



Planning, Development & Transportation

Community Development & Neighborhood Services

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REPORT OF ALTERATIONS TO DESIGNATED RESOURCE

Site Number/Address: 637 Peterson Street
Laurel School National Register Historic District
ISSUED: October 3, 2019

David & Jessica Hansen
637 Peterson Street
Fort Collins, CO 80524

Dear David and Jessica Hansen:

This report is to inform you and History Colorado of proposed alterations to 637 Peterson Street, a contributing building to the Laurel School Historic District, listed in the National Register of Historic Places in 1980.

The alterations include: Installation of thirteen flush, rooftop photo-voltaic solar panels on the roof, on rear (west) slope and south slope of a non-historic addition on the rear of the property.

Our staff review of the proposed work finds the alteration does meet the SOI Standards for Rehabilitation. A summary is provided below:

Applicable Code Standard	Summary of Code Requirement and Analysis	Standard Met (Y/N)
SOI #1	<i>A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships;</i> The property will remain in residential use.	Y
SOI #2	<i>The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.</i> New solar panels will be installed on the rear elevations of the building, clustered primarily on a non-historic, compatible addition completed in 2013, with some panels on a rear (west-facing) slope of the historic building with limited visibility to the public right-of-way on Peterson Street.	Y

SOI #3	<i>Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.</i>	N/A
SOI #4	<i>Changes to a property that have acquired historic significance in their own right will be retained and preserved.</i>	N/A
SOI #5	<p><i>Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.</i></p> <p>The solar panels will be installed primarily on a 2013 addition roof and the rear (west-facing) slope of the historic building. The project is not expected to have a significant impact on historic materials, features, finishes, and construction techniques that characterize the property.</p>	Y
SOI #6	<i>Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.</i>	N/A
SOI #7	<i>Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.</i>	N/A
SOI #8	<i>Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.</i>	N/A
SOI #9	<p><i>New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.</i></p> <p>The solar panels will be installed primarily on a non-historic roof section and at the rear of the property, minimizing visibility from the public right-of-way (Peterson Street). The project should have a minimal effect on character-defining features as viewed</p>	Y
SOI #10	<i>New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.</i>	N/A

This project is not expected to affect the building's contributing status in the historic district, and should allow the property to retain access to financial incentives available for historic preservation.

If you have any questions regarding this review, please contact me. I may be reached at jbertolini@fcgov.com or at (970) 416-4250.

Sincerely,

Jim Bertolini
Historic Preservation Planner

cc. Steve Turner, Colorado State Historic Preservation Officer



Design Review Large Project Application

Design review is a process used to examine projects in designated historic areas or properties for architectural design and compatibility with the nearby historic built environment. Applications submitted for design review must be accompanied with specific information which adequately describes or studies the proposal. To comply with the required submittal standards, submitted documentation shall clearly illustrated the existing conditions as well as any proposed alteration(s).

Submit this form, completed, with the required submittal documentation.

Project Address: 637 Peterson Street

Designated Fort Collins Landmark ☐

Listed on State Register/National Register of Historic Places **X**

Applicant Name: David Hansen

Email Address: ddhansen62@gmail.com

Phone number: 970.219.5668

Owner Name: David Hansen & Jessica Kramer

Owner Email Address: ddhansen62@gmail.com

Owner Phone Number: 970.219.5668

The following attachments are REQUIRED:

- ☐ Complete Application for Design Review
- ☐ Detailed Scope of Work
- ☐ Color photos of existing conditions

Reminders:

Complete application would need all of checklist items as well as both pages of this document.

Detailed scope of work should include measurements of existing and proposed.

Please note: if the proposal includes partial or full demolition of an existing building or structure, a separate demolition application will need to be approved.

Additional documentation may be required to adequately depict the project and its impact on a historic property or historic district, such as plans, elevations, window study, or mortar analysis. If there is insufficient documentation on the property, you could be required to submit an intensive-level survey form (at the applicant's expense).



