

HISTORIC AND DESIGN REVIEW COMMISSION

August 17, 2016

Agenda Item No: 8

HDRC CASE NO: 2016-329
ADDRESS: 2158 W KINGS HWY
LEGAL DESCRIPTION: NCB 6825 BLK LOT 15 & W 12.5 FT OF 14
ZONING: R6 H
CITY COUNCIL DIST.: 7
DISTRICT: Monticello Park Historic District
APPLICANT: APEX Home Energy Savings
OWNER: William & Terrilynn Hazelwood
TYPE OF WORK: Installation of Solar Panels
REQUEST:

The applicant is requesting a Certificate of Appropriateness for approval to install 13 solar panels on the rear pitch.

APPLICABLE CITATIONS:

Historic Design Guidelines, Chapter 3, Guidelines for Additions

6. Designing for Energy Efficiency

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 home is located in the Monticello Park Historic District, and phase 2 was designated 3/13/1997.
- b. The main structure is a two-story tudor style home with a cross-hipped roof and a front dormer with composition shingles. The applicant is proposing to install 13 total solar panels on the composition shingles roof of the primary structure. All 13 panels will be on the rear slope. According to the Guidelines for Additions 6.C., installations should be in locations that minimize visibility from the public right-of-way. Staff visited the site on August 8, 2016, and found that the panels will not be visible from the public right-of-way. This is consistent with the Guidelines.
- c. The applicant is proposing to mount the panels flush with the pitched roof. This is consistent with Guidelines for Additions 6.C.ii, which states solar collectors should be flush with the roof surface.

RECOMMENDATION:

Staff recommends approval as submitted based on findings a through c.

CASE MANAGER:

Lauren Sage



Flex Viewer

Powered by ArcGIS Server

Printed: Aug 10, 2016

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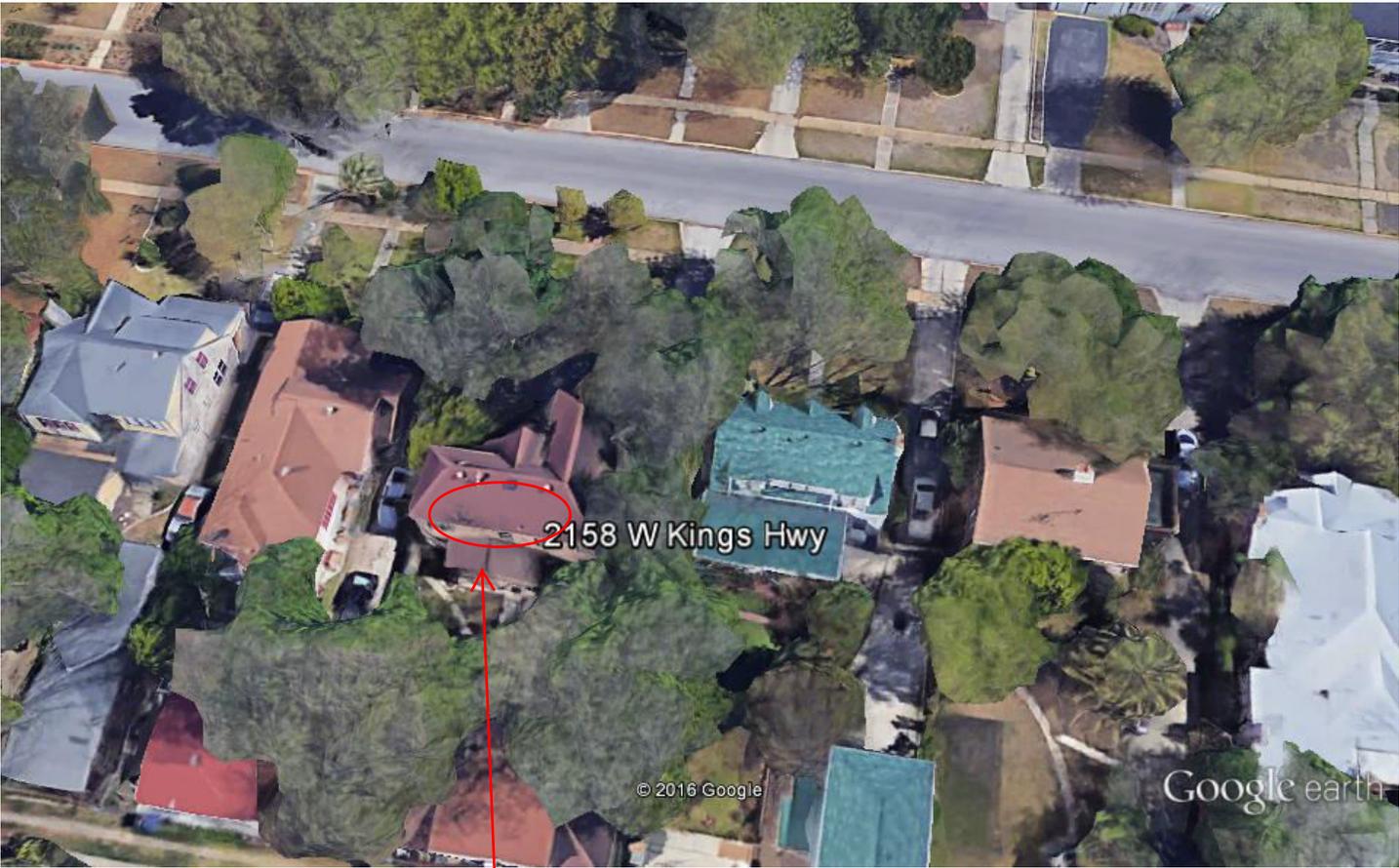






