

Staff Report

PLANNING DIVISION COMMUNITY & NEIGHBORHOODS

To:	Salt Lake City Historic Landmark Commission
From:	Lauren Parisi, Associate Planner <u>lauren.parisi@slcgov.com</u> 801-535-7932
Date:	May 4, 2017
Re:	PLNHLC2017-00202 – Solar Panel Installation at 1351 E. Normandie Circle

MINOR ALTERATIONS

PROPERTY ADDRESS: 1351 E. Normandie Circle **PARCEL ID:** 16-09-306-009 **HISTORIC DISTRICT:** Yalecrest-Normandie Circle Local Historic District **ZONING DISTRICT:** R-1-7,000 Single-Family Residential

REQUEST: Mike Basquez of Auric Solar, representing the property owner Kathy Biele, is requesting approval from the City to install solar panels on the front roof plane of a single-family residence located in the Yalecrest-Normandie Circle local historic district. This type of project must be reviewed as Minor Alteration by the Historic Landmark Commission.

RECOMMENDATION: As outlined in the analysis and findings in this staff report, Planning Staff recommends the Historic Landmark Commission approve the location of the solar panels as proposed.

MOTION (consistent with Staff Recommendation):

Based on the analysis and findings listed in this staff report, testimony and the proposal presented, I move that the Commission approve the request for a minor alteration for the installation of a solar energy collection system as proposed on the front-facing roof plane, visible from the public right-of-way for the residence at 1351 E. Normandie Circle. Specifically, the Commission finds that the proposed project complies with the standards of review.

ATTACHMENTS:

- A. <u>Vicinity Map</u>
- B. Historic District Map
- C. Property Photos
- D. Application Materials
- E. Analysis of Standards
- F. <u>Applicable Design Guidelines</u>
- G. Public Process and Comments
- H. Motions

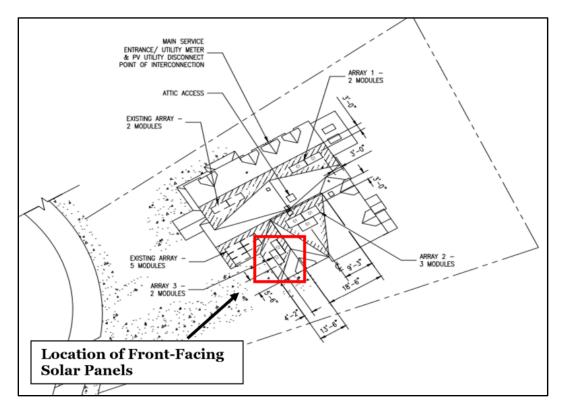
BACKGROUND AND PROJECT DESCRIPTION:

The subject parcel is a single-family home located at approximately 1351 E. Normandie Circle. The home, which is an English Tutor built in 1929, is located in the Yalecrest-Normandie Circle local historic district. In the 2005 reconnaissance level survey, the house is classified an "eligible" structure or a "B."

The request is to install a 14-panel solar energy collection system on different areas of the home's roof – 7 of the panels are existing, but were installed previously without a Certificate of Appropriateness. City Code 21A.40.190.B identifies priority locations where small energy collection systems can be located that may be reviewed administratively. Based on these locations, 12 of the 14 solar panels may be reviewed administratively: 8 panels on the south half of the roof and 4 on the north half. However, 2 solar panels are proposed on a front roof plane on the southwest façade of the house, which is visible from the public right-of-way. In accordance with Section 21A.40.190.B, these 2 southwest-facing solar panels must be reviewed by the Historic Landmark Commission.

The proposed location of the solar panels was chosen to maximize sun exposure for the small solar energy collection system. Staff discussed moving the location of the 2 solar panels to another roof plane not as visible from the street or on a freestanding structure in the backyard, but the applicant stated that the southwest facing roof plane is the most effective area for the small solar energy collection system. The applicant also explained that there are limited roof sections available to install the panels on and the proposed locations are the most productive sections that provide the best energy offset for the property owner. Installing a freestanding structure in the backyard was considered, but multiple large trees and the home itself would block a lot of the sunlight.

Each solar panel measures approximately 5.4 feet long by 3.2 feet wide, or $17^{-1/4}$ square feet in area. The total area of all 14 solar panels is approximately 242 square feet. The panels will be supported by a SnapNRack system and will project approximately 4 inches above the roof. To comply with fire code, all solar panels will be located at least 3 feet from all roof ridges and roof edges. The panels will also be black to reduce their visual impact and glare (see Attachment D – Applicant Materials for specs).



