



Efficiency Works Homes Rebate and Retrofit Program 2024 service provider guide

Platte River Power Authority
Estes Park Power and Communications
Fort Collins Utilities
Longmont Power & Communications
Loveland Water and Power

Overview

This service provider guide outlines the standards and expectations for service providers who want to participate in Platte River Power Authority's Efficiency Works Homes program.

We want service providers who are interested in continuing to grow the residential energy-efficiency market in northern Colorado and have demonstrated commitment to that goal.

A high level of cooperation and communication is expected of participating service providers, including workforce-development opportunities, trainings and leads generated through the Programs.

Please note: Efficiency Works also provides services for local businesses. Please visit EfficiencyWorks.org/Business for more information on commercial programs.

Contact information

Program administrator/sponsor

General program information

Efficiency Works

1-877-981-1888 (toll-free)

1-970-229-5650 (local)

Website: efficiencyworks.org

Email: Homes@EfficiencyWorks.org

Table of contents

About the Efficiency Works Rebate and Retrofit Program	5
Service provider requirements	5
Service provider application and agreement.....	6
Service provider orientation and training	7
Minimum training requirement.....	7
Service provider status.....	7
Performance tiers	8
Report cards.....	8
Service provider score.....	9
Ways to earn or lose points.....	9
Falling under the minimum score	10
Suspension from the Program (one-year minimum).....	10
Service provider certification and quality-control process.....	11
Program installation standards.....	11
Combustion safety testing	12
Program documentation requirements.....	12
Applying for rebates	12
File naming convention	14
Opportunity to use rebate to discount projects up-front	14
Service provider referral process and response time requirements.....	15
Invoices and rebates	16
Professionalism guidelines and contact with customers	16
Streamlined overview	17
Home performance service providers	19
Health and safety	19

About the Efficiency Works Rebate and Retrofit Program

The Efficiency Works Rebate and Retrofit Program (or the “Program”) is a joint utility program to support efficiency in Northern Colorado. Developed as a partnership between Platte River Power Authority and the utilities of its owner municipalities—Estes Park, Fort Collins, Longmont and Loveland—Efficiency Works unites all five utilities’ efficiency offerings under one Program.

The Efficiency Works Rebate and Retrofit Program has the following goals:

- Provide utility customers with a simple, timely and effective process for making home improvements that save energy and water and improve comfort, health and safety
- Maintain a high commitment to installation standards based on quality, best practices and building science
- Provide the customer with accurate, unbiased information to help them select energy- and water-improvement measures and choose service providers that will best meet their needs
- Provide utilities with cost-effective electricity savings
- Ensure that utility rebate funding is effectively utilized by confirming that service provider work meets Program standards
- Offer or inform the customer of financing options available from the utility or local financial institutions, in addition to rebates

Rebate and Retrofit program participants may receive a home efficiency assessment from an Efficiency Works advisor. The Efficiency Works advisor also provides assistance with:

- Understanding and prioritizing energy efficiency upgrades
- Facilitating service provider bidding
- Partnering with service providers to drive conversions for upgrades
- Promoting and discussing available rebates, financing and other incentives
- Assessments are required for Insulation and Air Sealing and Window/Sliding glass door measures. HVAC rebates are available to customers without an assessment.

Service provider requirements

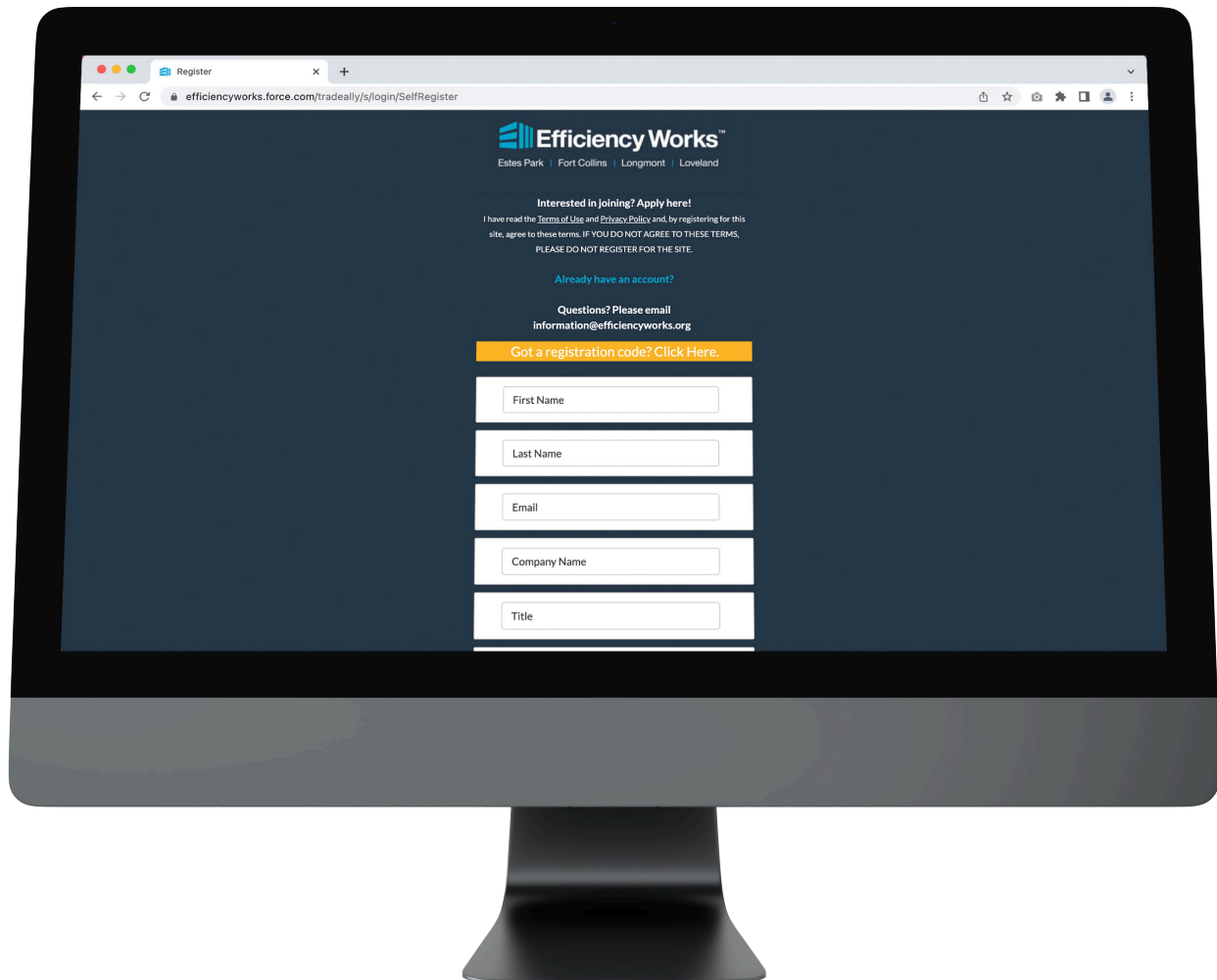
The following elements are required for all service providers. While only a few of these will be stored in the Trade Ally Connect (TAC) platform, all of these are to be maintained as we have the right to request them at any time:

- Service provider licenses (if applicable)
- Current W9 (required in TAC)
- EPA lead-safe certification (for window and insulation service providers)
- Proof of general liability insurance with Platte River Power Authority named (required in TAC)
- Certificate of good standing from Colorado Secretary of State
- Certificate of workman’s comp
- Signed service provider agreement (digital signature required in TAC)
- Program orientation & rebate processing training
- Trade-specific technical training

Service provider application and agreement

The first step in the process of joining the Efficiency Works Rebate and Retrofit Program service provider pool is to set up a profile in our service provider portal (Trade Ally) using the following link:

efficiencyworks.force.com/tradeally/s/login/SelfRegister



By entering in the required information, you receive a customized landing page that displays your company's website, contact info, services provided, territories covered, etc. The portal will also present you with our service provider agreement for you to sign.

Once you have completed your profile setup, the system will contact our team to let us know that you are wanting to join the Program. At this point, we will reach out to you to discuss your next steps of orientation and technical training.

Service provider orientation and training

- All service providers entering the service provider pool must attend an orientation session with the Program manager or technical consultant and watch our Orientation/Rebate Application training videos.
- All service providers must have appropriate team members attend an Efficiency Works Rebate and Retrofit Program training with the Program manager or technical consultant
- Until both requirements are met, no rebates will be available to the service provider and the service provider's status will be "Enrolled – Not Selected Tier" and will not be displayed on the Efficiency Works website.

Once service providers have completed all of the enrollment requirements their organization will be listed on our website.

Minimum training requirement

- All service providers are required to attend at least one training annually.
- This can include a classic technical training in the field or a staff/program overview with the Program Manager.
- This requirement allows the program to stay up to speed on trained staff and inform about upcoming program changes.

Service provider status

Within the Efficiency Works Rebate and Retrofit Program, service providers may change statuses depending on their performance, minimum work requirements, or preference when they are unable to take on more Program leads.

The service provider statuses are defined here:

In review:

Service provider has started the process of getting all the Program's requirements completed.

Approved - Listed:

- Has successfully signed the Efficiency Works agreement
- Has provided required insurance documentation
- Has completed technical training and orientation
- Listed on the Efficiency Works website

Delisted/Unapproved:

- Was removed from the Program through an official letter. The possible reasons for removal include not meeting the minimum work requirement, not meeting technical standards, not meeting professional expectations, or the service provider requesting to be removed.

Approved - Delisted:

- Service provider is busy and doesn't want new leads
- Service provider does not have updated required paperwork

Performance tiers

Performance tiers

All new service providers are started on the Regular Tier

Regular tier:

- Service provider maintains “Approved” status
- Company name will always be lower on the list on the website.
- Rebates can be processed
- Meets minimum work requirement (1 job per quarter)

Premium tier:

- Service provider maintains “Approved” status
- Retrofit leads are sent to service provider when applicable
- Rebates can be processed
- Meets minimum work requirement (1 job/month)
 - Window service providers get an exception to the Minimum Work Requirement. They are only required to complete 9 jobs/year to maintain Tier 1 status.
- The company’s name will be listed higher on the website compared to service providers classified under the Regular Tier.

Report cards

Service providers receive a monthly report card that reflects relevant data regarding the jobs they have completed since they joined the Program, quality-control inspections and rebate-application statuses, among other metrics. The content of the reports will be year to date for the current year with the exception of service provider score.

Service provider score

The service provider score will provide feedback to the Program on service provider strengths and weaknesses and who is providing the best services. The scoring system is a reflection of the quality of work and customer-service satisfaction scores.

All service providers in the Program will maintain a running service-provider score. This scoring system evaluates service providers based on:

- Inspection results reported by the technical team
- Feedback received from homeowners and advisors
- Responsiveness to various requests (bids, scheduling visits, invoices and other forms, etc.)
- The quality of required forms (commissioning sheets, photo docs, etc.)