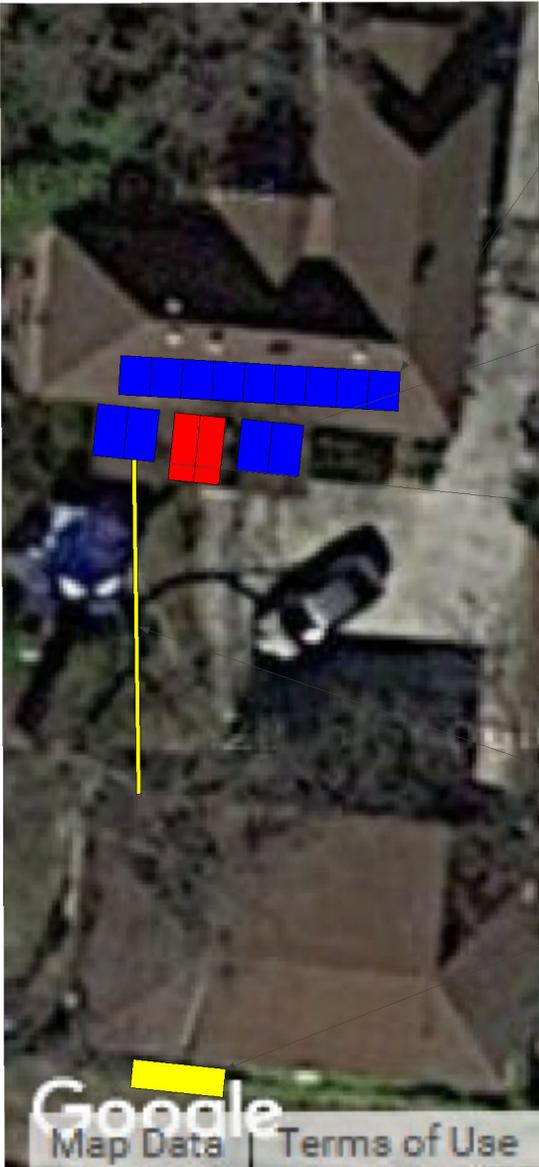






Google earth





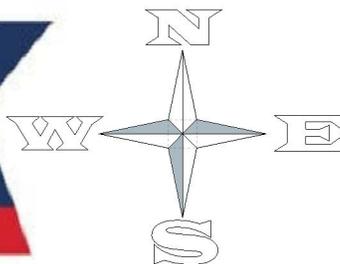
Azimuth:180
Tilt:45
9-Enphase M-215
9-Au Optronics 260W