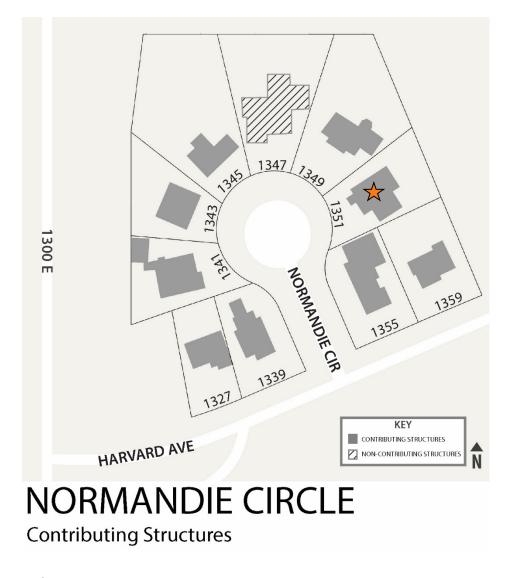




ATTACHMENT A: VICINITY MAP



ATTACHMENT B: HISTORIC DISTRICT MAP



Approximate project location

ATTACHMENT C: PROPERTY PHOTOS



View of home looking northeast from Normandie Circle.



View of the front-facing roof plane looking east from Normandie Circle.



East half of the Normandie Circle cul-de-sac.

ATTACHMENT D: APPLICATION MATERIALS

Mike Basquez with Auric Solar – 4/7/2017

- There are currently 7 solar panels on the Biele's house. They are adding 7 more.
- The two panels (array 3) on the front are the best location because they face Southwest and will have good production of electricity. Also with all the roof angles there is limited locations to put panels. This is one of the few location that will work.
- The client is adding panels because they want to cover more of their power needs and reduce their carbon foot print.
- A structure in the back yard was considered. However with the shading from the tall home and trees the solar panels will not produce very much electricity.
- We use a Silfab 300 Watt panel. They have are all black so the visual impact is minimal. I've attached the panel specs too.

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Proprietary design of AURIC SOLAR. Any unauthorized use or replication of any or all of the design will be subject to prosecution.

