DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING PERMIT

This is to certify that CATHERINE D ALEXANDER Located At 3 CARROLL ST

Job ID: 2012-10-5122-ALTR CBL: 062- B-024-001

has permission to Install solar panels on roof

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statues of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of the buildings and structures, and of the application on file in the department.

Notification of inspection and written permission procured before this building or part thereof is lathed or otherwise closed-in. 48 HOUR NOTICE IS REQUIRED.	A final inspection must be completed by owner before this building or part thereof is occupied. If a certificate of occupancy is required, it must be

Fire Prevention Officer

Code Enforcement Officer / Plan Reviewer

THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY

PENALTY FOR REMOVING THIS CARD

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

or email: buildinginspections@portlandmaine.gov

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the city of Portland Inspections Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
- **Permits expire in 6 months. If the project is not started or ceases for 6 months.**
- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue.**

Footings/Setbacks prior to pouring concrete

Close In Elec/Plmb/Frame prior to insulate or gyp

Final Inspection

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OF CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCUPIED.

PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life • *www.portlandmaine.gov*

Director of Planning and Urban Development
Jeff Levine

Job ID: 2012-10-5122-ALTR **Located At:** 3 CARROLL ST **CBL:** 062- B-024-001

Conditions of Approval:

Historic

Installation shall conform with conditions of approval stipulated in Historic Preservation approval letter dated July 20, 2012.

Building

Separate permits are required for any electrical, plumbing, sprinkler, fire alarm HVAC systems, heating appliances, commercial hood exhaust systems and fuel tanks. Separate plans may need to be submitted for approval as a part of this process.

City of Portland, Maine - Building or Use Permit Application
389 Congress Street, 04101 Tel: (207) 874-8703, FAX: (207) 8716

Job No:	Date Applied:	CBL:	
2012-10-5122-ALTR	**10/4/2012**	**062- B-024-001**	
Location of Construction: **3 CARROLL ST**	Owner Name: **CATHERINE &TODD ALEXANDER**	Owner Address: **3 CARROLL ST PORTLAND, ME 04102**	Phone: **221-6342**
Business Name:	Contractor Name: **REVISION ENERGY – Jen Hatch**	Contractor Address: **142 PRESUMPSCOT ST., PORTLAND, ME 04103**	Phone: **(207) 221-6342**
Lessee/Buyer's Name:	Phone:	Permit Type: **BLDG ALT**	Zone: **R-6**
Past Use: **Single Family Dwelling**	Proposed Use: **Same: Single Family Dwelling – to install solar electric panels on roof**	Cost of Work: **$19,000.00**	CEO District:
		Fire Dept: Approved / Denied / N/A Signature:	Inspection: Use Group: R-3 Type: HVAC Solar Panels Signature:
Proposed Project Description: **Install solar panels on roof**		Pedestrian Activities District (P.A.D.)	
Permit Taken By: Brad			

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building Permits do not include plumbing, septic or electrial work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False informatin may invalidate a building permit and stop all work.

Zoning Approval

Special Zone or Reviews	Zoning Appeal	Historic Preservation
___ Shoreland	___ Variance	within
___ Wetlands	___ Miscellaneous	___ Not in Dist or Landmark
___ Flood Zone	___ Conditional Use	___ Does not Require Review
___ Subdivision	___ Interpretation	___ Requires Review
___ Site Plan	___ Approved	___ Approved
___ Maj ___ Min ___ MM	___ Denied	✓ Approved w/Conditions
Date: OK 10/4/12	Date:	___ Denied
		Date: 10/19/12 D. Andrews

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the appication is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT ADDRESS DATE PHONE

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE DATE PHONE

Extend 10/04/12

General Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

2012-10-5122-ALTR

R-6

Location/Address of Construction: 3 Carroll Street		
Total Square Footage of Proposed Structure/Area 242	Square Footage of Lot	Number of Stories Historic
Tax Assessor's Chart, Block & Lot Chart# 062 Block# B024 Lot#	Applicant: (must be owner, lessee or buyer) Name ReVision Energy Address 142 Presumpscot St City, State & Zip Portland, ME 04103	Telephone: 221-6342 19,000
Lessee/DBA	Owner: (if different from applicant) Name Todd Alexander Address 3 Carroll St City, State & Zip Portland, ME 04102	Cost of Work: $ ~~18,995~~ C of O Fee: $ Historic Review: $ Planning Amin.: $ 210.00 Total Fee: $ 210.00

RECEIVED
OCT 03 2012
Dept. of Building Inspections
City of Portland Maine

Current legal use (i.e. single family) Single family Number of Residential Units
If vacant, what was the previous use?
Proposed Specific use:
Is property part of a subdivision? If yes, please name
Project description: Solar electric panels on roof of building

Contractor's name: ReVision Energy Email: jen@revisionenergy.com
Address: 142 Presumpscot St
City, State & Zip Portland, ME 04103 Telephone:
Who should we contact when the permit is ready: Jen Hatch Telephone: 221-6342
Mailing address:

Please submit all of the information outlined on the applicable checklist. Failure to do so will result in the automatic denial of your permit.

In order to be sure the City fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information or to download copies of this form and other applications visit the Inspections Division on-line at www.portlandmaine.gov, or stop by the Inspections Division office, room 315 City Hall or call 874-8703.

and I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature: J Hatch Date: 10/3/2012

This is not a permit; you may not commence ANY work until the permit is issued

PORTLAND MAINE

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Receipts Details:

Tender Information: Check , Check Number: 54845
Tender Amount: 45.00

Receipt Header:

Cashier Id: bsaucier
Receipt Date: 10/4/2012
Receipt Number: 48966

Receipt Details:

Referance ID:	8268	Fee Type:	BP Elec Res
Receipt Number:	0	Payment Date:	
Transaction Amount:	45.00	Charge Amount:	45.00
Job ID: Job ID: 2012-10-5122-ALTR - Install solar panels on roof			
Additional Comments: 3 Carroll St.			

Thank You for your Payment!

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Receipts Details:

Tender Information: Check , Check Number: 49313
Tender Amount: 50.00

Receipt Header:

Cashier Id: bsaucier
Receipt Date: 10/4/2012
Receipt Number: 48963

Receipt Details:

Referance ID:	8267	Fee Type:	BP-HRAD
Receipt Number:	0	Payment Date:	
Transaction Amount:	50.00	Charge Amount:	50.00
Job ID: Job ID: 2012-10-5122-ALTR - Install solar panels on roof			
Additional Comments: 3 Carroll St.			

Thank You for your Payment!

PORTLAND MAINE

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Receipts Details:

Tender Information: Check , Check Number: 54845
Tender Amount: 210.00

Receipt Header:

Cashier Id: bsaucier
Receipt Date: 10/4/2012
Receipt Number: 48962

Receipt Details:

Referance ID:	8266	Fee Type:	BP-Constr
Receipt Number:	0	Payment Date:	
Transaction Amount:	210.00	Charge Amount:	210.00
Job ID: Job ID: 2012-10-5122-ALTR - Install solar panels on roof			
Additional Comments: 3 Carroll St.			

Thank You for your Payment!

Professional design, installation and service of renewable energy systems

October 3, 2012

City of Portland
389 Congress Street
Portland, ME 04101

RE: ReVision Energy Solar Installation at 3 Carroll Street

Dear Code Enforcement,

ReVision Energy has been contracted to design and install a solar electric (PV) system at the above address in Portland. This letter is to confirm that all work will be performed by licensed and qualified installers, expert in the field and in compliance with both manufacturer's recommendations and all applicable local and state codes and standards. This also confirms that the roof structure can handle the weight of the panel load, in addition to snow load. The weight of the panels does not change the structural integrity of the building.

ReVision Energy employs licensed engineers, plumbers, and electricians and carries the solar industries highest certifications (NABCEP) in both solar thermal and photovoltaic installation. We're committed to high quality, code compliant work and look forward to working together with the city and the CEO to ensure that all your requirements and needs are met and that our customer ends up with a system that is beautiful, functional and safe.

Electrical and grounding:
All electrical work to be performed by a licensed ME electrician and will conform to NEC 2011 revision as well as NABCEP standards. Specifically, wiring and grounding of the photovoltaic system will be governed by manufacturer's recommendations and article 690. All installed metal components are grounded via the grounding electrode conductor.

If you have any questions or concerns, we'd like to address them as quickly and completely as possible. Please don't hesitate to call or e mail anytime.