Design Review General Application

This application should accompany your submittal of all the documents listed on the Design Review General Application Checklist. Failure to fill out these documents fully will result in delayed review.

Itemized List of Proposed Alterations (e.g. demolish rear porch; repair or replace windows)

☐ Installation of solar panels on existing roof. Panels would be installed on remodeled sections of roof from 2007 and 2011 additions. These sections of roof are newly framed and decked, 2011 addition has trusses. No additional structural modifications are needed for panel installation.

☐ All wiring is routed immediately into attic, no conduit would be visible over roofs.

☐ Inverter would be installed on North side of home adjacent to existing exterior meter and panel.

Materials of work (e.g. current/proposed materials of porch, windows, siding, roof, etc.)
Be specific about materials. What kind of wood? Exposure of siding?

☐ Panels are low profile, frame of panel has integrated mounting tabs to be attached to roof. No secondary rails are required between panels and roof shingles as an attachment method.

☐ _____

☐ _____

☐ Is any **partial or full demolition** required for work you are planning to do on this property?

Partial demolition could include scopes such as taking off existing rear porches to create space for a new addition or removing an existing wall or demolishing a roof. If you are taking away pieces of the existing residence, you are likely undergoing some partial demolition.

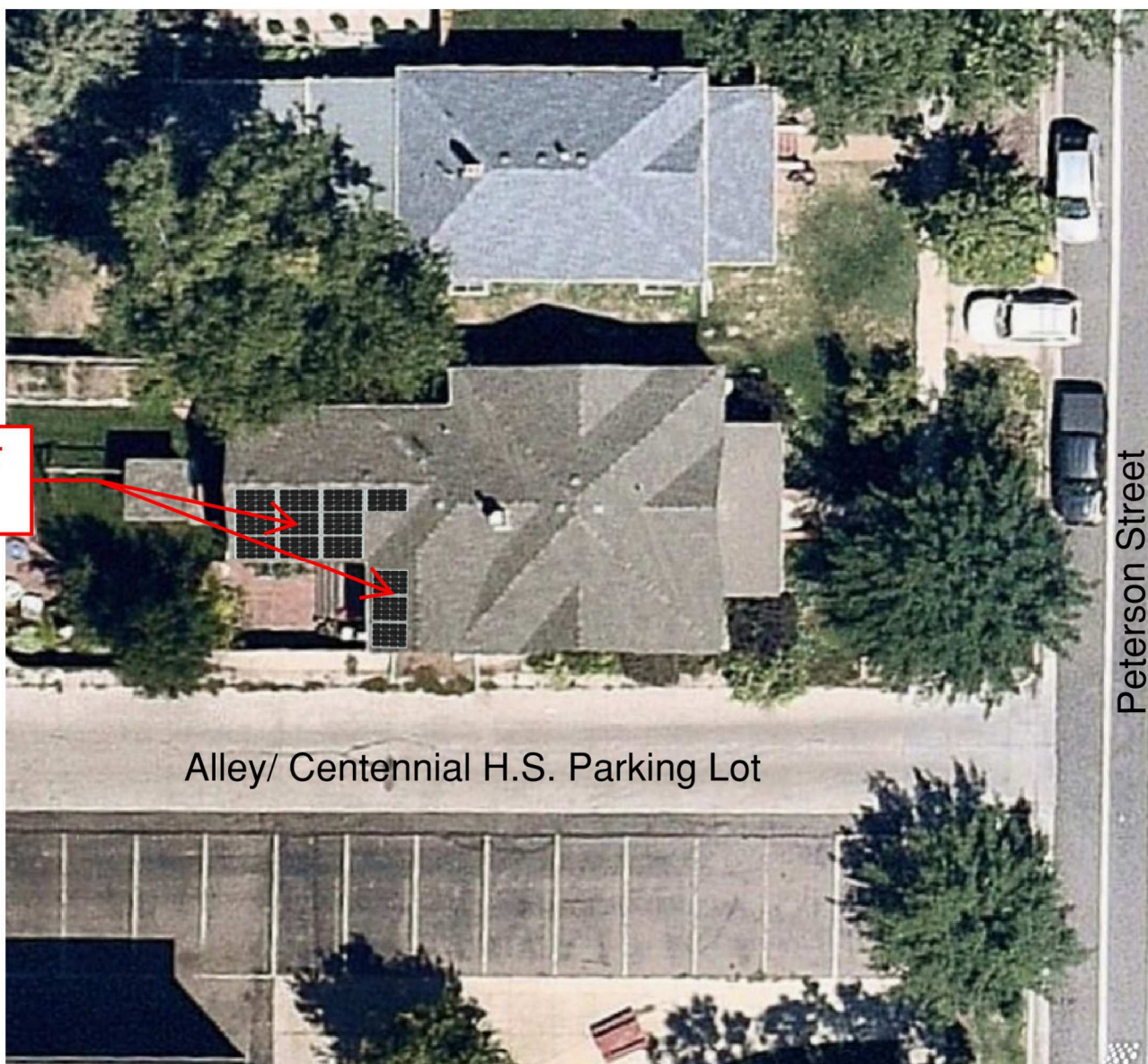
No

By signing below, I attest that no additional exterior work, siding replacement, or window replacement will occur under this application.

Applicant Signature:

Date: 09/26/19

Proposed solar panels



637 Peterson Street - Solar Panel Installation

Aerial View



637 Peterson Street - Solar Panel Installation
View of Southwest Corner of house

LG NeON[®] 2

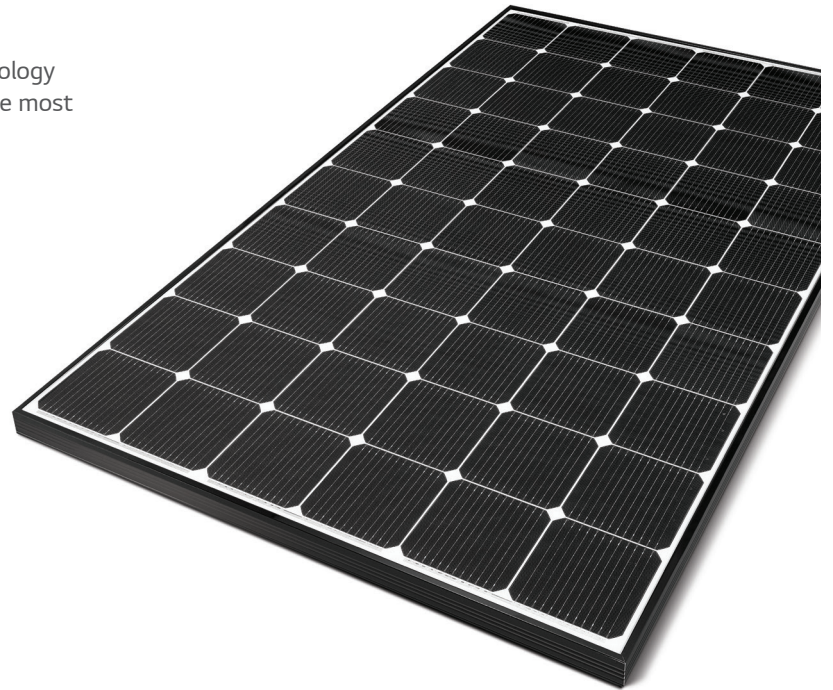
LG335N1C-A5 | LG330N1C-A5 | LG325N1C-A5



60

335W | 330W | 325W

The LG NeON[®] 2 is LG's best selling solar module. It received the acclaimed 2015 Intersolar AWARD for featuring LG's Cello Technology that increases its power output and reliability making it one of the most powerful and versatile modules on the market.



Feature



Enhanced Performance Warranty

LG NeON[®] 2 has an enhanced performance warranty. After 25 years, LG NeON[®] 2 is guaranteed at least 84.8% of initial performance.



High Power Output

Compared with previous models, the LG NeON[®] 2 has been designed to significantly enhance its output efficiency making it efficient even in limited space.