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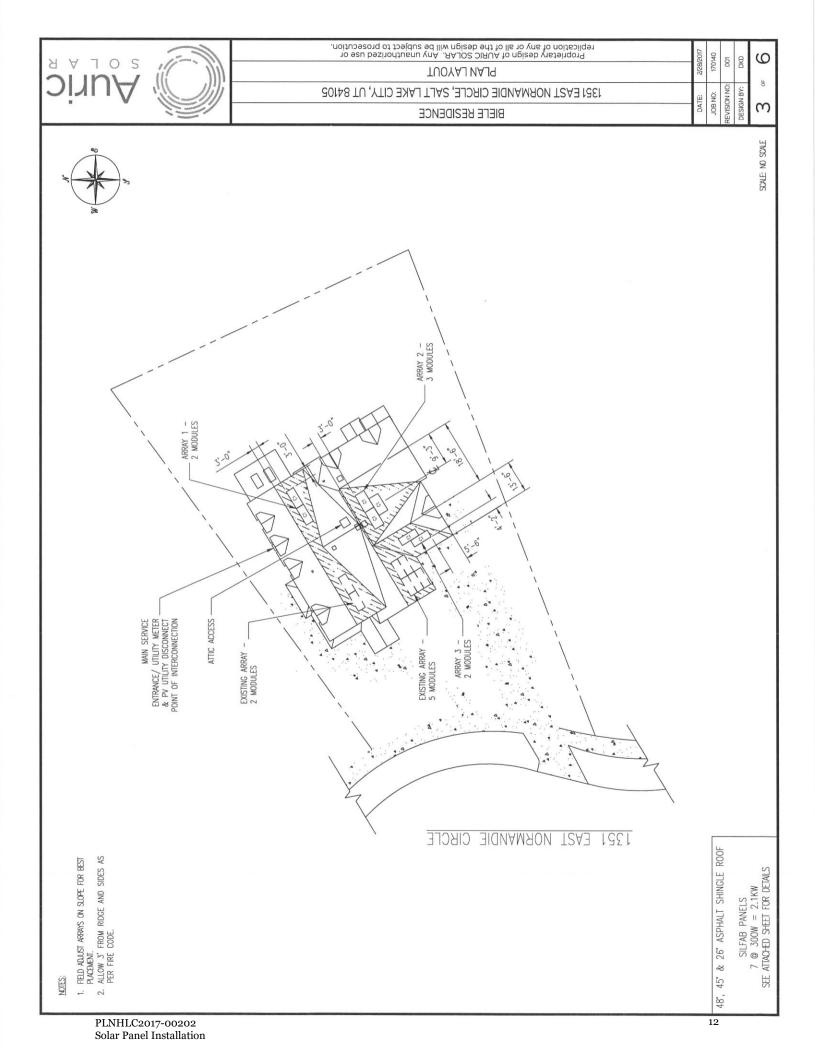
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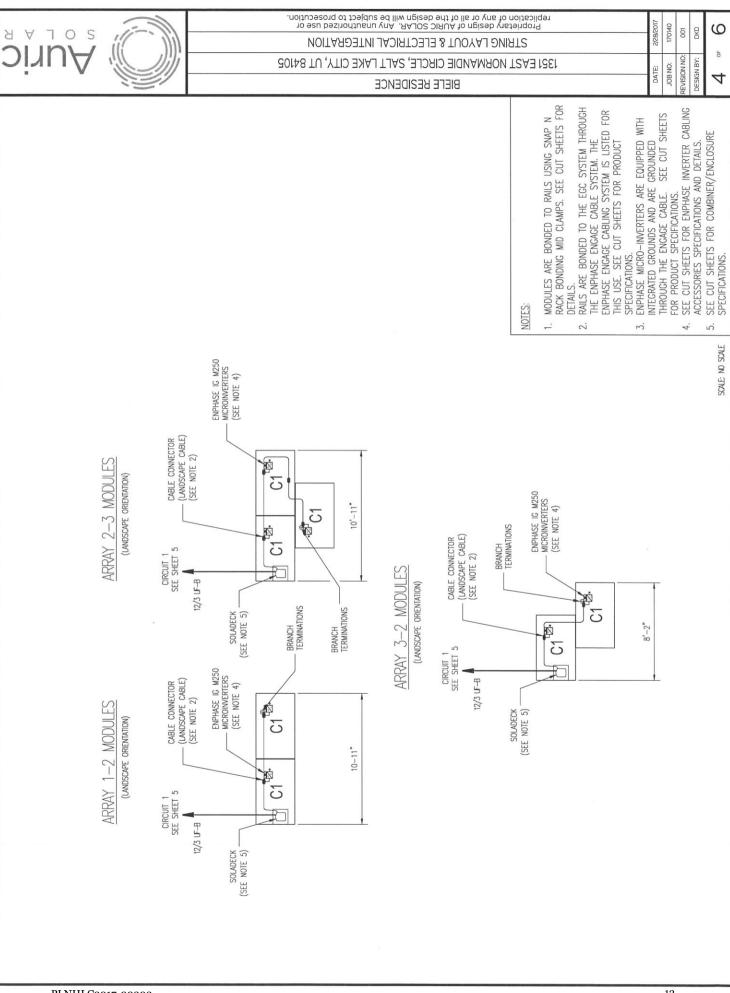
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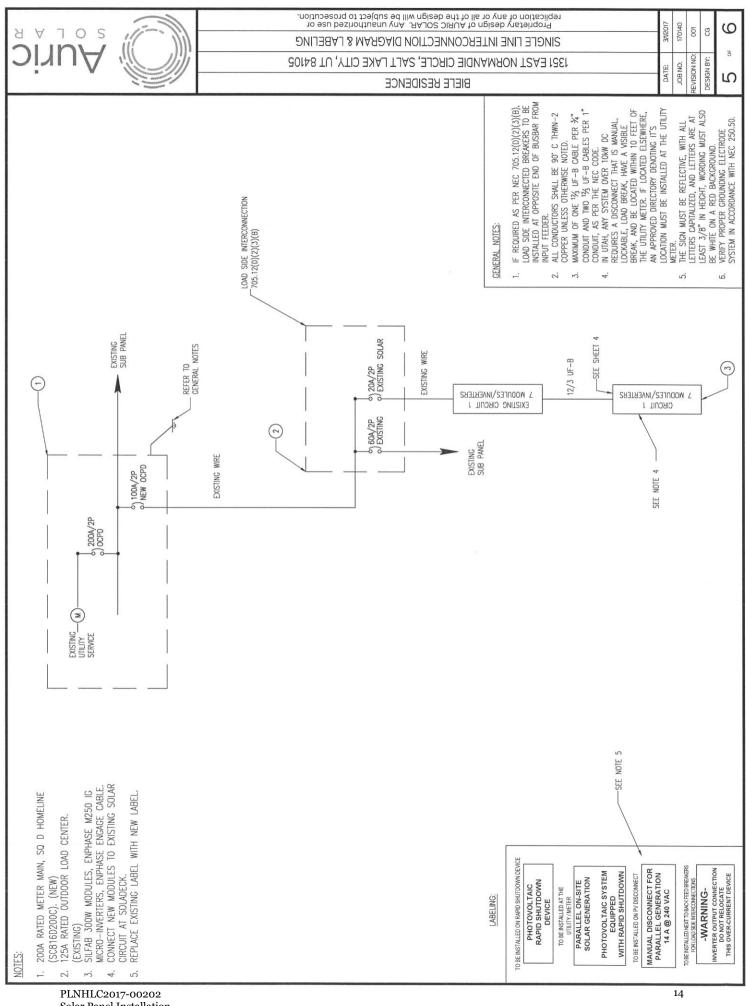
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PLNHLC2017-00202 Solar Panel Installation