Azimuth:190
Tilt:17
2-Enphase M-215
2-Au Optronics 260W

Azimuth:270
Tilt:17
2-Enphase M-215
2-Au Optronics 260W

Overhead electrical
from array to garage

CPS Revenue Meter
6 221 922
PV Equipment



Apex Home Energy
5411 Bandera Rd.
Unit 304
San Antonio, Tx
(210) 660-5120

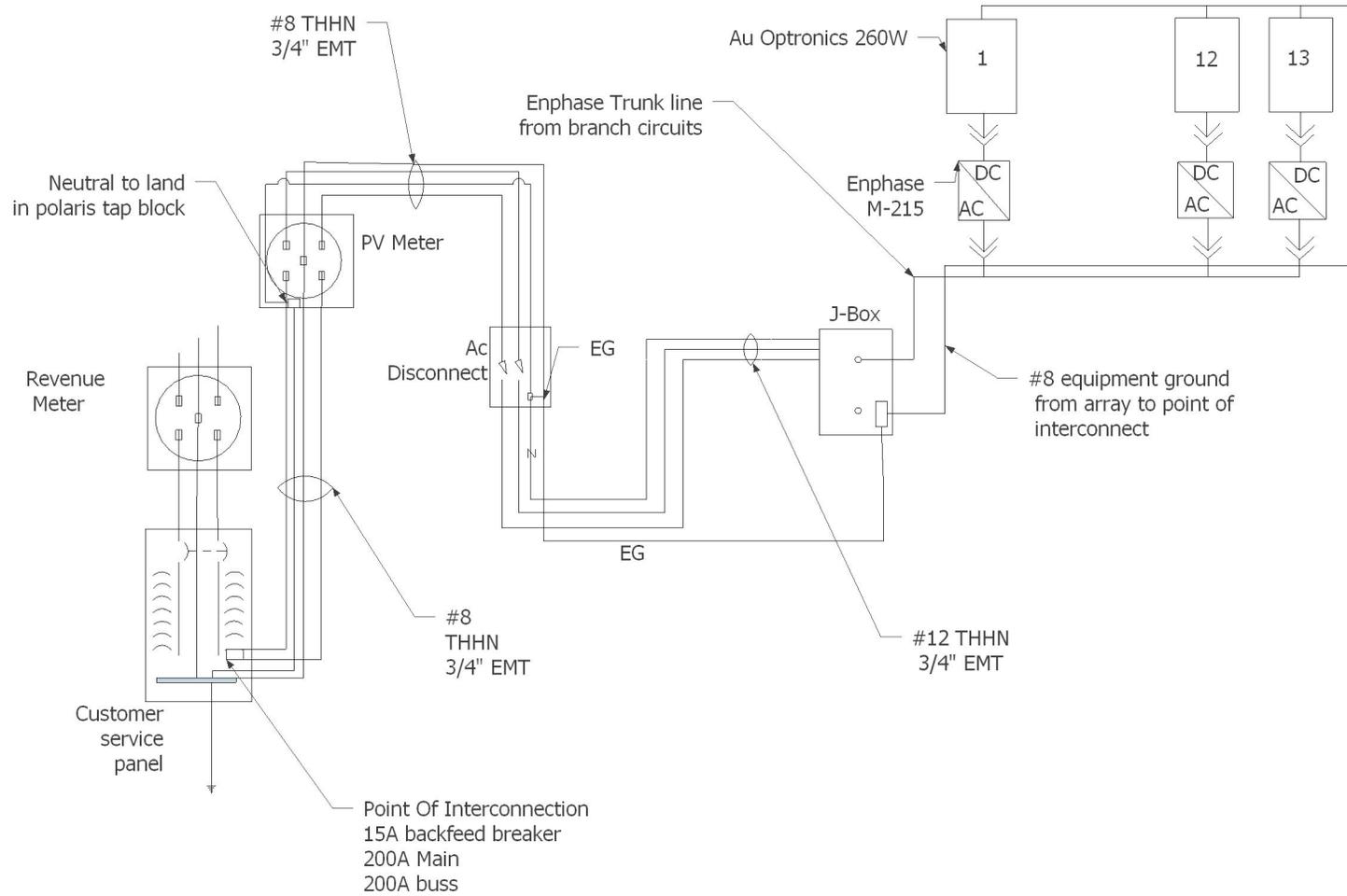
Drawn By:
Shad Haigwood
NABCEP 042013-44

Hazlewood, William & Terrilyn
2158 Kings Hwy
San Antonio, Tx 78201
3.38kW
13-Enphase M-215
13-Au Optronics 260W



Hazlewood, William & Terrilyn
 2158 Kings Hwy
 San Antonio, Tx 78201
 3.38kW
 13-Enphase M-215
 13-Au Optronics 260W
 1- Branch circuit of 13/14.4A
 Total:14.4A@ 240V

Apex Home Energy
 5411 Bandera Rd.
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PV Moudule Ratings @ STC

| | | |
|-------------------------------|-------------------|--|
| Module Make | Au Optronics 260W | |
| Module Model | PM 245p00_260 | |
| Max Power-Point Current (Imp) | 8.34A | |
| Max Power Point Voltage(Vmp) | 31.2V | |
| Open-Circuit Voltage(Voc) | 37.7V | |
| Short-Circuit Current(Isc) | 8.83A | |
| Max Fuse (OCPD) | 15A | |
| Maximum Power(Pmax) | 260W | |
| Max Voltage | 1000V | |
| VOC TEMP COEF | -.32%/C | |
| | | |

Notes For All Drawings

OCPD= Overcurrent Protection Device
 Natonal Electrical Code References
 shown as (NEC XXX.XX)

Inverter Ratings

| | | |
|-----------------------|---------|--|
| Inverter Make | Enphase | |
| Inverter Model | M-215 | |
| Max DC Voltage Rating | 48V | |
| Max Power @ 40°C | 225W | |
| Nominal AC Voltage | 240V | |
| Max AC Current | .9A | |
| Max OCPD Rating | 20A | |

Sign For DC Disconnect

No sign necessary since 690.51
 marking on PV module covers
 Needed information

Sign for inveter OCPD And
 AC Disconnect

| | |
|---|-------|
| Solar PV System AC point of connection | |
| Ac Output current | 14.4A |
| Nominal AC Voltage | 240V |
| This Panel fed by multiple sources (Utility and solar) | |

1.) Lowest expected ambient Temp based on ashrea minimum mean
 extream dry bulb temp for ashrae location most simalar to
 installation location. Lowest expected ambient temp -4C

2.) Highest continuos ambient temp based on ashrae highest
 month 2% dry bulb temp for location most similar to
 installation location. Highest continuous Temp 39C

2009 Ashrae fundamentals 2% design temperatures do not exceed
 47C in the united states. For less than 9 current carrying in roof
 mounted sunlit conduit at least .5" above the roof and using the
 outdoor design temp of 47C or less

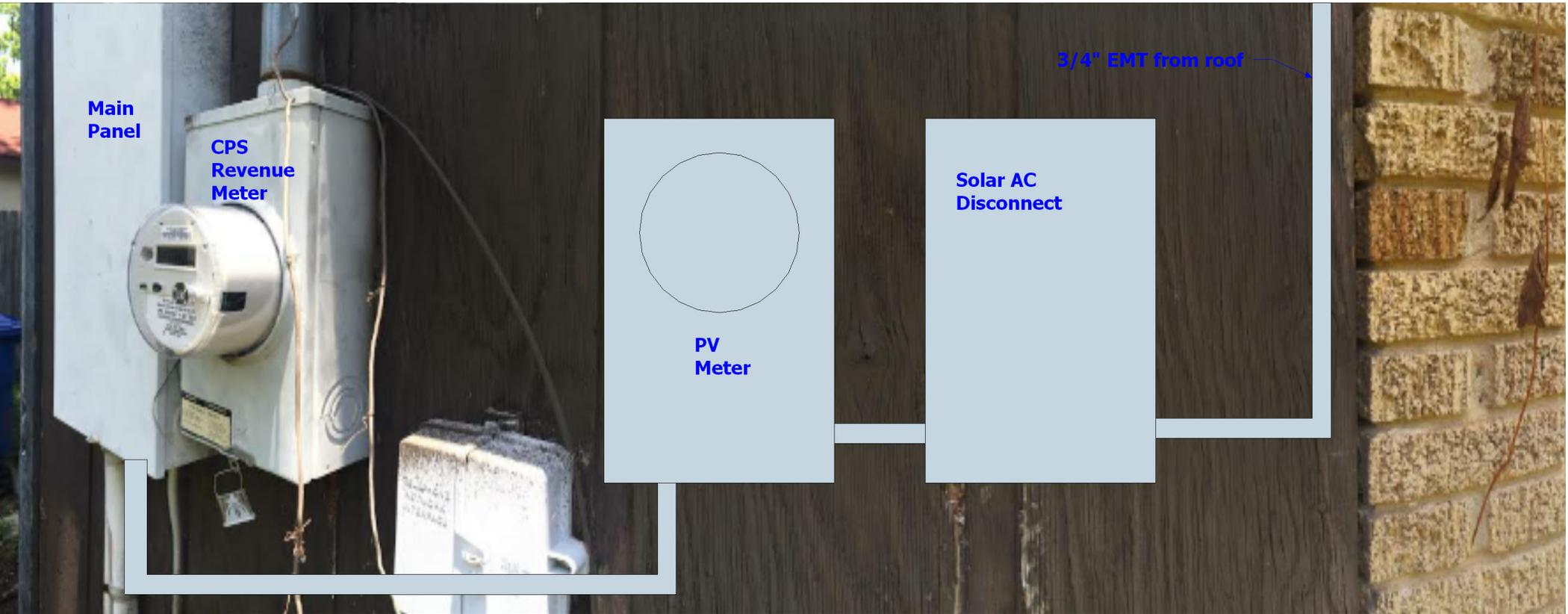
10Awg, 90C conductors are generally acceptable for modules
 with Isc of 9.6A or less when protected by 15A or smaller fuse

- 1) AC disconnect to meet requirments
- 2) Generation meter socket to meet requirement
- 3) Inverter output circuit (AC) conductors according
 to inverter OCPD Amp rating
- 5) Total of __1__ inverter output circuit OCPD, one for
 each microinverter circuit.



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Main Panel

CPS Revenue Meter

3/4" EMT from roof

PV Meter

Solar AC Disconnect

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