Aesthetic Roof

LG NeON[®] 2 has been designed with aesthetics in mind; thinner wires that appear all black at a distance. The product can increase the value of a property with its modern design.



Outstanding Durability

With its newly reinforced frame design, LG has extended the warranty of the NeON[®] 2 for an additional 2 years. Additionally, LG NeON[®] 2 can endure a front load up to 6000 Pa, and a rear load up to 5400 Pa.



Better Performance on a Sunny Day

LG NeON[®] 2 now performs better on a sunny days thanks to its improved temperature coefficient.



Near Zero LID (Light Induced Degradation)

The n-type cells used in LG NeON[®] 2 have almost no boron, which may cause the initial performance degradation, leading to less LID.

About LG Electronics

LG Electronics is a global big player, committed to expanding its operations with the solar market. The company first embarked on a solar energy source research program in 1985, supported by LG Group's vast experience in the semi-conductor, LCD, chemistry and materials industries. In 2010, LG Solar successfully released its first MonoX[®] series to the market, which is now available in 32 countries. The NeON[®] (previous MonoX[®] NeON), NeON[®]2, NeON[®]2 BiFacial won the "Intersolar AWARD" in 2013, 2015 and 2016, which demonstrates LG Solar's lead, innovation and commitment to the industry.



LG NeON[®] 2

LG335N1C-A5 | LG330N1C-A5 | LG325N1C-A5

Mechanical Properties

Cells	6 x 10
Cell Vendor	LG
Cell Type	Monocrystalline / N-type
Cell Dimensions	161.7 x 161.7 mm / 6 inches
# of Busbar	12 (Multi Wire Busbar)
Dimensions (L x W x H)	1,686 x 1,016 x 40 mm 66.38 x 40 x 1.57 in
Front Load	6,000Pa / 125 psf
Rear Load	5,400Pa / 113 psf
Weight	18 kg / 39.68 lb
Connector Type	MC4 (MC)
Junction Box	IP68 with 3 Bypass Diodes
Cables	1,000 mm x 2 ea / 39.37 in x 2 ea
Glass	High Transmission Tempered Glass
Frame	Anodized Aluminium

Certifications and Warranty

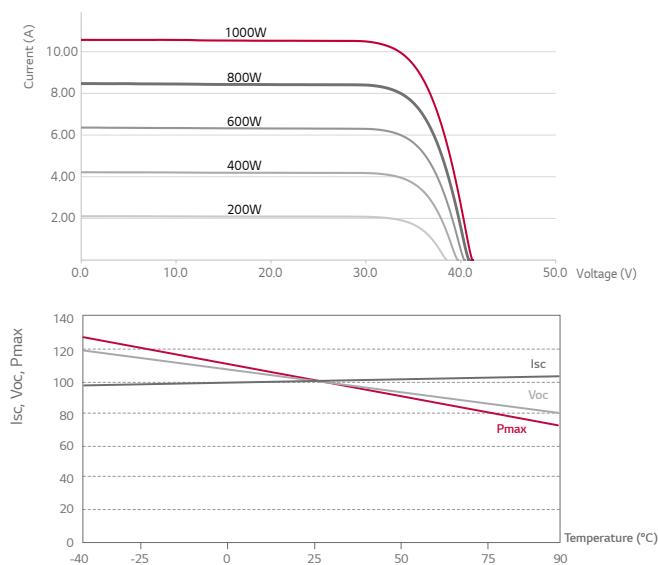
Certifications	IEC 61215, IEC 61730-1/-2
	UL 1703
	IEC 61701 (Salt mist corrosion test)
	IEC 62716 (Ammonia corrosion test)
	ISO 9001
Module Fire Performance	Type 1 (UL 1703)
Fire Rating	Class C (ULC/ORD C 1703, IEC 61730)
Product Warranty	12 Years
Output Warranty of Pmax	Linear Warranty*

* 1) 1st year: 98%, 2) After 1st year: 0.55% annual degradation 3) 84.8% for 25 years