Solar Panel Installation

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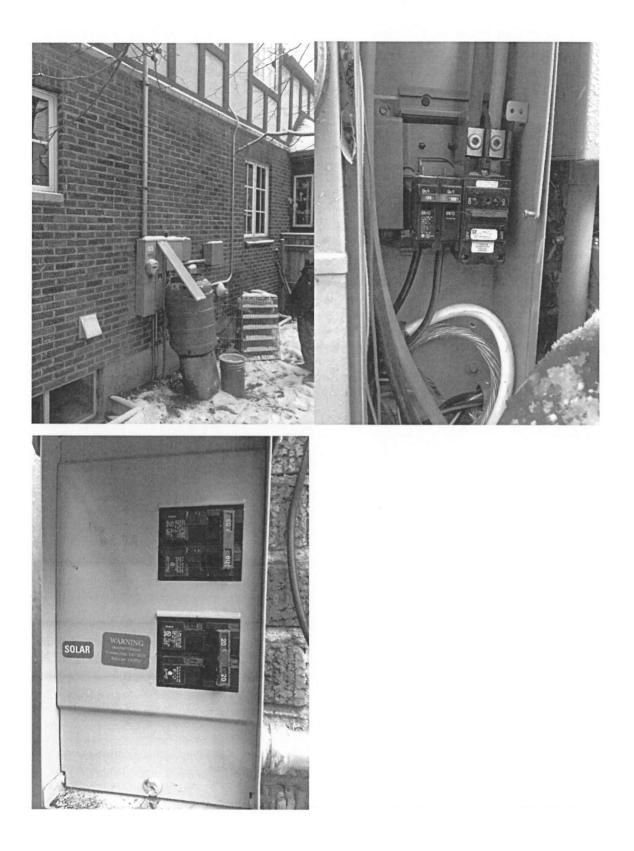
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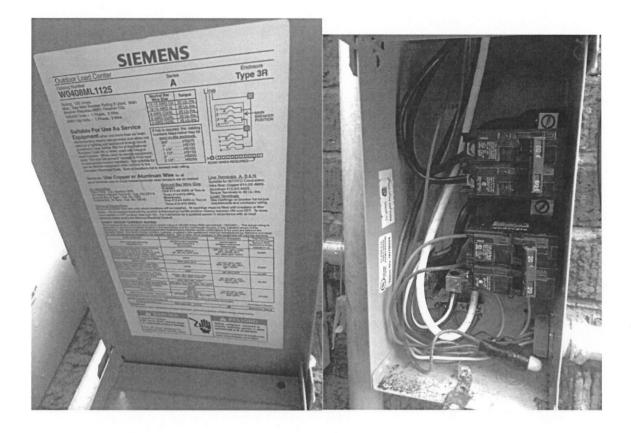
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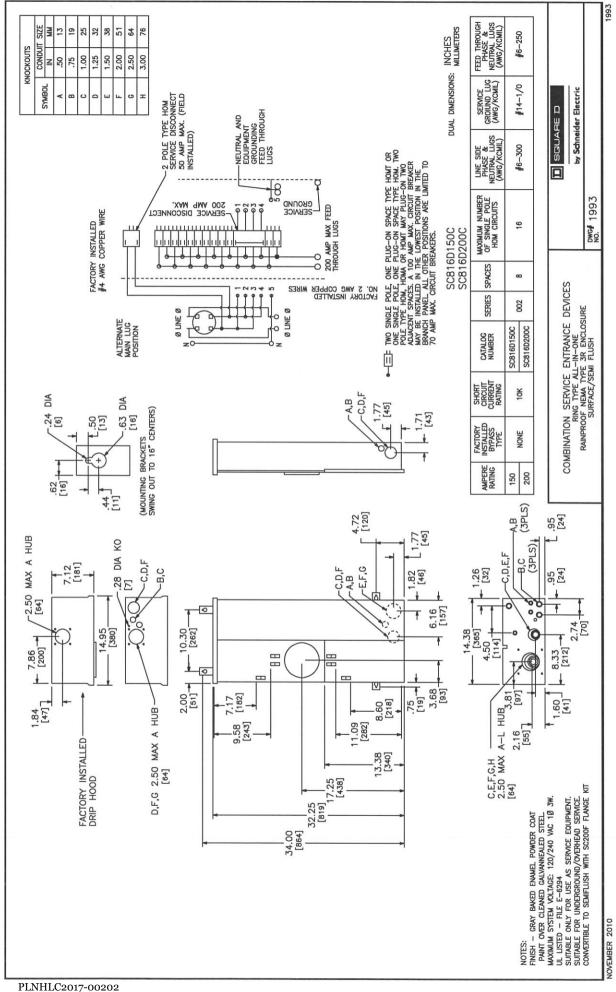
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Solar Panel Installation





The Silfab SLA-M 60-cell monocrystalline module series is the result of the experience of the Silfab technical team, specialized in the entire photovoltaic value chain, with modules produced and operating for over 33 years.

The SLA-M modules are ideal for ground-mount, roof-top and solar tracking installations where maximum power density is preferred.

Maximum Efficiency

60 of the highest efficiency, best quality monocrystalline cells result in a maximum power rating of 300 Wp.

Positive Tolerance

(-0/+5W) module sorting achieves the maximum electrical performance of the PV system.

Industry Experts

Silfab's technical team has specialized experience in the entire photovoltaic value chain, with modules produced and operating for over 33 years.

Highest Automation

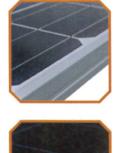
Strict quality controls during each step at one of the world's most automated module production facilities.

Increased Quality

Top quality materials and 100% EL testing guarantee a trustworthy 25-year performance warranty.

Reduced Weight

Engineered to accommodate low load bearing structures while maintaining highly durable mechanical characteristics including a maximum loading of 5400 Pa.











Available in Black





Electrical Specifications - Standard Test Condit	ons	SLA300M	
Module Power (Pmax)	Wp	300	
Maximum power voltage (Vpmax)	V	32.9	
Maximum power current (Ipmax)	A	9.26	
Open circuit voltage (Voc)	V	40.53	
Short circuit current (lsc)	A	9.76	
Module efficiency	%	18.8	i i i i i i i i i i i i i i i i i i i
Maximum system voltage (VDC)	V	1000	
Series fuse rating	A	15	
Power tolerance	Wp	-0/+5	

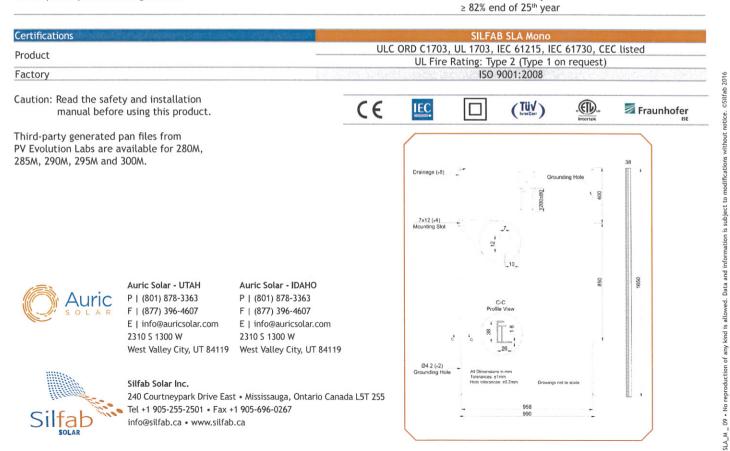
Measurement conditions: STC 1000 W/m² • AM 1.5 • Temperature 25 °C • Measurement uncertainty ≤ 3% • Sun simulator calibration reference modules from Fraunhofer Institute. Electrical characteristics may vary by ±5% and power by -0/+5W.

Temperature Ratings		SILFAB SLA Mono	the state water causes of the
Temperature Coefficient Isc	%/K	0.03	
Temperature Coefficient Voc	%/K	-0.30	
Temperature Coefficient Pmax	%/K	-0.38	
NOCT (± 2°C)	°C	45	
Operating temperature	°C	-40/+85	

Mechanical Properties and Components		SILFAB SLA Mono
Module weight (± 1 kg)	kg	19
Dimensions (H x L x D; ± 1mm)	mm	1650 x 990 x 38
Maximum surface load (wind/snow)*	N/m ²	5400
Hail impact resistance		ø 25 mm at 83 km/h
Cells	1997 S.	60 - Si monocrystalline - 3 or 4 busbar - 156 x 156 mm
Glass		3.2 mm high transmittance, tempered, antireflective coating
Encapsulant		PID-resistant EVA
Backsheet		Multilayer polyester-based
Frame	1. Starter	Anodized Al
Junction Box		3 diodes-45V/12A, IP67
Cables and connectors*		1200 mm ø 5.7 mm (4 mm²), gzx connector, MC4 comparable
* See installation manual		

Warranties	SILFAB SLA Mono
Module product warranty	12 years
	25 years
	\geq 97% end of 1 st year
Linear power performance guarantee	\geq 90% end of 12 th year

Linear power performance guarantee



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PLNHLC2017-00202 Solar Panel Installation

ATTACHMENT E: ZONING ORDINANCE STANDARDS

21A.40.190 Small Solar Energy Collection Systems

A. Standards: All small solar energy collection systems shall comply with the following requirements except as provided in section 21A.40.190.B relating to small solar energy collection systems in the historic preservation overlay districts. Per section 21A.34.020 of this title the historic landmark commission or staff has authority to modify the setbacks, location and height to ensure compliance with the overlay district regulations. Excluding subsection B of this section, if there is any conflict between the provisions of this subsection and any other requirements of the zoning, site development, and subdivision ordinances, the zoning administrator shall determine which requirements apply to the project in order to achieve the highest level of neighborhood compatibility.

Standard	Finding	Rationale
 Standard 1: Setbacks, Location and Height: a. A freestanding small solar energy collection system shall be located a minimum of six feet (6') from all property lines and other structures, except the structure on which it is mounted. b. A small solar energy collection system may be located on a principal or accessory structure, including legal principal or accessory structures located less than the required minimum setback for the zoning districts. c. A small solar energy collection system shall not exceed by more than three feet (3') the maximum building height (based on the type of building - principal or accessory - the system is located on) permitted in the zoning district in which it is located or shall not extend more than twelve feet (12') above the roofline of the structure upon which it is mounted, whichever is less. d. A development proposed to have a small solar energy collection system located on the roof or attached to a structure, or an application to establish a system on an existing structure, shall provide a structural certification as part of the building permit application. 	Complies	 a. The proposed small solar energy collection system is proposed to be located on the roof of the existing residence. The location of the system will not overhang the roof and will not encroach into any front, side or rear lot area. As long as the system is mounted on the main structure, it is allowed to be less than six feet from the property if it is determined by the Historic Landmark Commission to meet all other standards of the ordinance. b. The proposed small solar energy collection is located on the primary structure. c. The proposed small solar energy collection system is proposed to be mounted as flush with the roof as possible and below the ridge of the roofline. The solar panels themselves will project approximately four inches above the roof, but not above the roof ridge. d. If the solar panels are approved, the applicant will need to submit all necessary documentation for the installation and structural details for the proposed small solar energy collection solar energy collection system when a building permit is applied for.
Standard 2: Coverage: A small solar energy collection system mounted to the roof of a building shall not exceed ninety percent (90%) of the total roof area of the building upon which it is installed. A system constructed as a separate accessory structure on the ground shall count toward the total building and yard coverage limits for the lot on which it is located.	Complies	The proposed small solar energy collection system is proposed to be mounted on the main residence and not on an accessory building. The solar system has 5 arrays. One array of 2 modules is on the front-facing roof plane. The other arrays are on the north and south façades consists of 12 modules total.

Standard 3: Code Compliance: Small solar energy collection systems shall comply with all applicable building and electrical codes contained in the international building code adopted by Salt Lake City.	Complies	Should the proposed small solar energy collection system be approved, it will need to comply with all applicable codes adopted by Salt Lake City. This standard will need to be met should the proposal be approved and a building permit is applied for.
Standard 4: Solar Easements: A property owner who has installed or intends to install a small solar energy collection system shall be responsible for negotiating with other property owners in the vicinity for any desired solar easement to protect solar access for the system and shall record the easement with the Salt Lake County recorder.	Complies	The applicant will be responsible for negotiating with other property owners for any desired solar easements. This standard is not applicable to the approval of this project.
Standard 5: Off Street Parking and Loading Requirements: Small solar energy collection systems shall not remove or encroach upon required parking or loading areas for other uses on the site or access to such parking or loading areas.	Complies	The proposed small solar energy collection system is located on the main residence and is not located upon any required parking area.

21A.40.190 Small Solar Energy Collection Systems

B. Small Solar Energy Collection Systems and Historic Preservation Overlay Districts or Landmark Sites

De stale the se	The diam	Detterrele
Regulation	Finding	Rationale
3. Small Solar Energy Collection System Location Priorities: In approving	Complies	a. The rear yard is not an option for installation as the yard area contains
appropriate locations and manner of		
installation, consideration shall include the		vegetation that could prevent adequate sun exposure for the proposed solar panels.
		The rear yard is on the east side of the
following locations in the priority order they are set forth below. The method of		house and is shaded by the house itself.
installation approved shall be the least visible		b. There are no accessory buildings on the
from a public right of way, not including		site that would be suitable for solar panels
alleys, and most compatible with the		c. The existing residence has a narrow side
character defining features of the historic		yard setbacks that are also shaded by
building, structure, or site. Systems proposed		vegetation and the house itself.
for locations in subsections B3a through B3e		d. There are other panels proposed on other
of this section, may be reviewed		portions of the roof that are not visible
administratively as set forth in		from the street. Additional panels are
subsection <u>21A.34.020</u> F1, "Administrative		needed for the project to offset the energy
Decision", of this title. Systems proposed for		needs. Based on the shape and size of the
locations in subsection B3f of this section,		roof, there is no other location where the
shall be reviewed by the historic landmark		panels could be located to meet the sun
commission in accordance with the		exposure requirements and not be visible
procedures set forth in		from the public right-of-way.
subsection <u>21A.34.020</u> F2, "Historic		e. There are a total of 14 solar panels
Landmark Commission", of this title.		proposed: 2 on the southwest, front-facing
a. Rear yard in a location not readily		roof plane, 8 south facing roof planes and 4
visible from a public right of way.		on the north facing roof planes.
b. On accessory buildings or structures		Finding: This application cannot be
in a location not readily visible from		administratively approved as the preferred location
a public right of way.		priorities are not suitable based on the orientation,
c. In a side yard in a location not		size and site features of this property as described
readily visible from a public right of		above. This request shall be reviewed by the Historic
way.		Landmark Commission.
d. On the principal building in a		f. The location of the proposed small solar
location not readily visible from a		collection system on the front-facing roof
public right of way.		plane is compatible with the character
e. On the principal building in a		defining features of the building. While the
location that may be visible from a		proposed small solar collection system is
public right of way, but not on the		proposed to be located on the front-facing
structure's front facade.		roof plane, it will not be detrimental to the
f. On the front facade of the principal		residence or its features. The proposed
building in a location most		small solar collections system will be
compatible with the character		located as flush to the roof as possible and
defining features of the structure.		it not a feature that will permanently alter
		the historic structure. The proposed small
		solar collection system could easily be removed in the future with little to no
		damage to the historic structure.
		uallage to the historic structure.

HISTORIC PRESERVATION STANDARDS

H Historic Preservation Overlay District – Standards for Certificate of Appropriateness for Altering of a Landmark Site or Contributing Structure (21A.34.020.G)

In considering an application for a Certificate of Appropriateness for alteration of a landmark site or contributing structure, the Historic Landmark Commission shall find that the project substantially complies with all of the general standards that pertain to the application and that the decision is in the best interest of the City.

Standard	Finding	Rationale
Standard 1: A property shall be used for its historic purpose or be used for a purpose that requires minimal change to the defining characteristics of the building and its site and environment;	Complies	The building was constructed in 1929 as a single- family home. No change of use is proposed and very little impact will be made to the characteristics of the property.
Standard 2: The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided;	Complies	No historic materials or features are proposed to be altered as part of this request. The proposed small solar collection system will be mounted on the roof and can easily be removed in the future with little to no impact on the structural integrity of the property. They will be placed parallel to the roof or approximately 4 inches off the roof surface. They are designed to be as flush with the roof as possible.
Standard 3: All sites, structure and objects shall be recognized as products of their own time. Alterations that have no historical basis and which seek to create a false sense of history or architecture are not allowed.	Complies	The small solar energy collection system is a utility feature and is not being installed in a manner to create a false sense of history or architecture. This standard is met.
Standard 4: Alterations or additions that have acquired historic significance in their own right shall be retained and preserved.	Complies	No significant historic features will be lost. The proposal complies with this standard.
Standard 5: Distinctive features, finishes and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.	Complies	No significant historic features will be lost as the proposed small solar collection system will be located on the roof and will have very little impact to the roof or the character of the property. The property and the structure will continue to remain a historic property that can have the solar panels removed with little to no impact to the structure. The proposed small solar collection system will be flush mounted to the roof and will be required to be structurally safe per the building code requirements. This standard is met.

Standard 6: Deteriorated architectural features shall be repaired rather than replaced wherever feasible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, texture and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplications of features, substantiated by historic, physical or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other structures or objects.	Not Applicable	The subject proposal does not include repair or replacement of deteriorated architectural features. This standard does not relate to the proposal.
Standard 7: Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.	Not applicable	The proposed work does not include any treatments of historic materials. This standard is not applicable to the request.
Standard 8: Contemporary designs for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant cultural, historical, architectural or archaeological material, and such design is compatible with the size, scale, color, material and character of the property, neighborhood or environment.	Complies	Although a minor feature will be added to the roof of the single-family structure, the roof form itself will not be modified or altered. The proposed small solar energy collection system is designed to be flush mounted to have the least amount of visual and structural impact. In addition, the color of the roof is dark brown and the panels of the proposed small solar collection system are black. This standard is met.
Standard 9: Additions or alterations to structures and objects shall be done in such a manner that if such additions or alteration were to be removed in the future, the essential form and integrity of the structure would be unimpaired. The new work shall be differentiate from the old and shall be compatible in massing, size, scale and architectural features to protect the historic integrity of the property and its environment.	Complies	The proposed small solar energy collection system can be easily removed without impairing any form and integrity of the structure other than minimal damage to the asphalt shingle roof. This standard is met.
Standard 10: Certain building materials are prohibited including the following: vinyl, asbestos, or aluminum cladding when applied directly to an original or historic material.	Not applicable	Small solar energy collection systems are considered an accessory to the building and no original material will be affected.
Standard 11: Any new sign and any change in the appearance of any existing sign located on a landmark site or within the H historic preservation overlay district, which is visible from any public way or open space shall be consistent with the historic character of the landmark site or H historic preservation overlay district and shall comply with the standards outlined in part IV, Chapter 21A.46 of this title.	Not applicable	No signs are proposed. This standard is not applicable.

ATTACHMENT F: APPLICABLE DESIGN GUIDELINES

The following are applicable historic design guidelines related to this request. On the left are the applicable design guidelines and on the right, a list of the corresponding Zoning Ordinance standards for which the design guidelines are applicable. The following applicable design guidelines can be found in *Design Guidelines for Commercial Properties and Districts in Salt Lake City*.

Applicable Design Guidelines	Corresponding Standards for a Certificate of Appropriateness
 Design Objective 7.6- The visual impact of skylights and other rooftop devices should be minimized. Skylights or solar panels should be installed to reflect the plane of the historic roof. They should be lower than the ridgeline, when possible. Flat skylights and solar panels that are parallel with the roof plane may be appropriate on the rear and sides of the roof. Avoid locating a skylight or solar panel on a front roof plane wherever possible. 	Standards 2, 5, 8 and 9

ATTACHMENT G: PUBLIC PROCESS AND COMMENTS

Public Notice, Meetings and Comments

The following is a list of public meetings that have been held, and other public input opportunities, related to the proposed project.

Notices of the public hearing for the proposal include:

- Notice mailed on April 20, 2017
- Agenda posted on the Planning Division and Utah Public Meeting Notice websites on April 20, 2017
- Property posted on April 24, 2017

Staff has not received any public comments relating to this project. Any comments received after the publication of this staff report will be forwarded to the Historic Landmark Commission.

ATTACHMENT H: MOTIONS

Consistent with Staff Recommendation:

Based on the analysis and findings listed in this staff report, testimony and the proposal presented, I move that the Commission approve the request for a minor alteration for the installation of a small solar energy collection system as proposed on the front-facing roof plane, visible from the public right-of-way for the residence at 1351 E. Normandie Circle. Specifically, the Commission finds that the proposed project complies with the standards of review.

Not Consistent with Staff Recommendation:

Based on the information, testimony and the proposal presented, I move that the Commission deny the request for a minor alteration for the installation of a small solar energy collection system as proposed on the front-facing roof plane, visible from the public right-of-way for the residence at 1351 E. Normandie Circle. Specifically, the Commission finds that the proposed project does not comply with the standards of review. (Commissioner then states findings based on Standards **1**, **2**, **3**, **4**, **5**, **8** and **9** to support the motion):

- 1. A property shall be used for its historic purpose or be used for a purpose that requires minimal change to the defining characteristics of the building and its site and environment;
- 2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided;
- 3. All sites, structures and objects shall be recognized as products of their own time. Alterations that have no historical basis and which seek to create a false sense of history or architecture are not allowed;
- 4. Alterations or additions that have acquired historic significance in their own right shall be retained and preserved;
- 5. Distinctive features finishes and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved;
- 6. Deteriorated architectural features shall be repaired rather than replaced wherever feasible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, texture and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplications of features, substantiated by historic, physical or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other structures or objects;
- 7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the

gentlest means possible;

- 8. Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant cultural, historical, architectural or archaeological material, and such design is compatible with the size, scale, color, material and character of the property, neighborhood or environment;
- 9. Additions or alterations to structures and objects shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the structure would be unimpaired. The new work shall be differentiated from the old and shall be compatible in massing, size, scale and architectural features to protect the historic integrity of the property and its environment;
- 10. Certain building materials are prohibited including the following:
 - a. Aluminum, asbestos, or vinyl cladding when applied directly to an original or historic material.
- 11. Any new sign and any change in the appearance of any existing sign located on a landmark site or within the H historic preservation overlay district, which is visible from any public way or open space shall be consistent with the historic character of the landmark site or H historic preservation overlay district and shall comply with the standards outlined in chapter 21A.46 of this title.