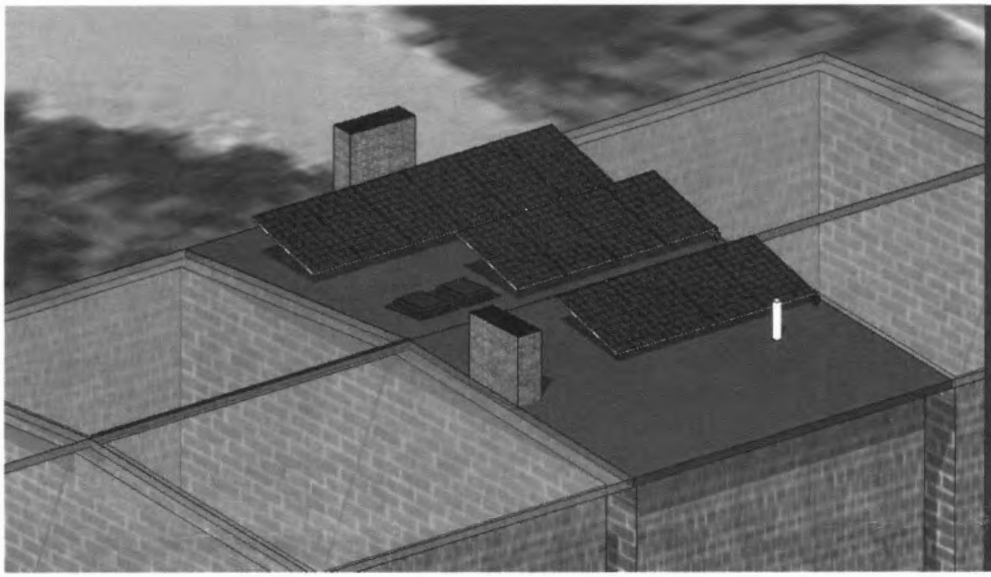
Respectfully,

Fortunat Mueller, P.E.
Co-owner
ReVision Energy
(207) 752-6358
fortunat@revisionenergy.com

Professional design, installation and service of renewable energy systems

3.4 Kilowatt Grid-Tied Photovoltaic System Proposal

Client: Todd Alexander
Address: 3 Carroll Street, Portland, Maine 04102
Date: 2 July 2012



Proposed array layout

Orientation:
180 degrees (true south)

Array tilt angle:
12 degrees

Mounting:
Flashed eco-fasten anchoring, integral with EPDM roof

Project Summary

System	Performance	Cost	Incentives	Net Cost
3.4 kilowatt grid-tied PV array utilizing individual Enphase microinverters,	• Produce roughly 4,100 kilowatt hours of clean, renewable electricity annually. • Offset roughly 4,540 lbs. of CO2 emissions annually.	$18,443 Installed Incl. (-$500) Courtesy discount	-($5,533) fed tax credit -($2,000) State rebate	$10,910

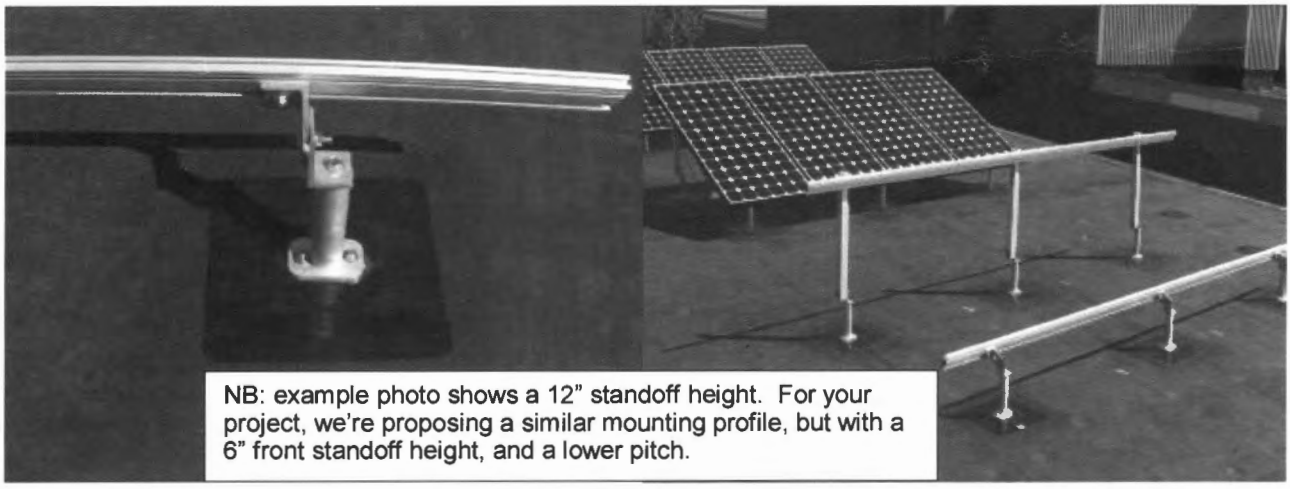
System Overview
Based on an evaluation of your home's orientation, roof characteristics and anticipated electricity demand, ReVision Energy proposes a roof-mounted photovoltaic array of 3.4 kilowatts (nominal). The system utilizes Canadian Solar 240-watt photovoltaic panels feeding power to microinverters. The proposed system will comprise three sub-arrays, totaling fourteen (14) panels as shown in the rendering image above. The panels will be mounted using a low-

profile mounting hardware and anchor to the roof structure using an integral flashed rubber attachment. Thus the array profile will be limited to parts of the roof that are invisible from the public way (Carroll and Thomas Streets.) The total standoff height at the front of the array will be about 6-3/4", the setback from the roof's southern parapet will be 11'. The total array area will be roughly 242 ft2.

Component Specifications

- (14) 240-watt Canadian Solar photovoltaic panels (www.canadian-solar.com)
- (14) Enphase M-215 microinverters (www.enphase.com)
- (1) Enlighten web-based monitoring portal
- Lifetime subscription to Enphase Enlighten web-based monitoring service (http://www.enphaseenergy.com/products/products/enlighten.cfm)
- Unirac roof mounting system (www.unirac.com)
- Eco-fasten Eco-65 integral attachment foot for rubber roof (ecofastensolar.com)
- All hardware, disconnects, cable, and labor to provide a code-compliant, NABCEP-certified installation.

Roof Mounting Detail



NB: example photo shows a 12" standoff height. For your project, we're proposing a similar mounting profile, but with a 6" front standoff height, and a lower pitch.

System Operation

Whenever sun shines on the solar electric panels, direct current electricity will be generated. The DC electricity from each module is converted to AC electricity by the individual Enphase inverters, affixed to the underside of each panel. The microinverter allows each PV module to perform at the individual optimal efficiency regardless of sun conditions in other parts of the array (e.g. snow cover, shade, non-ideal angles of incidence.) The system will also easily accommodate an

CanadianSolar

CS6P

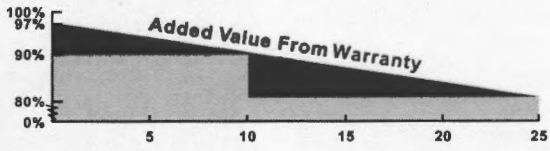
230/235/240/245/250M

On-grid Module

CS6P is a robust solar module with 60 solar cells. These modules can be used for on-grid solar applications. Our meticulous design and production techniques ensure a high-yield, long-term performance for every module produced. Our rigorous quality control and in-house testing facilities guarantee Canadian Solar's modules meet the highest quality standards possible.

Key Features

- Industry first comprehensive warranty insurance by AM Best rated leading insurance companies in the world
- Industry leading plus only power tolerance: 0 ~ +5W
- Strong framed module, passing mechanical load test of 5400Pa to withstand heavier snow load
- The 1st manufacturer in the PV industry certified for ISO:TS16949 (The automotive quality management system) in module production since 2003
- ISO17025 qualified manufacturer owned testing lab, fully complying to IEC, TUV, UL testing standards
- **Backed By Our New 10/25 Linear Power Warranty Plus our added 25 year insurance coverage**



- 10 year product warranty on materials and workmanship
- 25 year linear power output warranty

Applications

- On-grid residential roof-tops
- On-grid commercial/industrial roof-tops
- Solar power stations
- Other on-grid applications

Quality Certificates

- IEC 61215, IEC 61730, UL 1703, CEC Listed, MCS, CE
- ISO9001: 2008: Standards for quality management systems
- ISO/TS16949:2009: The automotive quality management system

Environmental Certificates

- ISO14001:2004: Standards for Environmental management systems
- QC080000 HSPM: The Certification for Hazardous Substances Regulations
- Reach Compliance

www.canadiansolar.com

CS6P-230/235/240/245/250M

Electrical Data

STC	CS6P-230M	CS6P-235M	CS6P-240M	CS6P-245M	CS6P-250M
Nominal Maximum Power (Pmax)	230W	235W	240W	245W	250W
Optimum Operating Voltage (Vmp)	29.9V	30.1V	30.2V	30.3V	30.4V
Optimum Operating Current (Imp)	7.70A	7.82A	7.95A	8.09A	8.22A
Open Circuit Voltage (Voc)	37.1V	37.2V	37.3V	37.4V	37.5V
Short Circuit Current (Isc)	8.22A	8.34A	8.46A	8.61A	8.74A
Module Efficiency	14.30%	14.61%	14.92%	15.23%	15.54%
Operating Temperature	-40℃~+85℃				
Maximum System Voltage	1000V (IEC) /600V (UL)				
Maximum Series Fuse Rating	15A				
Application Classification	Class A				
Power Tolerance	0 ~ +5W				

Under Standard Test Conditions (STC) of irradiance of 1000W/m², spectrum AM 1.5 and cell temperature of 25℃

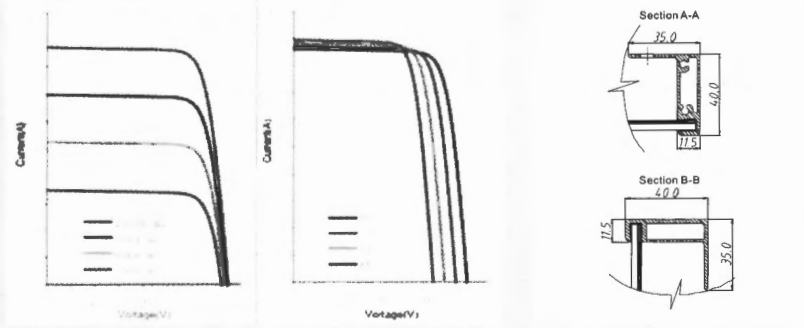
NOCT	CS6P-230M	CS6P-235M	CS6P-240M	CS6P-245M	CS6P-250M
Nominal Maximum Power (Pmax)	166W	170W	173W	177W	180W
Optimum Operating Voltage (Vmp)	27.3V	27.5V	27.5V	27.6V	27.7V
Optimum Operating Current (Imp)	6.09A	6.18A	6.29A	6.40A	6.51A
Open Circuit Voltage (Voc)	34.0V	34.1V	34.2V	34.3V	34.4V
Short Circuit Current (Isc)	6.65A	6.75A	6.85A	6.97A	7.08A

Under Normal Operating Cell Temperature, Irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20℃, wind speed 1 m/s

Mechanical Data

Cell Type	Mono-crystalline 156 x 156mm, 2 or 3 Busbars
Cell Arrangement	60 (6 x 10)
Dimensions	1638 x 982 x 40mm (64.5 x 38.7 x 1.57in)
Weight	20kg (44.1 lbs)
Front Cover	3.2mm Tempered glass
Frame Material	Anodized aluminium alloy
J-BOX	IP65, 3 diodes
Cable	4mm²(IEC)/12AWG(UL), 1100mm
Connectors	MC4 or MC4 Comparable
Standard Packaging (Modules per Pallet)	24pcs
Module Pieces per container (40 ft. Container)	672pcs (40'HQ)

I-V Curves (CS6P-250M)



*Specifications included in this datasheet are subject to change without prior notice.

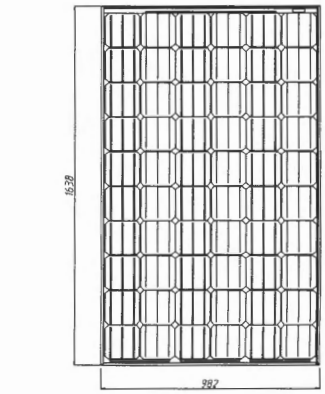
Temperature Characteristics

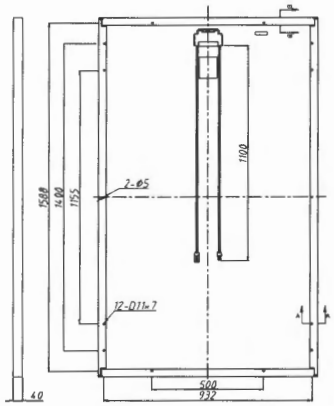
Temperature Coefficient	Pmax	-0.45%/℃
	Voc	-0.35 %/℃
	Isc	0.060 %/℃
Normal Operating Cell Temperature		45±2℃

Performance at Low Irradiance

Industry leading performance at low irradiation environment, +95.5% module efficiency from an irradiance of 1000w/m² to 200w/m² (AM 1.5, 25℃)

Engineering Drawings





About Canadian Solar

Canadian Solar Inc. is one of the world's largest solar companies. As a leading vertically-integrated manufacturer of ingots, wafers, cells, solar modules and solar systems. Canadian Solar delivers solar power products of uncompromising quality to worldwide customers. Canadian Solar's world class team of professionals works closely with our customers to provide them with solutions for all their solar needs.

Canadian Solar was founded in Canada in 2001 and was successfully listed on NASDAQ Exchange (symbol: CSIQ) in November 2006. Canadian Solar has already expanded its module manufacturing capacity to 2.05GW and cell manufacturing capacity to 1.3GW in 2011.

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Tel: +1-519-954-2057
Fax: +1-519-578-2097
inquire.ca@canadiansolar.com
www.canadiansolar.com

CITY OF PORTLAND, MAINE
HISTORIC PRESERVATION BOARD

July 20, 2012

Todd Alexander
3 Carroll Street
Portland, Maine 04102

Re: Approval of solar panel installation; 3 Carroll Street

Dear Mr. Alexander:

This office has reviewed and approved your request to install an array of solar panels on the roof of your residence at 3 Carroll Street. Approval is based on the revised proposal submitted on 7/19/12, which eliminates the three panels closest to the front façade of the building. It is understood that the panels will be installed 6 inches off the roof and at a 12 degree angle.

All improvements shall be carried out as shown on the plans and specifications submitted on 7/19/12 and/or as described above. Changes to the approved plans and specifications and any additional work that may be undertaken must be reviewed and approved by this office prior to construction, alteration, or demolition. If, during the course of completing the approved work, conditions are encountered which prevent completing the approved work, or which require additional or alternative work, you must apply for and receive a Certificate of Appropriateness or Non-Applicability PRIOR to undertaking additional or alternative work.

This Certificate is granted upon condition that the work authorized herein is commenced within twelve (12) months after the date is issuance. If the work authorized by this Certificate is not commenced within twelve (12) months after the date of issuance or if such work is suspended in significant part for a period of one year after the time the work is commenced, such Certificate shall expire and be of no further effect; provided that, for cause, one or more extensions of time for periods not exceeding ninety (90) days each may be allowed in writing by the Department.

Sincerely,

Deborah Andrews
Historic Preservation Program Manager

Cc: Will Kessler, Revision Energy

From: Todd Alexander <toddmalexander@gmail.com>
To: Jennifer Hatch <jen@revisionenergy.com>
CC: Brad Saucier <BJS@portlandmaine.gov>, Catherine Alexander <calexander@un...
Date: 10/4/2012 11:42 AM
Subject: Re: 3 Carroll Street permit
Attachments: certificate of appropriateness_solar panels.pdf

Please find attached the cert of appropriateness already issued by Deb.

On Thu, Oct 4, 2012 at 10:14 AM, Jennifer Hatch <jen@revisionenergy.com>wrote:

> Brad,
>
> I am told the homeowners have a certificate of appropriateness from the
> Historic District for this project. I am assuming it means it's been
> approved - please verify if that is the case.
>
> For the payment of $50 - expiration date is 07/14 and 3 digit security is
> 252.
>
> I look forward to hearing from you.
>
> Best,
>
> Jennifer Hatch
> ReVision Energy
> 142 Presumpscot St
> Portland, ME 04103
> (207) 221-6342
> www.revisionenergy.com
>
> *The future depends on what we do in the present ~ Gandhi*
> On 10/4/2012 9:19 AM, Brad Saucier wrote:
>
> Hi, as I stated on my voice mail, this property is located within the
> historic district and we need more info, please see attached (what is MOST
> important is the pictures and other relevant info on the list). We will
> also need an additional $50 for the Historical review. I have your credit
> card number, but our system does NOT provide us your expiration date and/or
> the security code on the back. If it's more convenient you can provide
> that info (on the phone or respond to this e-mail.)
>
> Once I receive the fee and other data, I can forward this on.
>
>
>
>
>
> *Brad Saucier*
> Administrative Assistant
> Inspections Division
> City of Portland
> (207) 874-8703
>
>
>

--
Todd M. Alexander
207 749-7257

Brad Saucier - Fwd: Re: 3 Carroll Street permit

From: Deb Andrews
To: Brad Saucier
Date: 10/4/2012 11:33 AM
Subject: Fwd: Re: 3 Carroll Street permit

Brad:

The contractor ran the proposal by me with drawings, but never submitted a formal application. They will need to pay the $50 HP fee and I will need to confirm that the final plans conform to what I informally approved.

Deb

>>> Brad Saucier 10/4/2012 10:25 AM >>>
Deb, this permit came in for installing solar panels on the roof of 3 Carroll street (which is in historic district.) Can you shed some light on this...

Brad Saucier
Administrative Assistant
Inspections Division
City of Portland
(207) 874-8703