All new service providers will begin with a score of 100 points that will be tracked in our system and reported to them at the end of each quarter in their report card.

Under this system, service providers have the ability to improve their overall quality. If the work requires corrective action, we can provide them with training and guidance to comply with the Program standards. Service providers will be required to maintain a minimum service provider score of 70 to remain in good standing in the Program. The score does not impact tier status but will be used as part of the customer-facing facets of the Program—such as the website—to allow companies to differentiate themselves.

Ways to earn or lose points

Insulation and air sealing example:

The quality-control agent completes an inspection and finds three items that are not up to Program standards:

- No attic card (-1)
- Knee-wall insulation not fully encapsulated (-2)
- Attic insulation not up to the level specified in the invoice/on the attic card (-2)

This example would result in the service provider losing 5 points overall.

Example:

The quality-control agent completes an inspection and finds two items that are not up to Program standards.

- No insulation attic card (-1)
- Knee-wall insulation not fully encapsulated (-2)
- Customer provides positive feedback about the service provider (+5)

This would result in the service provider gaining 2 points overall.

Any change in service provider score will be automatically emailed to the company contact.

Maximum allowable score is 130 points.

Falling under the minimum score

When a service provider's score gets below 70 points, the participation status will be changed to Active - Delisted. This means that the company will be taken off the website, and no leads will be sent through the Program. However, service providers in this position may process rebates for any existing jobs in-progress.

In order to bring back a Delisted/Unapproved service provider to the Approved - Listed status, an improvement plan is facilitated by the Program manager or technical consultant in collaboration with the impacted company. This plan will have to be completed within 60 days of being issued. Refer to **Appendix L** to see the template for an example of the improvement plan. This appendix is a template that may be customized according to what the specific service provider will need to return to Approved - Listed status. Service providers in the Approved - Delisted status due to falling under minimum score are not subject to the minimum work requirement.

In some cases, the improvement plan may include quality-control inspections that must result in no correction notices in addition to photo documentation of completed work.

Failure to complete the improvement plan with the Efficiency Works Rebate and Retrofit Program will result in removal from the Program and the participation status will be changed to Delisted/Unapproved.

Suspension from the Program (one-year minimum)

Service providers who fail to maintain either Tier 1 Status or Tier 2 Status will be removed from the pool. Any remaining jobs under contract with the suspended/terminated company shall be completed by the service provider under the supervision of Program management. If a suspended/terminated service provider wants to re-enter the Program, they would need to provide evidence that the previous problems have been corrected and develop a Program-approved improvement plan (**Appendix L**).

The Efficiency Works Rebate and Retrofit Program mentors and trains service providers to promote high-quality work and an excellent customer experience. To protect the reputation of the Program, suspension can occur based on any occurrences of service providers not meeting the criteria outlined in this Participant Guide and in the Participation Agreement. Examples include, but are not limited to, the following:

- Repeated failure to meet Program standards
- One or more field-inspection failures in especially egregious circumstances or if a serious health/safety issue is created
- Repeated customer complaints related to customer service and professionalism
- Failure to address homeowner complaints
- Failure to respond in a timely manner to requests for information from homeowners and Efficiency Works Program personnel (two business days)
 - Each service provider shall designate a primary contact for Platte River Power Authority to reach regarding homeowner complaints, quality-control results, and time-sensitive Program information.
- Repeated failure to submit paperwork within the time frames outlined in this guide
- An egregious interaction with a customer or Program staff

Service provider certification and quality-control process

Efficiency Works requires that all service providers complete required Program trainings and mentoring sessions. An overview of Program mentoring requirements is attached in **Appendix G**.

Efficiency Works performs Mentoring Improvement Verifications (MIVs) and Post-Improvement Verification (PIVs) inspections on a sampling of all work performed where a rebate application has been submitted. Service providers are expected to perform work to municipal-building code and the Efficiency Works Rebate and Retrofit Program installation standards. Each service provider will have a minimum of one MIV session to assess the company's command of the Program's Installation Standards when joining the program. When corrections are identified, a corrections notice will be sent to the company contact. The service provider has five business days (or at the homeowner's convenience) to remedy any issues that were identified. All corrections shall be recorded with the appropriate photo documentation that should be submitted to the quality-control agent.

Program installation standards

Service providers who wish to participate in the Efficiency Works Rebate and Retrofit Program are expected to complete all upgrades using the Program standards outlined in this guide. The Program standards are attached in **Appendix A: Installation Standards**.

In addition, all work must be completed to meet all OSHA safety standards, all applicable building codes and manufacturer installation standards. It is the provider's responsibility to know which version of the International Energy Conservation Code applies to the home they are working on. All required permits for work completed in the Program must be pulled prior to the work being completed.

Where Program standards require combustion-safety testing, such tests should be performed in compliance with the process outlined in **Appendix B: Combustion safety testing process**.

Combustion safety testing

All trades are required to provide combustion safety testing documentation (**Appendix F**) for all jobs in the Program. See **Appendix B** for more details. Exception: Window jobs are required to present **Appendix F - Windows Post-improvement carbon monoxide and ventilation disclosure**.

Appendix F – Windows Post-improvement carbon monoxide and ventilation disclosure

Program standards require the commissioning of all AC units, ductless mini splits, and split system heat pumps. Commissioning forms must accompany all rebate applications. Please reference the electronically fillable forms below:

- **Appendix E - Residential AC and heat pumps commissioning form**
- **Appendix E2 - Ductless mini split CX form**

The **Post-improvement carbon monoxide and ventilation disclosure** can be found in **Appendix F**. This disclosure is **required for every job** in the Program regardless of whether a combustion test was required.

Program documentation requirements

In order to be eligible for rebates, all trades in the Program have their own quality-control documentation process. That process is outlined below:

- HVAC service providers must take photo documentation and fill out commissioning forms for heat pumps, ductless mini splits and AC units.
- Window service providers must take photo documentation of their installs and provide window specifications.
- Insulation and air-sealing service providers must take photo documentation of each measure before and after.

Applying for rebates

Service providers will have **two steps** to complete the rebate application.

1. Have the customer sign the appropriate documents from the **Customer Rebate Folder**. This includes the following documents:
 - a. Letter from the Program Manager:** This is a letter from the Program Manager to the customer explaining the purpose of the documentation in the folder.
 - b. Terms and Conditions:** This is our legal document that must be signed for the customer to receive any rebates.
 - c. Certificate of Completion:** This is a document that is signed by the customer at the completion of the work. By signing this, the customer agrees that the work has been completed. This also indicates how much of a rebate the work is eligible for and who will be receiving the money. The three different parties that can receive rebates are homeowners, landlords, and service providers.
 - d. Appendix F – Efficiency Works Rebate and Retrofit Program post-improvement carbon monoxide and ventilation disclosure:** This is required for all homeowners as it clearly states any possible dangers that might exist from any combustion appliances such as their hot-water heater with regards to carbon-monoxide.

2. The next step involves logging into your **Service Provider portal**. Once in your portal, click on “**My Rebates**” on the right side of the screen. This will take you to your rebates that are already in the system as well as let you enter a new rebate.

Rebate training videos

We have created online training videos for all of our trades regarding how to apply for rebates at the following links:

HVAC rebate example

<https://vimeo.com/896341728>

Windows rebate example

<https://vimeo.com/581865419>

Insulation and air sealing rebate example

<https://vimeo.com/581863921>

Contractor takes rebate example

<https://vimeo.com/581861301>

AC in cold weather rebate example

<https://vimeo.com/581861590>

Landlord gets check rebate example

<https://vimeo.com/581866603>

Rebate folder explained

<https://vimeo.com/585118447>

HVAC specialty videos

How to Use the Flow Plate

How to Measure Static Pressure

<https://vimeo.com/album/5061174>

Password: HVACROCKS1

How to fill out the Certificate of Completion

<https://vimeo.com/896669790>

How to apply for the Unmatched Heat Pump rebate

<https://vimeo.com/896340484>

EW Combustion Safety Test Summary Steps

<https://vimeo.com/896693313>

Setting up Worst Case Depressurization

<https://vimeo.com/896711935>

EW Combustion Safety Protocol

<https://vimeo.com/896707435>

In addition to the online training videos you should also take advantage of **Appendix K**, as it was created to show screenshots of the rebate application process.

Appendix K – Rebate application procedure

Appendix C - Rebate checklist – provide a documentation summary for qualifying rebate.

Applying for AC/HP rebates during cold weather - HVAC Service Providers

Please remember that if you install a furnace with AC/HP in cold weather, you will need to submit all the paperwork for the entire system with the exception of the AC/HP commissioning form. You simply choose “Yes” for the question: “Does the system need to be commissioned at a later date?” This tells our team that both the furnace and AC/HP was installed and that you will be following up with the commissioning form as soon as the weather turns warm again.

Our team will review the AC/HP rebate, which will kick off an email to the customer and the service provider explaining what is happening. The email will state that the AC/HP is waiting on commissioning. We then rebuild your AC rebate in the system, so it’s a standalone measure that is ready to submit except the missing

commissioning form (**Appendix E**). This project will be set to the “Waiting on Commissioning”. When you finally get around to commissioning the unit, you attach **Appendix E** and then submit.

Cold weather commissioning for AC and heat pumps is now allowed using the Appendix E Commissioning form. If you have any questions related to how this works reach out to homes@efficiencyworks.org.

Rebate application time frame

Submit your rebate paperwork after the work is finished. **We have a 45-day grace period after the work is done before we expect to see your rebate application.** This 45 day timer begins based on the date the Certificate of Completion was signed. However, if you wanted to be proactive and help make sure your customer gets their rebate quickly you are encouraged to submit this information immediately after the work is completed. If the rebate application is more than 45 days past the work completion date, a deduction will be applied to the service provider’s contractor score.

Once rebates are received, they are processed in a two week timeline. If there are any issues with your application, it will be sent back to you with a message explaining how to correct the application. Once a rebate has been approved, an email stating that fact along with how much money has been rewarded will be sent to the customer and the service provider for a paper trail. This process will keep the customer informed as to what is happening with their rebate funds.

File naming convention

When sending in rebates please make sure to include the address in the file name. In addition, please include the name of document that you are attaching. For example, if the document is a Furnace Commissioning form and the customer is at 123 First Street, City then please use:

- 123 First Street - City - AC/HP Commissioning.PDF
- 123 First Street - City - Appendix F.PDF
- 123 First Street - City - Manual J.PDF
- 123 First Street - City - Invoice.PDF

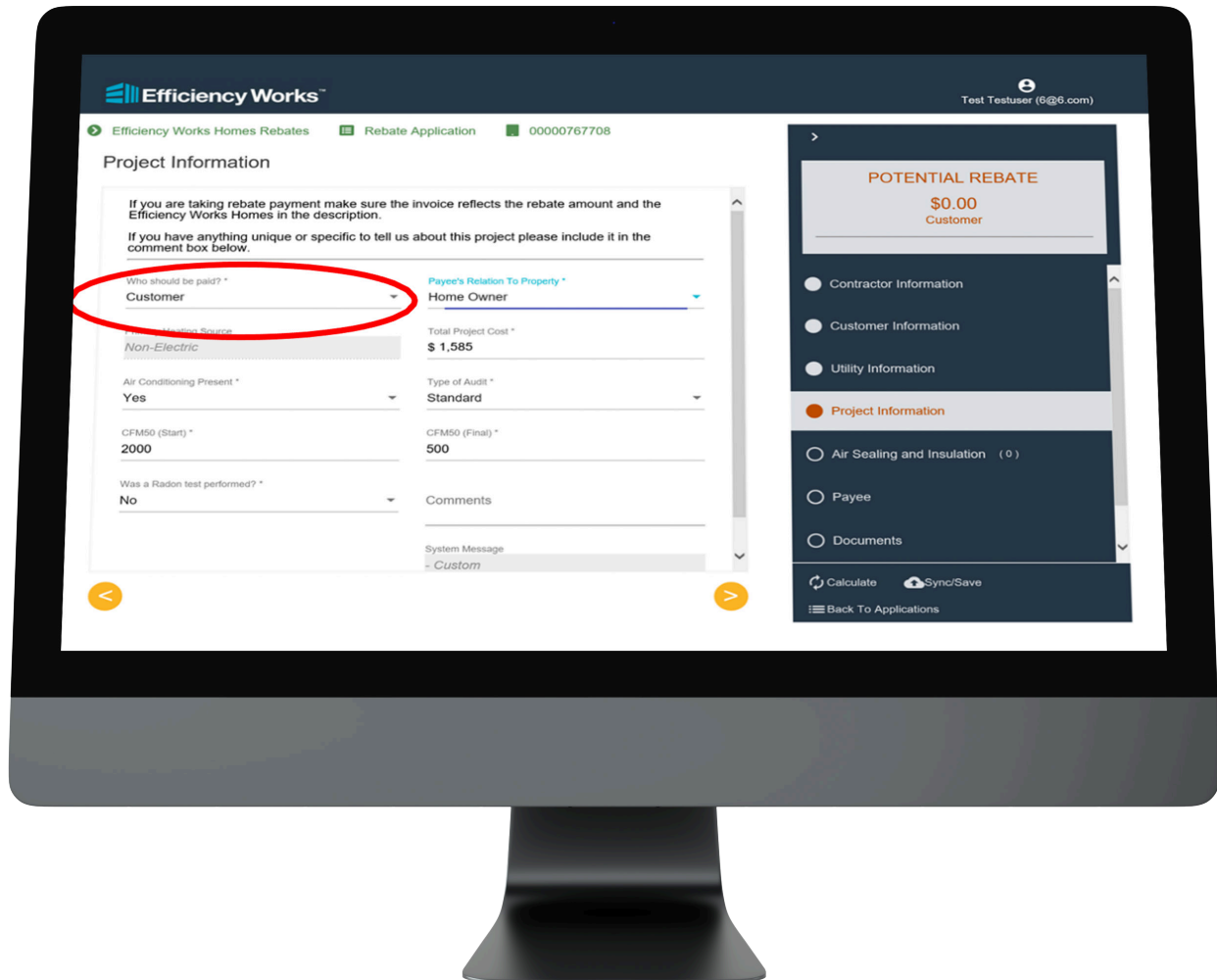
Opportunity to use rebate to discount projects up-front

Efficiency Works Rebate and Retrofit Program provides service providers with the option to present customers with an up-front discount by allowing them to accept the Efficiency Works rebate as payment.

Example:

Before: *“The project will cost \$5,000 out of pocket, and you can apply and wait for a \$500 rebate.”*

After: *“The project will cost \$5,000, but rather than make you wait on the \$500 rebate, we are going to discount your out-of-pocket cost down to \$4,500, and we will wait on the rebate and accept it as payment.”*



There is an option in the **Project Information** section of the online rebate application that allows you to select who gets paid. By selecting service provider, you are stating, “I wish to accept the rebates as partial payment for the completed work, and I have provided the customer with a discount equal to the total rebate amount on the final invoice.” **If you wish to take the rebate, include it as a line item on the invoice as a Discount for the Efficiency Works Rebate and Retrofit Program rebate. See Appendix K to learn how to do this process.**

Service provider referral process and response time requirements

The most common method that efficiency advisors use to communicate a request for service provider bidding will be email referrals containing the customer’s contact information and information about the home.

When an advisor provides an email customer referral to a service provider, the following timeline will be strictly enforced:

- Service provider must contact the customer to schedule an estimate meeting within two business days (48 hours) of receiving the customer referral email.
- **Decision not to bid:** If a service provider receives a customer referral email and the service provider does not wish to bid the project, the service provider must notify the advisor within one business day **(24 hours)** of receiving the customer referral email
- Following an on-site estimate meeting, providers must provide a written estimate to the customer **within five business days of the visit to the customer's house**
- **Decision not to bid after visit:** If a provider visits a home for an estimate meeting and determines that they do not wish to bid the project, the provider must notify the advisor within one business day **(24 hours)** of the visit to the customer's house

Some customers prefer to contact service provider companies directly without their Efficiency Works advisor sending a referral. When a homeowner informs their Energy Advisor of their decision to contact service providers directly, the Efficiency Works advisor will ask the homeowner to notify companies that they are in the Efficiency Works Program. However, the Efficiency Works advisor cannot guarantee that homeowners will follow through. To ensure that rebate Program requirements are met for all Efficiency Works projects, ***it is the responsibility of the service provider to determine whether the customer is participating in the Efficiency Works Rebate and Retrofit Program.***

Invoices and rebates

Any time a service provider sells a job that qualifies for rebates it should be clearly stated on the invoice. This includes using the Efficiency Works program name, the measure name, and total rebate amount.

Professionalism guidelines and contact with customers

High standards of professionalism are necessary to maintain your good reputation in the community, and we encourage you to strive for the best in customer service. Efficiency Works Rebate and Retrofit Program and its partner utilities rely heavily upon positive word of mouth for marketing. Our goal is to ensure that clients are completely satisfied with their experience, including their interactions with participating service providers. It is expected that service providers will handle all interactions with Efficiency Works clients with the utmost respect and professionalism. Efficiency Works Rebate and Retrofit Program reserves the right to remove a service provider from the participating service provider pool based upon repeated customer complaints related to customer service or professionalism.

The Program has established the following general guidelines for service providers:

- Respect the customer's time and be prompt for all appointments. If you expect to be more than a few minutes late, call the customer ***before the appointment time*** and let them know that you're running late and when you expect to be there.
- Follow through on your commitments to customers, including providing estimates in a timely manner.
- Educate all company customer service representatives to provide accurate information to customers about Efficiency Works. The person answering the phone needs to know about the Program for which you are providing service.

- Respect the customer’s home and follow all rules of the house (i.e. taking off shoes, not parking in the driveway).
- If you make a mess of any kind, clean it up before leaving the job site.

Streamlined overview

Streamlined projects were integrated into the Efficiency Works Rebate and Retrofit Program in 2017. It is the result of a pilot Program in 2016 whose goal was to help customers complete more comprehensive Insulation and Air Sealing jobs while providing them turnkey service. Service providers must meet additional eligibility requirements that go beyond the basic eligibility requirements of the Efficiency Works Rebate and Retrofit Program. There are also additional installation standards that go beyond the basic Program standards. A Efficiency Works advisor is responsible for the energy assessment and the sales consult with standardized pricing on most insulation and air-sealing measures. **Refer to Appendix M and N in this guide for more details of this optional pathway.** Streamlined projects only address Insulation and Air Sealing measures.

Requirements for service providers participating in Streamlined projects

To participate in Streamlined projects as an Efficiency Works’s service provider, contact the Program manager to see if you qualify.

A Streamlined Service Provider (SSP) is the participating Streamlined Service provider. The Program Administrator is Platte River Power Authority.

1. Nature of streamlined projects

Efficiency Works has developed standardized prices for completing some of the individual measures required to create packages of home efficiency projects based on a home’s characteristics and the wishes and needs of individual homeowners (“Package”). Each measure will have standardized pricing per square foot (or applicable unit of measure) that can be relied upon in representing costs for all projects, (“Unit Price”). The Unit Price shall include all:

- Costs
- Labor
- Benefits
- Materials
- Equipment
- Transportation
- Storage
- Overhead
- Applicable federal, state, and local taxes
- Other expenses and profit margins associated with performing that home-improvement component

2. Streamlined projects workflow

The Efficiency Works advisor will be responsible for initiating all Streamlined Projects. The Efficiency Works advisor will also assign individual Streamlined Projects to SSPs based on their qualifications to meet the specific goals of individual Streamlined customers and their spot in the rotation. If the customer specifically requests a certain energy-efficiency service provider that is participating in the Program, it is at the discretion of Platte River Power Authority and the Program manager whether to meet that request. Within two business days of receiving such assignment from the Efficiency Works advisor, the SSP shall notify the Efficiency Works advisor of its decision to accept or opt out of the specific project. Failure to respond to the Efficiency Works advisor within two business days shall be deemed a rejection of that project. If SSP opts out of a Streamlined Project either directly or a failure to respond to the bid request, the Efficiency Works advisor shall assign the project to another streamlined service provider. The SSP understands and agrees that specific Streamlined Projects will be undertaken at the request of interested residential homeowners and that Platte River Power Authority will use its best efforts to match individual streamlined service providers to suitable Streamlined Projects. Platte River is not obligated to assign any projects to every SSP.

3. Customer contracts

Upon accepting a Streamlined Project assigned by the Efficiency Works advisor, SSP shall provide an official “Customer Proposal” to the Efficiency Works advisor. This proposal shall include, at a minimum, the description and scope of the home-efficiency project, the unit prices at the agreed-upon rate in Appendix N, the line-item price of each measure, and the total package price for all measures for such project with a line-item package discount equal to the calculated sum of all energy-efficiency rebates for all qualifying measures in the Package, as well as SSP’s standard terms and conditions.

4. Streamlined pricing

Service providers who are accepted into Streamlined projects will be provided with a complete version of Appendix N that includes the latest pricing.

5. Streamlined projects installation standards

In performing streamlined projects, SSP shall comply with the Efficiency Works streamlined project installation standards and pricing contained within and attached hereto as **Appendix N** and incorporated herein by reference (“Efficiency Works Homes-SP Standards”). When no EW- SP Standard applies to a specific measure, streamlined projects shall be completed in accordance with the Efficiency Works Rebate and Retrofit Program installation standards described in the Service Provider Guide attached to and incorporated in the agreement. The EW-SP Standards are subject to review and revision by Platte River, who shall seek feedback and comment on existing Efficiency Works Homes standards and potential revisions to the same from SSP. Any deviation from the applicable standards shall be clearly documented by SSP through photographs and a detailed description. Platte River has the authority to approve any deviations.

6. Certificate of completion, invoice, and billing

Upon completion of a streamlined project, SSP shall provide the customer with a Certificate of Completion. SSP shall obtain the customer’s signature on the Certificate of Completion acknowledging the work has been performed as described. Once the Certificate of Completion is signed by the customer, you shall provide a final invoice to the customer. The customer shall remain solely responsible for payment of all amounts due to the SSP who agrees not to seek payment from Platte River Power Authority, its member municipalities, and the Program administrator for all unpaid customer contracts.

Notwithstanding the foregoing, Platte River Power Authority agrees to coordinate with the SSP on a case-by-case basis in order to arrive at an agreed-upon resolution for any substantial oversights or unanticipated conditions related to energy-efficiency measures and not reflected in the SSP work order created by the Efficiency Works advisor.

Home performance service providers

The Efficiency Works Rebate and Retrofit program allows assessments to be offered by service providers who have the required tools and have met our training requirements. Service providers who meet this designation will be referred to as Home Performance (HP) service providers.

Home Performance Service Provider Eligibility:

- Must be actively participating in the program and in good standing
- Must attend training for assessment orientation and template evaluation
- Technician conducting assessment must be BPI or RESNET certified
- Must acquire all customers via internal marketing as the program will not send assessment leads to HP service providers

Assessment Expectations:

- SNUGGPro is required for the assessment
- If not using Efficiency Works assessment template - you must attach our rebate summary document to the customer report, so they are aware of the offerings
- Customer must sign Efficiency Works Assessment Terms and Conditions
- The assessment must be fair to the customer and the program, meaning that whatever is wrong with the home is the focus of the assessment, not the specific specialty of the service provider
- Optional: Home Energy Score (HES) is desired in Fort Collins

Quality Control:

- Efficiency Works Quality Control staff will shadow the first job to make sure the expected process is in place
- First five assessments will get 100% paper review prior to providing the report to the customer.

Home Performance Assessment Rebate Table

Measure	Customer	EW	Xcel
Assessment (Gas)	\$60	\$140	\$200
Assessment (Electric)	\$60	\$340	\$0
HES	\$0	\$75	\$0

To inquire about becoming a HP service provider - contact Homes@efficiencyworks.org.

Health and safety

The Efficiency Works Rebate and Retrofit Program works on existing homes across Northern Colorado. Due to the age of the homes participating, we occasionally run into health and safety concerns. According to Platte River Power Authority service provider Participation Agreement, “The service provider agrees to meet OSHA and department of labor requirements regarding personal protective equipment and safe work practices.” This means that it’s up to you to do safe work, and it is expected. Please read through these scenarios as many of them impact the eligibility of rebates.

The following sections address the Program's stance on different health-and-safety concerns. Some of this language is in our assessment report, and some of it is in signed paperwork with the customers.

Asbestos

"The presence of suspected non-rigid asbestos in the home disqualifies the home for all rebates, blower door tests, duct pressurization tests or any activity that will introduce asbestos particles into the living space. Non-rigid asbestos materials that can be a source of airborne asbestos if material can be disturbed by movement or air currents. Examples of non-rigid asbestos include, but are not limited to, vermiculite, boiler and pipe insulation, ceiling coatings, etc. Blower door tests shall not be conducted if asbestos is present or suspected. Vermiculite used as loose fill insulation should be presumed to contain asbestos.

To move forward after possible asbestos is identified:

- The customer must either produce qualified lab test results showing that the home does not have asbestos

or

- A qualified remediation service provider must remediate the asbestos to meet industry standards and provide proof that the work is complete.

or

- If the planned work will not disturb the area with possible asbestos, then the work can move forward. This approach follows the Federal Weatherization Program's model.

Mold

"According to the EPA, any mold area less than 10 square feet is considered the lowest level of contamination and can be handled by the customer. When you get over this amount, expert service providers are recommended.

<https://www.epa.gov/mold/mold-cleanup-your-home> <https://www.epa.gov/mold/mold-course-chapter-6>

When a mold-like substance is found to be present in an area of the home and it exceeds an area greater than 10 square feet, the blower door test shall NOT be done. Air sealing and insulation work may not be installed until one of the following conditions have been met:

1. A certified mold abatement professional has remediated the mold and has attested to its remediation in writing.
2. A certified mold abatement professional has determined that the substance is not mold and does not need to be remediated and has attested to this determination in writing.
3. If the area of suspected mold-like substance is less than 10 square feet, the homeowner should be informed and directed to consult the EPA's "A Brief Guide to Mold, Moisture, and Your Home."

Consider radon testing

Radon typically occurs near mountainous regions, and Colorado has one of the highest radon danger designations in the United States.

Test for lead

Your home may also contain lead paint. Lead was used in paint until the late 1970s. Test for lead before insulating, air sealing, or renovating. If lead is found, your service provider may have additional requirements to perform your work.

Knob and tube wiring

Due to its age (pre-1950), your home may have knob-and-tube wiring. This is a potential fire hazard due to its age, improper modifications, and insulation covering the wires. In addition, knob and tube has no ground wire and cannot service three-pronged appliances (which violates modern electrical codes). If the wiring has never been upgraded, it will need to be replaced.

To move forward after knob and tube wiring is identified:

- Work with a licensed electrician to verify that it is not energized before air sealing or insulating.
- Once a licensed electrician has signed off (on their business letterhead) that the knob and tube is no longer energized, the work may proceed.

Chemical sensitivity

“Disclaimer: This assessment/report does not offer medical advice or establish if a home is “safe to occupy.” If you have any health condition that represents a compromised immune system, chemical sensitivities, or any similar issue, you should seek expert medical advice about the impacts of altering your home and what products should be used.

Appendix A: Installation standards

Effective 1/1/2024

General notes

- An Efficiency Works Energy Assessment required as prerequisite for all jobs (Exceptions: Windows can be installed pre-assessment & HVAC jobs do not require an assessment).
- To participate in the Efficiency Works Rebate and Retrofit Program (EWR), service providers must apply for inclusion, and pass the applicable training requirements.
- Do-It-Yourself installation will not qualify for incentives.
- The information in this matrix is subject to change. Platte River Power Authority (PRPA) will provide thirty (30) days' notice of any changes in installation standards.
- All efficiency measures must be installed per the manufacturer's installation instructions, industry standards, and all applicable federal, state, and local codes and regulations.
- Where possible, all insulation measures must meet the R-value requirements prescribed by the IECC version adopted in each Authority Having Jurisdiction (AHJ).
- Refer to the Appendix H - EWR Program Rebate Matrix for incentive summary.
- Homes participating in the Efficiency Works Program are evaluated for tightness and whole house controlled mechanical ventilation rates using ASHRAE 62.2-2013. The initial tightness is reported in the Assessment Report and the Homeowner is provided a post-improvement disclosure acknowledging the potential need for controlled mechanical ventilation.
- Where any building envelope improvement measures (attic insulation, frame wall insulation, window replacement, etc.) are undertaken, the corresponding building component(s) must be durably air sealed.
- Where required, combustion safety testing must be performed the day of the completion of improvements.

Air sealing

Existing conditions

- Initial blower door test: ACH50 = 3.0 or greater.

Installation standards

Attic to living space air sealing:

1. In order to qualify for rebates, efforts must be taken to air seal significant leaks and bypasses that allow connection between the outside and living space. Areas to air seal may include bypasses around chimneys, drop soffits, shower inserts or other large penetrations; interior and exterior wall top plates; and plumbing and wiring penetrations.
2. Use approved high temp sealant around heat sources like B-vents, fireplaces and chimneys, and make sure they maintain the required clearance to combustibles.

Minimum shell leakage (CFM50) reduction of:

- 15% reduction to qualify for Tier 1 rebate
- 25% reduction to qualify for Tier 2 rebate
- 33% reduction to qualify for Tier 3 rebate
- 50% reduction to qualify for Tier 4 rebate
- **If the Combustion Safety Test fails under Worst Case Conditions**, the service provider is required to counsel the Homeowner about possible solutions.
- **If the Combustion Safety Tests fail under Natural Conditions**, the service provider is required to counsel the Homeowner on possible solutions and refer them to the list of participating HVAC service providers for further diagnostics and solutions. **No rebates will be approved for houses that have CAZ failures under Natural Conditions until those failures are remedied.**

Post-installation tests

- Combustion Safety Test required record results on Appendix F.
- Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement.

Field Manual Notes

- Need to fully educate customer on front end so they understand about house as a system, ventilation and combustion safety.
- Options to mitigate a **failed Combustion Safety Test** may include:
 1. Replace natural draft gas burning appliances with sealed combustion or electric equipment.
 2. Seal return air ducts and filter slot in CAZ.
 3. Re-line the old common B- vent.
 4. Add combustion air ducts.
 5. Obtain further diagnostics and solutions from an EW-H Participating HVAC service provider.
- Service provider to educate homeowner about these options.

Conditioned crawl space insulation

Existing conditions

- Service provider must inspect for proper grading, downspout leaders, moisture evidence on foundation walls, cracks in the foundation, and damp ground. **All moisture problems must be mitigated.**
- If any evidence of moisture intrusion having occurred at any time is present, (efflorescence on the foundation wall, cracked soil, mold, staining) the crawl space must be treated as having moisture present.
- Un-insulated or poorly installed insulation.
- If framed floor above is insulated with anything except closed cell foam, a vapor barrier which is attached to the cold side of the framed floor assembly is not allowed.

Installation standards

- All three elements (rim joist, foundation wall, and moisture/soil gas barrier) of a conditioned crawl space must be completed in order to qualify for a rebate. If any one of the elements already exists, it must meet EWR Installation Standards AND the other elements must be completed to EWR Installation Standards for a conditioned crawl space rebate.
- **Moisture/ soil gas barrier installation requirements:**
 1. Barrier must meet ASTM specs listed in Field Manual Notes Notes.
 2. Remove all debris and major ground surface irregularities.
 3. Cross laminated polyethylene barrier is required; the barrier must be sealed and mechanically fastened at least 12" up crawl space foundation wall or, in cases involving moisture, to the foundation plate (urethane caulk meets sealing and mechanical fastening requirements) [**Permthane Preferred**]. Seams must be overlapped 6" minimum and be sealed w/ approved tape or sealant.
 4. **If the foundation or soil in the crawl space is damp or shows evidence of moisture intrusion, the soil gas barrier must be extended up to and be sealed to the foundation plate to keep moisture out of wall insulation.** Provision must then be made for moisture under the barrier or in the foundation wall to be removed so covered areas can dry to the outside.
 - **Field stone foundation wall will need to be air sealed. (See Field Manual Notes Notes)**
 - **Insulate and air seal rim joists and foundation plate to R-value prescribed by the IECC as adopted by the Authority Having Jurisdiction (AHJ):**
 1. XPS foam board cut to fit, foamed-in place.
 2. Closed or open cell 2-part spray foam.
 - Foam insulation does not require thermal barrier on rim joist (per IRC), **but does require an ignition barrier** as outlined in 2012 IRC Section R316.5.4.
- **Insulate interior of foundation walls to R-value prescribed by the IECC as adopted by the AHJ:**
 1. **Perforated vinyl faced fiberglass blanket**
 - **Vinyl faced insulation blanket is NOT allowed if foundation or ground shows evidence of past or present moisture-** Unless the moisture barrier extends up to and is sealed to the foundation plate.
 - Insulation blanket must be full height and be in substantial contact with the foundation wall along its entire width and not be pulled out by the footing.

Appendix A: Installation standards

- Seal vinyl facing to top of wall and soil barrier so conditioned inside air cannot reach foundation wall and condense.

2. Foam board: Polyisocyanurate, XPS or EPS

- **Ignition barrier required**, unless listed and approved for use without a thermal or ignition barrier in this application by the ICC ES (see Field Manual Notes notes).

3. Two-part closed or open cell spray foam

- **Ignition barrier required**, unless listed and approved for use without a thermal or ignition barrier in this application by the ICC ES (see Field Manual Notes notes).
- **Open cell spray foam is only allowed** on the interior of foundation walls if there is **no indication of moisture**, unless the soil moisture barrier extends to the foundation plate with mechanical ventilation underneath.

Post-installation tests

- Combustion Safety Test required. Record results on Appendix F.
- Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement.

Field Manual Notes

- **Moisture/ soil gas barrier specifications:**
 1. Cross laminated poly sheeting used as a moisture and soil gas barrier in crawl spaces must be performance tested to ASTM E-1745 and installed per ASTM E-1643 with a minimum of Class C rated. It must resist deterioration from contact with the soil and maintain a perm of 0.3 or less (per ASTM E-154 section 13). The moisture and soil gas barrier must have a minimum strength of 13.6 lbs./in (ASTM E-154 section 9) and puncture resistance of 475 grams (ASTM D-1709 method B).
 2. Field stone and brick foundation details: moisture barrier must run up to foundation plate and be fastened and caulked; or apply closed cell spray foam with an ignition barrier covering all fieldstone or brick foundation walls.
- **Crawl spaces that contain atmospherically vented combustion appliances must have adequate volume for combustion air and/ or provide outside combustion air per 2012 International Residential Code (IRC) Section G2407.**
- No spot ventilation exhaust vents may terminate in the crawl space.
- No insulation needed on wall between crawl space and basement.
- All foam must meet ASTM E-84 Class 1 standards for Flame Spread and Smoke Development.
- **Ignition barriers may be required over spray foam or foam board installed on the inside of crawl space foundation walls depending on product specifications:**
 1. Ignition barriers include intumescent coatings listed for this use, 1½” mineral fiber (includes fiberglass), and other materials listed in the 2012 IRC, Section 316.5.4.
 2. Spray foam insulation that has been approved by the ICC ES for use in these locations without the addition of an ignition barrier can be used. The ICC ES Report for such material must be provided to the Program Manager for reference prior to the issuance of rebates.
- Rim joist and sill plate in a crawlspace can have up to 3.25” of spray foam applied without a **thermal** barrier being required (2012 IRC Section R316.5.11). An ignition barrier may still be required in this location depending on product specifications.

Basement wall insulation

Existing conditions

- No existing insulation.
- Exterior grade must drain away from foundation or be mitigated as part of the job scope.
- Foundation cracks shall be completely sealed.
- **If evidence of moisture exists, it must be or have been mitigated prior to insulating.**

Installation standards

- Insulate interior of basement walls to the R-value prescribed by the IECC as adopted by the AHJ.
 1. Exterior foundation wall: XPS foam board
 1. Exterior foam board insulation must be closed cell and extend down 48" below grade or to top of footer - whichever is less. Insulation must be protected above grade w/ non-organic exterior finish. Provide flashing from under existing exterior finish, over top of foam exterior finish, flashed from under finish on walls.
 2. Interior Foundation Wall Insulation:
 1. Old brick or field stone foundations **must have closed cell spray foam** installed over entire interior foundation wall and rim joist.
 2. 1" XPS, EPS or Polyisocyanurate foam board + R-13 Batt
 - R-13 un-faced batt is installed in the finished frame wall so foundation can dry to the inside. (See Field Manual Notes).
 3. Interior foundation wall insulation: XPS or EPS foam board or spray foam.
 - Basement walls with foam insulation must be finished with drywall or equivalent thermal barrier, except where material is listed and approved for use in this application by the ICC ES.
 - Open cell spray foam is approved only if there is no indication of moisture on the foundation walls
 4. Perforated vinyl faced fiberglass blanket:
 - Vinyl faced insulation blanket is NOT allowed if foundation shows evidence of past or present moisture.
 - Insulation blanket must be full height and be in substantial contact with the foundation wall along its entire width and not be pulled out by the footing.
 - Seal vinyl facing to top of wall and soil barrier so conditioned inside air cannot reach foundation wall and condense.
- Insulate and air-seal rim joist and foundation plate to R-value prescribed by the IECC as adopted by the AHJ:
 1. XPS or Polyisocyanurate foam board cut to fit, foamed-in place.
 2. Closed or open cell 2-part spray foam
 3. Foam insulation does not require **thermal** barrier on rim joist (per IRC), but may require an **ignition** barrier as outlined in 2012 IRC Section R316.5.4 depending on product specifications.

Appendix A: Installation standards

Post-installation tests

- Combustion Safety Test required. Record results on Appendix F.
- Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement.

Field Manual Notes

- Cracks causing moisture intrusion into basement shall be sealed as part of the job scope.

Cantilever floor insulation

Existing conditions

- No restriction on existing condition of exterior cantilevers or cantilevers into garage.

Installation standards

- Exterior finish material must be removed if water pipes are located below the top 1/2 of the floor joist cavity.
- Inside end of joist space must be blocked and air sealed (see Field Manual Notes for options).
- If interior blocking is not in place, and there is adequate room, remove soffits to block and air seal.
- If soffits cannot be removed to block and air seal interior, other methods of interior blocking can be used.
- Floor cavities used as a return air duct must have the header block or pan sealed prior to insulation installation. **Make sure insulation does not enter return air floor cavity.**
- Disconnected ducts must be repaired prior to insulation installation.
- Final condition: intact, sealed air barrier, inside and outside.
- Final condition: joist cavities dense packed with blown insulation.
- If water pipes are in the bottom half of the joist cavity in the cantilevered floor area, they must be protected from freezing by installing net under the bottom of pipes so that insulation is only blown on the cold side of the pipe.
- Seal around any supply boots where they meet the subfloor to prevent insulation from blowing into the house.
- **Service providers must provide photo documentation of the following details:**
 1. Netting of pipes in floor cavities.
 2. Blocking of inside end of joist space.
 3. Return air duct sealing to prevent insulation from entering forced air system.
 4. Air sealing around any supply boots at the subfloor.

Post-installation tests

- Combustion Safety Test required. Record results on Appendix F.
- Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Record results on Appendix F.

Appendix A: Installation standards

Field Manual Notes

- Other kinds of end blocking that will create the 6th side of insulation cavity:
 - Change in direction of floor joists
 - Rim joist on other side of a narrow room adjacent to cantilever
 - House with insulation in interior floors (for sound)
 - Install an onion bag in each floor cavity that is filled with insulation to act as a block
- Do not dense pack near panned or leaky return system without air sealing ducts.
- The phrase dense-pack refers to a specific process where the insulation is blown into the cavity and then dense-packed. We do not rebate a cantilever that has simply been filled with insulation. It must be dense-packed to 3.5lbs/cubic foot (cellulose) – ~2.5lbs/cubic foot for (fiberglass).

Floor over garage insulation

Existing conditions

- Existing insulation does not fill floor cavity.

Installation standards

- Drywall must be removed if the joist space over wall between garage and house is not air sealed.
- Inside end of joist space must be blocked and air sealed (see Field Manual Notes for options).
- Drywall must be removed if water pipes are located below the top 1/2 of the floor joist cavity.
- If water pipes are located in the bottom half of the joist cavity in the floor over the garage area, they must be protected from freezing by installing net/tyvek under the bottom of pipes so that insulation is only blown on the cold side of the pipe.
 - In order to install net/tyvek, drywall must be removed from the garage ceiling to gain access to pipes.
 - Drywall must be replaced with 5/8" Type X gypsum board or other material approved for use in this location by the IRC as adopted by the AHJ.
- Floor cavities used as a return air duct must have the header block or pan sealed prior to insulation installation. **Make sure insulation does not enter return air floor cavity.**
- Air seal around any visible supply boots at the subfloor to prevent insulation from entering the living space.
- Disconnected ducts must be repaired prior to insulation installation.
- Insulation must be dense packed (see field notes).
- Drywall on garage ceiling must be complete and sealed.
- Garage ceiling with living space floor above is a Firewall. If removed, it must be restored to current code compliance.
- **Service providers must provide photo documentation of the following details:**
 1. Netting of pipes in floor cavities
 2. Blocking of inside end of joist space
 3. Return air duct sealing to prevent insulation from entering forced air system
 4. Air sealing around any supply boots at the subfloor

Appendix A: Installation standards

Post-installation tests

- Combustion Safety Test required. Record results on Appendix F Form.
- Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Record results on Appendix F Form.

Field Manual Notes

- Other kinds of end blocking that will create the 6th side of insulation cavity when dense packing floor joist cavity:
 1. Change in direction of floor joists
 2. Rim joist on other side of a narrow room adjacent to cantilever
 3. House with insulation in interior floors (for sound)
 4. Install a burlap bag in each floor cavity that is filled with insulation to act as a block
- Do not dense pack near panned or leaky return system without air sealing ducts.
- The phrase dense-pack refers to a specific process where the insulation is blown into the cavity and then dense-packed. **We do not rebate a garage floor that has simply been filled with insulation.** It must be dense-packed to 3.5lbs/cubic foot (cellulose) – ~2.5lbs/cubic foot for (fiberglass).

Exterior frame wall insulation

Existing conditions

- Existing condition: R-9 or less.
- Do not dense pack walls if knob and tube wiring is present.
- Measure includes garage/house walls.

Installation standards

- Use dense-pack cellulose or short fiber fiberglass in all wall cavities, installed with fill tube.
- Air seal around windows, doors, and electrical boxes in wall assembly prior to insulating.
- Must seal all penetrations into electrical panels, outlet and switch boxes to keep out insulation.
- Plug, seal and refinish all drill holes used to fill exterior walls after insulating.
- Cloth sheathed electrical wire must be evaluated or replaced with contemporary code complying 90 degree C temperature rated wiring prior to dense packing walls by an electrical service provider licensed to perform work in the local jurisdiction.
- Knob and tube wiring must be replaced with contemporary code complying 90 degree C temperature rated wiring prior to dense packing walls by an electrical service provider licensed to perform work in the local jurisdiction.
- Lead safe practices should be followed if appropriate.

Appendix A: Installation standards

Post-installation tests

- Combustion Safety Test required. Record results on Appendix F.
- Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement.

Attic insulation (flat ceiling)

Existing conditions

- Existing insulation of assembly must be $< R-30$ to qualify for attic insulation rebate.
- Insulation areas compressed to $< R-30$ after air sealing can qualify for a rebate.

Installation standards

- Attic must be air sealed and have mechanical / duct issues corrected prior to blowing insulation.
- Insulation baffles must be installed between rafters or trusses to allow air flow from the box soffit to the attic. Baffles must be installed adjacent to all soffit vent locations, with air impermeable insulation stops between all other truss rafter ends (recommend adding passive ventilation to minimum code amounts).
- Install an insulation stop on the outside edge of the top plates to maximize R-value at exterior edge of exterior wall top plates and minimize wind washing. This can consist of insulation batts or bags to blow insulation into. Closed-cell spray foam is preferred here for higher R-values.
- Air-seal all shell components interfacing with attic, including the back side and underneath knee walls.
- Extend any unvented bath or kitchen fan vent to exterior (vents not allowed to terminate in attic).
- Cloth sheathed electrical wire must be evaluated or replaced with code complying wiring prior to insulating.
- Knob and tube wiring must be abandoned or removed and new code complying wiring installed prior to insulating.
- Repair and seal any disconnected HVAC prior to blowing attic insulation:
 1. Un-insulated ducts must be insulated to minimum R-8.
 2. Fix ducts that severely restrict airflow.
- **Insulation** $< R-30$ must be improved to at least R-60 to qualify for a rebate:
 1. If blowing cellulose on top of fiberglass, add an additional 2" of cellulose to the total to account for compression of the fiberglass underneath.
- **Seal thermal bypasses:**
 1. Chases, plumbing vents, b-vents, chimneys, top plate penetrations, etc. Insulate and air seal knee walls and skylight shafts and provide an air barrier. Separate knee wall and skylight requirements and incentives are listed below.
- Whole house fan in ceiling must have a sealed, insulated cover, or install fan w/ motorized insulated cover.
- Recessed lighting (except ICAT rated recessed lighting) must be air-sealed with either can inserts or covers. Covers must maintain 3" clearance to can and unrated cans must not be covered with insulation. If installing inserts also seal gap in drywall around can.

Appendix A: Installation standards

- Attic hatch must be insulated to the same level as the adjacent attic insulation (with a minimum of R-20 of that insulation being rigid foam), be air-sealed with a dense foam weather strip, and have full depth insulation dam around the hatch installed in accordance with IECC as adopted by the AHJ (The dam must support the weight of a 200 lb. adult). Seal all trim around hatch to drywall. The hatch must be fully functional, that is, the hatch must be able to be removed from the access opening, either up into the attic, or down into the house. If the location and spacing of the hatch prevents it from being insulated to our standards to stay functional – an exception will be allowed.
 - Alternatively, if hatch is insulated with rigid foam board **only**, R-38 is adequate.
- Attic hatches that are pull-down stair assemblies must have some system to air seal and insulate that assembly. This can be a site-built system or a store-bought system. See Field Manual Notes for suggestions.
- Foam panel can be undersized by ½ inch maximum compared to drywall surface area. This means the foam should be as close to the size of the drywall as possible.
- Insulation dams are required at all ceiling level transitions (including tops of knee walls, the attic hatch entrance and around whole house fans) and around whole house fans. This is typically cardboard or return panning material.
- **Ignition barrier not required** on exposed foam, provided the following conditions are met, and it is allowed by the product's ESR:
 1. Entry to the attic or crawl space is only to service utilities and no storage is permitted.
 2. Air in the attic is not intentionally circulated to other parts of the building.
 3. Attic ventilation is provided in accordance with IRC Section R806, as applicable.
 4. Combustion air is provided in accordance with IMC (International Mechanical Code®) Section 701.
- If attic storage is present or possible (pull-down stair, platform, etc.) **ignition barrier is required** on all exposed foam.
- A vertical insulation dam should be mechanically fastened to the vertical face of the knee wall right below where the wall transitions to the ceiling. This will allow the insulation on the ceiling to make great contact with the actual top plate and provide the thermal resistance.

Post-installation tests

- Combustion Safety Test required. Record results on Appendix F.
- Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Record results on Appendix F.

Field Manual Notes

- Alternative details are allowed for installing adequate insulation at exterior wall top plates (while maintaining ventilation path at soffit vents).
- Recommend flagging electrical J boxes that will be buried under insulation.
- Recommend adding attic ventilation that meets the requirements of IRC as adopted by the AHJ.
- Pull-down stair options:
 1. Build a rigid foam box around the perimeter of the stair assembly that is air sealed where it meets the ceiling plane. (Foam insulation requires an ignition barrier in this case where storage or pull-down stair is present).

Appendix A: Installation standards

2. Install a kit like an Attic Tent, Draft Cap, or Energy Guardian that is designed to seal this location.
- Insulation dams at ceiling level transitions can be made of cardboard.

Attic knee wall and skylight shaft

Existing conditions

- Un-insulated or insulated to R-11 or less.

Installation standards

1. If un-insulated, first fill cavity, then add a minimum R11 spray foam, foam board or vinyl faced fiberglass blanket over cavity insulation:
 1. Seal all edges and seams of insulation
 - 2. Ignition barrier not required** on exposed foam, provided the following conditions are met, and it is allowed by the product's ESR:
 - Entry to the attic is only to service utilities and no storage is permitted.
 - Air in the attic is not intentionally circulated to other parts of the building.
 - Attic ventilation is provided in accordance with IRC Section R806, as applicable.
 - Combustion air is provided in accordance with IMC (International Mechanical Code®) Section 701.
 3. If attic storage is present or possible (pull-down stair, platform, etc.) **ignition barrier may be required** on all exposed foam depending on product specifications.
 4. Insulation must meet flame spread and smoke development requirements of IRC version adopted by the AHJ.
 5. Insulation must be installed to RESNET Grade I.
2. If already insulated, add a minimum R-11 spray foam, foam board or vinyl faced fiberglass blanket over existing cavity insulation:
 1. Seal all edges and seams of insulation
 - 2. Ignition barrier not required** on exposed foam, provided the following conditions are met, and it is allowed by the product's ESR:
 - Entry to the attic or crawl space is only to service utilities and no storage is permitted.
 - Air in the attic is not intentionally circulated to other parts of the building.
 - Attic ventilation is provided in accordance with IRC Section R806, as applicable.
 - Combustion air is provided in accordance with IMC (International Mechanical Code®) Section 701.
 3. If attic storage is present or possible (pull-down stair, platform, etc.) ignition barrier may be required depending on product specifications.
 4. Insulation must meet flame spread and smoke development requirements of IRC version as adopted by the AHJ.
 5. Insulation must be installed to RESNET Grade I.
3. Insulation dams are required at the tops of knee walls. (See Field Manual Notes)

Appendix A: Installation standards

Post-installation tests

- Combustion Safety Test required. Record results on Appendix F.
- Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Record results on Appendix F.

Field Manual Notes

- An air barrier alone does not address the significant thermal bridging problems experienced in these assemblies, especially in the summer when attic temperatures often exceed 130°F.
- While an air barrier only is a requirement for attic insulation rebates –rebates for attic knee wall insulation requires the addition of a thermal break.
- It is recommended, but not required, that un-insulated solar tubes be insulated to R-11.
- A vertical insulation dam should be mechanically fastened to the vertical face of the knee wall right below where the wall transitions to the ceiling. This will allow the insulation on the ceiling to make contact with the actual top plate and provide the thermal resistance.
- Insulation dams at ceiling level transitions can be made of cardboard.

Cathedral ceiling insulation (unvented attic and unvented enclosed rafter spaces)

Existing conditions

A cathedral ceiling is present.

Installation standards

- No Class 1 vapor retarders may be installed on the inside face of the roof rafters.
- Where wood shingles or shakes are used, a minimum ¼” vented air space must separate the shingles or shakes and the roofing underlayment above the structural sheathing.
- In order to earn rebates, unvented attic and unvented enclosed rafter spaces must have R-20 continuous exterior rigid board or sheet insulation installed directly above the structural roof sheathing and covered by an approved roofing material (per the IRC version adopted by the AHJ).
 - R-20 continuous exterior rigid board or sheet insulation must meet the requirements of the 2012 IRC Section R806.5 & R906.2.
 - All seams in the exterior rigid board or sheet insulation must be sealed at the perimeter of each individual sheet in order to form a continuous layer.
- Dense packed short fiber fiberglass **insulation (no cellulose will be allowed)** must be installed to completely fill the cavity between the structural roof sheathing and the interior drywall to the required density.
- Replace or air seal any IC recessed lights in vaulted rafter space with Air Tight (ICAT) cans or install an insert and air seal drywall cutout to can.

Appendix A: Installation standards

Post-installation tests

- Combustion Safety Test required. Record results on Appendix F.
- Blower door test required prior to air sealing and after.

Field Manual Notes

- Allowable unvented vaulted ceiling assemblies are addressed in the 2012 IRC Section 806.5. In addition to the method described in the Installation Standards, unvented vaulted ceilings may also be insulated without the use of exterior rigid board or sheet insulation, but only when an adequately thick layer of air impermeable, vapor impermeable insulation is installed in direct contact with the inside face of the structural roof sheathing. These alternative methods would require the complete removal of the interior drywall.

Conditioned Attics

(unvented attics with spray foam on the underside of the roof deck)

Existing conditions

Attic cannot have any major signs of moisture damage.

Installation standards

- All existing insulation must be removed from the attic floor (vacuum out all blown insulation – remove all batts).
- All sources of interior moisture must be properly vented.
 - No unvented grow operations.
 - Clothes dryers and kitchen & bath fans must be operational and vented to the outside.
 - Relative Humidity should not exceed 40%.
- Spray foam must be closed cell if insulation is only on the underside of the roof deck.
 - Open cell (air permeable) foam is allowed on the underside of the roof deck only if there is R-20 worth of air impermeable insulation (rigid closed cell foam) installed directly above the structural roof sheathing for condensation control.
- An ignition barrier is required to cover all exposed foam.
- Minimum R-30 on underside of roof deck.
- Spray foam insulation must extend down over the top plate and must have backing (e.g. rolled up fiberglass batt) where roof deck meets the top plate.
- All attic ventilation (soffit, gable, roof vents) must be removed or sealed.
- All gable walls must now meet wall R-Value requirements.
- No interior Class 1 vapor retarders are allowed on the ceiling side (attic floor) of the unvented attic assembly.
- Where wood shingles or shakes are used, a minimum of ¼” vented air space separates the shingles or shakes and the roofing underlayment above the structural sheathing.

Appendix A: Installation standards

- Where rigid insulation board is used as the air-impermeable insulation layer, it shall be sealed at the perimeter of each individual sheet to form a continuous layer.

Post-installation tests

- Combustion Safety Test required. Record results on Appendix F.
- Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Record results on Appendix F.

Field Manual Notes

- The unvented attic space is completely within the building thermal envelope.

Window replacement (including sliding glass doors)

Existing conditions

- Existing windows and/or sliding glass doors must have one of the following conditions: single pane; clear glass; metal frames; or leaky/poor sealing.
- Walls must be insulated or be insulated as part of this job scope to receive rebate.

Installation standards

- Window installations must be completed by EW-H certified window installers.
- **Full frame replacement window installation is preferred whenever possible.**
- Replacement windows must meet Northern Climate Zone Energy Star requirements to qualify for our incentives:
- https://www.energystar.gov/products/building_products/residential_windows_doors_and_skylights/key_product_criteria
- Windows/sliding glass doors must have low maintenance exterior: clad, fiberglass, composite or vinyl. Exception: If house is being considered for or is registered as a Historic Home, and wood trim is required.
- When a replacement window is installed inside an existing window frame (Block Frame method), air sealing is required around the existing window frame (remove interior trim, insulate and air seal between framing and existing window frame).
- Replacement windows must be properly insulated, and air sealed in the opening with low expansive foams.
- Dense pack old weight pockets with cellulose or short fiber fiberglass, or spray full with low expansive foam.
- Photo-Documentation is required for all window rebates. This can be as simple as taking a picture with your phone during the installation process. We are not expecting a photo of each window - however, we will need to see enough proof to verify the install method and to easily be able to identify the home from the photo.
- Must use window wrap approved by the manufacturer; typically, urethane sealant.
- Use manufacturer approved Low expansive foams to air seal windows in the opening.

Appendix A: Installation standards

Post-installation tests

- Appendix F – Window version must be signed by customer.

Field Manual Notes

- Replacement window types/ methods:
 1. Block frame- replacement windows are installed inside frame of existing window frame. Block frame installations must include air sealing around existing window frame and insulating the weight pockets in old single/double hung windows.
 2. Full frame - replacement windows are installed in existing framing after old window and trim is removed on the inside, and the mounting flange trim is removed on the outside and re-flashed. This method is less prone to leakage.

Air conditioners

Existing conditions

- Central split AC systems only.
- Existing AC must be SEER 13 or <, **OR** replacement AC system is at least 1 Ton smaller.

Installation standards

- System must be right-sized using an ACCA approved Manual J (Version 7 minimum) block load calculations.
- System must be commissioned with Appendix E AC/HP Commissioning form.
- AC systems > 115% of design cooling load.
- AC system condenser, evaporator, and furnace must be AHRI matched.
- 17 SEER / 16.2 SEER2 & 12.5 EER / 12 EER2.
- Must have 2 stage condensing unit and shall not exceed .8 IWC TESP.

Post-installation tests

- Complete Appendix E and return with rebate application.
- Combustion Safety Test required. Record results on Appendix F.

Field Manual Notes

- Outdoor temps must be >60 degrees F to commission unless using cold weather commissioning protocol.
- If installed in winter months – AC will still be applied for as a rebate – to get the info in the system – and will be completed when warmer weather comes around. If installed with furnace – the furnace can be rebated at time of install.

Heat pumps

Existing conditions

- Allowed in gas or electrically heated homes

Installation standards

- System must be right-sized using an ACCA approved Manual J (Version 7 minimum) block load calculations.
- Determine if existing forced air system duct size is large enough for heat pump.
- **Unmatched air source heat pump split system**
(Does not qualify for Colorado Heat Pump Tax Credits)
16.0 SEER & 9.0 HSPF
or
15.2 SEER2 & 7.8 HSPF2
Shall not exceed .8 IWC TESP
Change over temperature < 35 F
Size for cooling load
- **Tier 1: Non-Cold Climate Heat Pump**
16 SEER and 9 HSPF
or
15.2 SEER2 and 7.8 HSPF2
Heat pump condenser, evaporator, and furnace must be AHRI matched.
Shall not exceed .8 IWC TESP
Change over temperature < 35 F
Size for cooling load
- **Tier 2: Cold-Climate Heat Pump**
16 SEER and 9.5 HSPF
or
15.2 SEER2 and 8.1 HSPF2
Heat pump condenser, evaporator, and furnace (if applicable), must be AHRI matched.
Shall not exceed .8 IWC TESP
Cold climate HP certified by NEEP, ENERGY STAR®, CEE, or AHRI
Change over temperature of < 5F
Size for 100% of the heating load

Post-installation tests

- Complete Appendix E and return with rebate application.
- Combustion Safety Test required. Record results on Appendix F.

Field Manual Notes

- Outdoor temps must be >60 degrees F to commission unless using cold weather commissioning protocol.

Ductless mini split

Existing conditions

- Allowed in gas or electrically heated homes

Installation standards

- System must be right-sized using an ACCA approved Manual J (Version 7 minimum) block load calculations.
- 21 SEER & 9.5 HSPF
- **or**
- 21 SEER2 & 9.1 HSPF2
- Cold climate HP, certified by NEEP, ENERGY STAR, CEE, or AHRI
- Can be designed for the heating load

Post-installation tests

- Complete Appendix E2.

Field Manual Notes

Heat pump water heater

Existing conditions

- Gas or electrically heated home

Installation standards

- UEF \geq 3.3
- Must be ENERGY STAR certified.
- Follow all local codes and OEM installation instructions including air volume requirements.
- Communication control eligible for additional rebate must have CTA-2045 (EcoPort).
- Must provide photo documentation of final installation

Smart thermostat

Existing conditions

- Non-programmable, non- Smart thermostat being replaced.

Installation standards

- Must be ENERGY STAR certified.
- New thermostat must be smart thermostat and installed in a manner where all of the features are available.
- Thermostat must be clearly called out on invoice.

Appendix A: Installation standards

Exterior doors (hinged doors on the exterior of the home or between home and unconditioned space, i.e., garage.)

Existing conditions

- Any exterior door qualifies for replacement.

Installation standards

- Door installations must be completed by EW-H certified window installers.
- Replacement doors must meet Northern Climate Zone Energy Star requirements to qualify for our incentives.
- Must be installed to meet local code.
- Replacement doors must be properly insulated, and air sealed in the opening with low expansive foams.
- Flashing tapes are not required around doors installed between garage and home.
- Photo-Documentation is required for all door rebates. This can be as simple as taking a picture with your phone during the installation process. We are not expecting a photo of each door - however, we will need to see enough proof to verify the install method and to easily be able to identify the home from the photo.
- Must use window wrap approved by the manufacturer; typically, urethane sealant.
- Use manufacturer approved Low expansive foams to air seal doors in the opening.

Post-installation tests

- Appendix F – Window version must be signed by customer

Mechanical ventilation

Existing conditions

- Per ASHRAE 62.2-2013 calculation, home requires mechanical ventilation.

Installation standards

- Install Ventilation per ASHRAE 62.2-2013 mechanical ventilation requirements
- Must have greater than 50% sensible heat exchange efficiency
- System must be:
 - Heat Recovery Ventilator (HRV) or
 - Energy Recovery Ventilator (ERV)

Post-installation tests

- Combustion Safety Test required. Record results on Appendix F.
- Commission any installed ventilation system.
- Measure all system airflows to verify they meet ASHRAE 62.2 2013 ventilation requirements.
- Document intake and/or exhaust flow rates for rebate application submittal.

Radon fan

Existing conditions

- Home has an air tight radon barrier in place.

Installation standards

- System must be Energy Star certified
 - Must be installed to OEM's installation standards
 - Photo-documentation will be required on all jobs
 - No Post-Installation tests
 - No Field Manual Notes

Appendix B: Combustion safety testing process (cst)

Assessment CST Process:

- Assessor performs the following tests:
 1. Gas Leak Detection
 2. Worst Case Depressurization Test
 3. Carbon Monoxide (CO) Test in vent pipe
 4. Spillage and Draft Test
- Assessor records results on audit data sheet for installation contractor’s use.
- Assessor will follow Building Performance Institute’s (BPI) Building Analyst Legacy **Standards**

Combustion Safety Test Action Levels:

	CO Test Result*	And/Or	Spillage and Draft Test Results	Retrofit Action
<input type="checkbox"/>	Fails at Worst Case Only			Recommend that spillage problem be fixed. Have owner sign disclosure form.
<input type="checkbox"/>	Fails at Natural Conditions			Turn off the appliance. Have the owner call for service immediately. Have owner sign disclosure form.
<input type="checkbox"/>	Between 9 & 35 ppm ambient CO in breathing zone			Advise homeowner that CO has been detected. Recommend all CO sources checked and windows/doors opened.
<input type="checkbox"/>	> 35 ppm ambient CO in breathing zone			Abort the test. Turn off the appliance, ventilate the space, and evacuate the building. Have owner call for service immediately and sign disclosure form.
<input type="checkbox"/>	0 - 100 ppm	And	Passes	No Signature – Refer to back for Possible Recommendations
<input type="checkbox"/>	>100 ppm	And	Passes	Work may not proceed until the system is serviced and the problem is corrected. (Atmospheric DHW only) Have owner sign disclosure form.
<input type="checkbox"/>	>200 ppm	And	Passes	Work may not proceed until the system is serviced and the problem is corrected. (Cat 3 & 4 DHW only) Have owner sign disclosure form.
<input type="checkbox"/>	0 - 400 ppm	And	Passes	No Signature (Boilers and Furnaces only) Refer to back for Possible Recommendations
<input type="checkbox"/>	>400 ppm		Passes	Work may not proceed until the system is serviced and the problem is corrected. (Boilers and Furnaces only)

*CO measurements for undiluted flue gases in the vent at steady state.

NOTICE: As of 7/1/15 all sealed combustion equipment tested in the EW program will be referenced to the ASNI/BSR AZ223.1/NFPA 54 CO Threshold Chart. This means that water heaters will be allowed to up to 200 ppm CO (Air Free) and boilers and furnaces will be allowed up to 400 ppm CO (Air Free). All other equipment will be referenced to the BPI Building Analyst Legacy Standard. See table at end of this document.

Appendix B: Combustion safety testing process (cst)



Building
Performance
Institute, Inc.

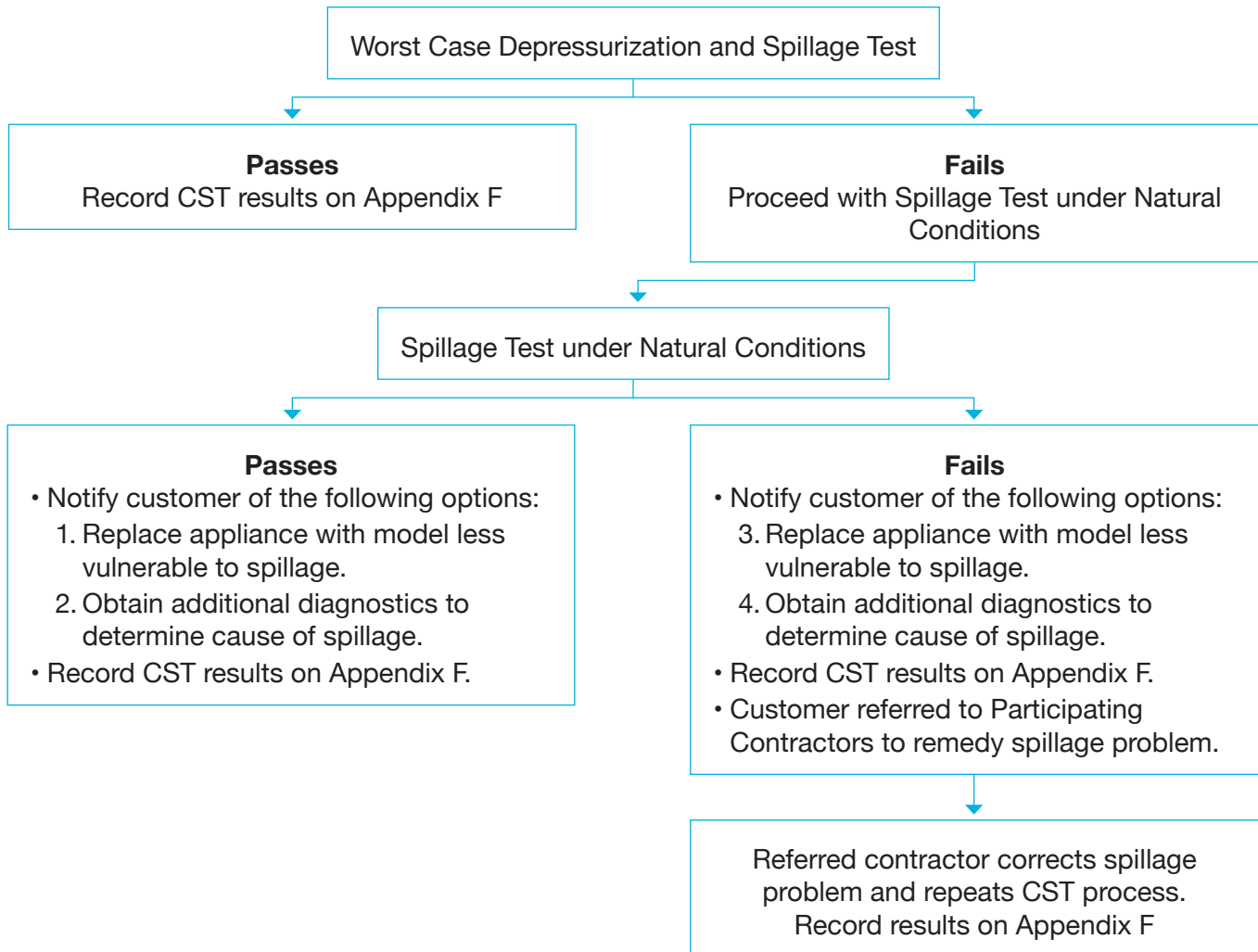
A national non-profit working for you.

Post-installation CST process:

Installation contractor performs worst case depressurization and spillage test as well as spillage test under natural conditions if needed (see flow chart below) after the following installations:

- Air sealing
- Conditioned crawl space insulation
- Cold crawlspace insulation
- Basement wall insulation
- Cantilever floor insulation
- Floor over garage insulation
- Exterior frame wall insulation
- Masonry exterior wall insulation
- Attic insulation (flat ceiling)
- Attic knee wall insulation
- Cathedral ceiling insulation
- Replacement gas furnace
- Replacement gas boiler
- Replacement water heater
- Duct sealing
- Mechanical ventilation

Appendix B: Combustion safety testing process (cst)



Overall combustion safety review:

Question: What appliances are required to be tested?

Answer: Only atmospheric ones (Category 1)

Question: What are the four required components of the required combustion test?

Answer:

- Worst Case Depressurization (Record with DG-700 or manometer)
- Spillage Testing (with mirror or smoke)
- Undiluted CO Testing (with Combustion Analyzer)
- Capture results on Appendix F – Discuss results with customer

Question: When do I need to test the equipment under Natural Conditions?

Answer: Only when the appliance fails Worst Case spillage.

Appendix B: Combustion safety testing process (cst)

Question: What happens if the appliance fails spillage under Worst Case/Natural Conditions?

Answer: Both situations mean you need to talk to the homeowner about possible next steps to improve the results. Please remember that a spillage failure at Natural conditions is a VERY SERIOUS situation that you need to be very clear about not operating the device until it is fixed by a qualified professional.

Question: Do we have to get Appendix F signed by the homeowner if the appliance fails testing?

Answer: The advisors will handle getting the final signature on Appendix F – However, you will still be required to provide your relevant test results on the Rebate application (you will see Appendix F there now) and you must discuss any failures with the homeowner immediately after finding the results.

Question: Are there ever situations where we do not have to perform the Combustion Safety Testing?

Answer Part 1: The following measures are exempt from testing if they are the only measure being installed.

- Window replacements
- New AC or Heat Pump

Answer Part 2: The following scenarios **do not** have to be tested.

- 80% Furnace in crawlspace with independent flue
- 80% Furnace in an attic with independent flue
- Sealed combustion equipment only

Appendix B: Combustion safety testing process (cst)

Technology	Original Approach	Current Approach
Atmospheric DHW	less than 26 ppm (as measured) - No Action	less than 26 ppm (air free) - No Action
Atmospheric DHW	26-100 ppm (as measured) - recommend tune up and get signature	26-100 ppm (air free) - recommend tune up and get signature
Atmospheric DHW	100+ ppm (as measured) - STOP WORK - get signature - no rebate can be paid unless this is resolved	100+ ppm (air free) - STOP WORK - get signature - no rebate can be paid unless this is resolved
Sealed DHW (this includes tankless)	less than 26 ppm (as measured) - No Action	less than 26 ppm (air free) - No Action
Sealed DHW (this includes tankless)	26-100 ppm (as measured) - recommend tune up and get signature	26-199 ppm (air free) - No Action
Sealed DHW (this includes tankless)	100+ ppm (as measured) - STOP WORK - get signature - no rebate can be paid unless this is resolved	200+ ppm (air free) - STOP WORK - get signature - no rebate can be paid unless this is resolved
Atmospheric 70% -80% Furnace	less than 26 ppm (as measured) - No Action	less than 26 ppm (air free) - No Action
Atmospheric 70% -80% Furnace	26-100 ppm (as measured) - recommend tune up and get signature	26-399 ppm (air free) - No Action
Atmospheric 70% -80% Furnace	100+ ppm (as measured) - STOP WORK - get signature - no rebate can be paid unless this is resolved	400+ ppm (air free) - STOP WORK - get signature - no rebate can be paid unless this is resolved
Sealed Combustion Furnace	less than 26 ppm (as measured) - No Action	less than 26 ppm (air free) - No Action
Sealed Combustion Furnace	26-100 ppm (as measured) - recommend tune up and get signature	26-399 ppm (air free) - No Action
Sealed Combustion Furnace	100+ ppm (as measured) - STOP WORK - get signature - no rebate can be paid unless this is resolved	400+ ppm (air free) - STOP WORK - get signature - no rebate can be paid unless this is resolved
Atmospheric Boiler	less than 26 ppm (as measured) - No Action	less than 26 ppm (air free) - No Action
Atmospheric Boiler	26-100 ppm (as measured) - recommend tune up and get signature	26-399 ppm (air free) - No Action
Atmospheric Boiler	100+ ppm (as measured) - STOP WORK - get signature - no rebate can be paid unless this is resolved	400+ ppm (air free) - STOP WORK - get signature - no rebate can be paid unless this is resolved
Sealed Combustion Boiler	less than 26 ppm (as measured) - No Action	less than 26 ppm (air free) - No Action
Sealed Combustion Boiler	26-100 ppm (as measured) - recommend tune up and get signature	26-399 ppm (air free) - No Action
Sealed Combustion Boiler	100+ ppm (as measured) - STOP WORK - get signature - no rebate can be paid unless this is resolved	400+ ppm (air free) - STOP WORK - get signature - no rebate can be paid unless this is resolved

Appendix C: Required documents for rebate application

This is a checklist of required documentation when applying for Efficiency Works Retrofit Program rebates.

Air sealing

Invoice - Clearly calling out Program Measures by Name

Appendix F - Post Improvement Carbon Monoxide and Ventilation Disclosure

Customer Paperwork: Terms and Conditions & Certificate of Completion signed by customer

Photo Documentation of Before and After Work

Conditioned crawlspace insulation

Invoice - Clearly calling out Program Measures by Name

Appendix F - Post Improvement Carbon Monoxide and Ventilation Disclosure

Customer Paperwork: Terms and Conditions & Certificate of Completion signed by customer

Photo Documentation of Before and After Work

Basement wall insulation

Invoice - Clearly calling out Program Measures by Name

Appendix F - Post Improvement Carbon Monoxide and Ventilation Disclosure

Customer Paperwork: Terms and Conditions & Certificate of Completion signed by customer

Photo Documentation of Before and After Work

Cantilever floor insulation

Invoice - Clearly calling out Program Measures by Name

Appendix F - Post Improvement Carbon Monoxide and Ventilation Disclosure

Customer Paperwork: Terms and Conditions & Certificate of Completion signed by customer

Photo Documentation of Before and After Work

Floor over garage insulation

Invoice - Clearly calling out Program Measures by Name

Appendix F - Post Improvement Carbon Monoxide and Ventilation Disclosure

Customer Paperwork: Terms and Conditions & Certificate of Completion signed by customer

Photo Documentation of Before and After Work

Exterior frame wall insulation

Invoice - Clearly calling out Program Measures by Name

Appendix F - Post Improvement Carbon Monoxide and Ventilation Disclosure

Customer Paperwork: Terms and Conditions & Certificate of Completion signed by customer

Photo Documentation of Before and After Work

Appendix C: Required documents for rebate application

Attic insulation - flat ceiling

Invoice - Clearly calling out program measures by name
Appendix F - Post Improvement Carbon Monoxide and Ventilation Disclosure
Customer Paperwork: Terms and Conditions & Certificate of Completion signed by customer
Photo Documentation of Before and After Work

Attic knee wall and skylight shaft

Invoice - Clearly calling out program measures by name
Appendix F - Post Improvement Carbon Monoxide and Ventilation Disclosure
Customer Paperwork: Terms and Conditions & Certificate of Completion signed by customer
Photo Documentation of Before and After Work

Cathedral ceiling insulation

Invoice - Clearly calling out Program Measures by Name
Appendix F - Post Improvement Carbon Monoxide and Ventilation Disclosure
Customer Paperwork: Terms and Conditions & Certificate of Completion signed by customer
Photo Documentation of Before and After Work

Window Replacement (Including Sliding Glass Doors)

Invoice - