING.
- 3.) ALL LOCATIONS ARE APPROXIMATE AND REQUIRE FIELD VERIFICATION.



- 1 - SolarEdge 7600W Inverter
- Solar AC Disconnect #1
- Solar AC Disconnect #2
- PV Meter
- Billing Meter
- Main Service Panel

9 - MissionSolar 280W Modules
Azimuth: 90°
Tilt: 35°



All rooftop clearances comply with 2015 IRC R324 and R806.
All working clearances comply with 2017 NEC 110.26.
The grounding system comply with 2012 CPS 1700, 2017 NEC 250, 690.4 - 690.47(c).

NABCEP

CERTIFIED

PV Installation Professional

William Scarborough

Certification #

PV-042217-016279

NABCEP

CERTIFIED

PV Installation Professional

REVISIONS

MM/DD/YY	REMARKS
1	--/--
2	--/--
3	--/--
4	--/--
5	--/--

SPEIR INNOVATIONS LLC

1317 FALL CREEK LOOP
CEDAR PARK, TX 78613
(512) 923-5565
TECL # 31572

PROJECT NAME:

Edna Martinez
544 Hammond Avenue, San Antonio, TX 78210
(210) 722-6137

SHEET NAME:

SITE MAP & PV LAYOUT

SHEET SIZE:

11", 17"

DESIGNED BY:

Lucas Tenbrook

SHEET NUMBER:

PV1.1

MSE Mono 60

High Power Mono Rooftop Module



Class Leading Output:
280W power



Advanced P-Type
monocrystalline cell
technology



Superior Aesthetics:
All-black design coupled with
outstanding power output



Certified Reliability:
3X IEC, salt mist, ammonia



5600 Pa snow load **New!**
175 mph wind rating



Buy American Act

Proudly assembled in the USA

Mission Solar Energy is headquartered in San Antonio, TX with module facilities onsite. Our hardworking team calls Texas home and is devoted to producing high quality solar products and services. Our supply chain includes local and domestic vendors increasing our impact to the U.S. economy.



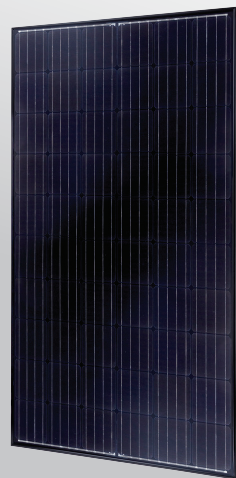
Assembled
in the USA

CERTIFICATIONS

IEC 61215/ IEC 61730/ IEC 61701 UL 1703



*As there are different certification requirements in different markets, please contact your local Mission Solar Energy sales representative for the specific certificates applicable to the products in the region in which the products are to be used.



Superior Aesthetics

The MSE Mono 60's slick all-black design coupled with outstanding power output makes it ideal for DG installations including commercial and rooftop systems.

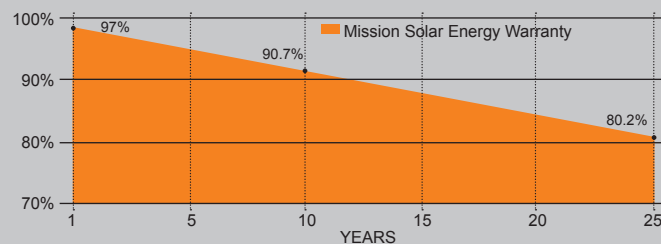
Proven reliability and bankability

Mission Solar Energy panels have been tested by independent testing centers to meet and exceed IEC standards. Our panels are deployed in projects across North America.

Best in class quality

Mission Solar Energy production lines are fully automated and include multiple quality checks throughout the production process.

25-YEAR LINEAR WARRANTY



ELECTRICAL SPECIFICATIONS

Electrical parameters at Standard Test Condition (STC)

Module Type			MSE270SO5T	MSE275SO5T	MSE280SO5T
Power Output	Pmax	Wp	270	275	280
Module Efficiency		%	16.26	16.55	16.85
Tolerance			0~+3%		
Short-Circuit Current	Isc	A	9.09	9.17	9.27
Open Circuit Voltage	Voc	V	38.21	38.45	38.60
Rated Current	Imp	A	8.64	8.72	8.79
Rated Voltage	Vmp	V	31.28	31.55	31.87

STC: Irradiance 1000 W/m2, Cell temperature of 25°C, AM 1.5

TEMPERATURE COEFFICIENTS

Normal Operating Cell Temperature (NOCT)	44°C (±2°C)
Temperature Coefficient of Pmax	-0.415%/°C
Temperature Coefficient of Voc	-0.312%/°C
Temperature Coefficient of Isc	0.042%/°C

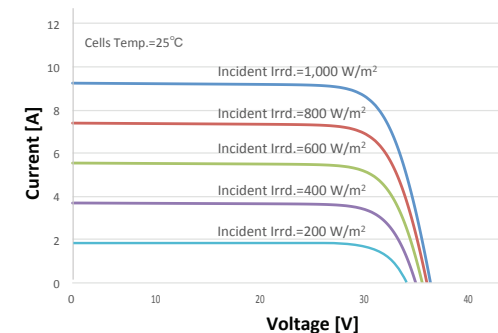
OPERATING CONDITIONS

Maximum System Voltage	1,000VDC
Operating Temperature Range	-40°C (-40°F) to +90°C (194°F)
Maximum Series Fuse Rating	15A
Fire Safety Classification	Type 1, Class C
Front & Back Load (UL standard)	5600 Pa (117 psf) New!
Hail Safety Impact Velocity	25mm at 23 m/s

MECHANICAL DATA

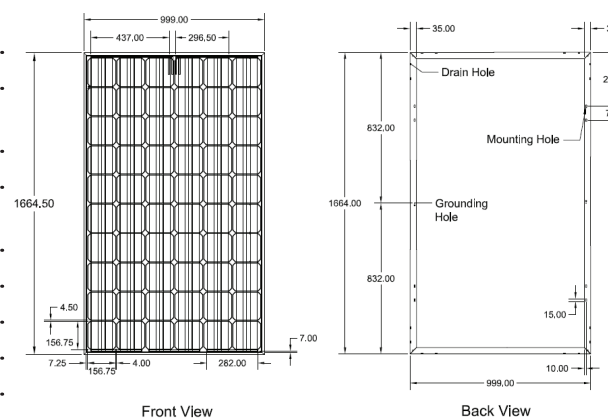
Solar Cells	P-type Mono-crystalline Silicon (156.75mm)
Cell orientation	60 cells (6x10), 4 busbar
Module dimension	1664mm x 999mm x 40mm (65.51 in. x 39.33 in. x 1.57 in.)
Weight	18.2 kg (40.1 lb)
Front Glass	3.2mm (0.126 in.) tempered, Low-iron, Anti-reflective coating
Frame	Anodized aluminum alloy
Encapsulant	Ethylene vinyl acetate (EVA)
J-Box	Protection class IP67 with 3 bypass-diodes
Cables	PV wire, 1m (39.37 in.), 4mm² / 12 AWG
Connector	MC4 or compatible

MSE270SO5T: 270WP, 60CELL SOLAR MODULE CURRENT-VOLTAGE CURVE



Current-voltage characteristics with dependence on irradiance and module temperature

BASIC DESIGN (UNITS: mm)



Mission Solar Energy reserves the right to make specification changes without notice.

Rev. 7.03

8303 South New Braunfels Ave. | San Antonio | TX | 78235 | missionsolar.com | info@missionsolar.com | (210) 531-8600

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11", 17"

DESIGNED BY:

Lucas Tenbrook

SHEET NUMBER:

PV 1.4