Temperature Characteristics

NOCT	[°C]	45 ± 3
Pmax	[%/°C]	-0.37
Voc	[%/°C]	-0.27
Isc	[%/°C]	0.03

Characteristic Curves



Electrical Properties (STC*)

Model		LG335N1C-A5	LG330N1C-A5	LG325N1C-A5
Maximum Power (Pmax)	[W]	335	330	325
MPP Voltage (Vmpp)	[V]	34.1	33.7	33.3
MPP Current (Impp)	[A]	9.83	9.80	9.77
Open Circuit Voltage (Voc)	[V]	41.0	40.9	40.8
Short Circuit Current (Isc)	[A]	10.49	10.45	10.41
Module Efficiency	[%]	19.6	19.3	19.0
Operating Temperature	[°C]	-40 ~ +90		
Maximum System Voltage	[V]	1000 (UL / IEC)		
Maximum Series Fuse Rating	[A]	20		
Power Tolerance	[%]	0 ~ +3		

* STC (Standard Test Condition): Irradiance 1000 W/m², cell temperature 25 °C, AM 1.5

The nameplate power output is measured and determined by LG Electronics at its sole and absolute discretion.

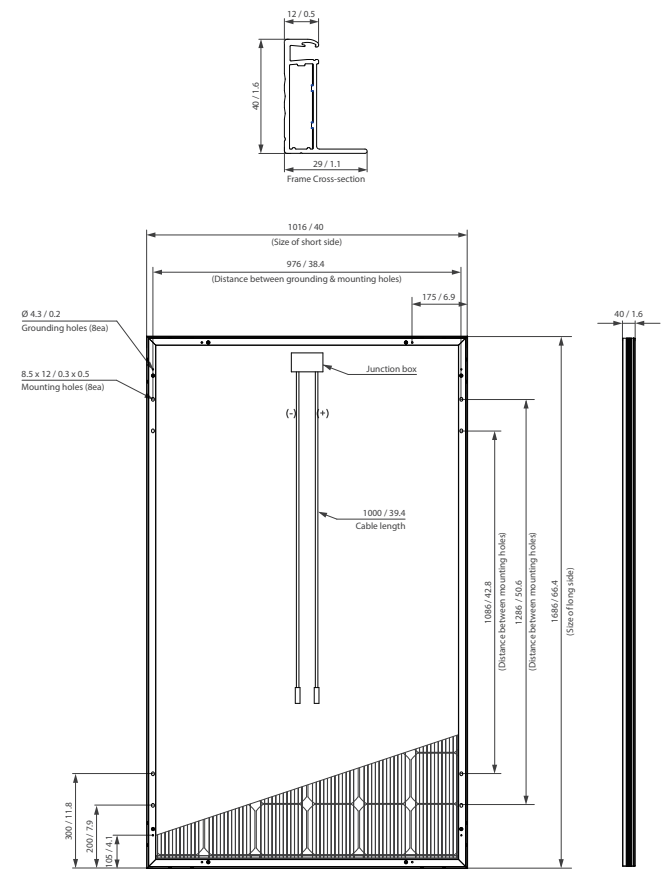
The Typical change in module efficiency at 200 W/m² in relation to 1000 W/m² is -2.0%.

Electrical Properties (NOCT*)

Model		LG335N1C-A5	LG330N1C-A5	LG325N1C-A5
Maximum Power (Pmax)	[W]	247	243	240
MPP Voltage (Vmpp)	[V]	31.5	31.2	30.8
MPP Current (Impp)	[A]	7.83	7.81	7.78
Open Circuit Voltage (Voc)	[V]	38.2	38.1	38.0
Short Circuit Current (Isc)	[A]	8.44	8.41	8.38

* NOCT (Nominal Operating Cell Temperature): Irradiance 800 W/m², ambient temperature 20 °C, wind speed 1 m/s

Dimensions (mm / inch)



* The distance between the center of the mounting/grounding



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Product specifications are subject to change without notice.
DS-N5-60-C-G-F-EN-70521

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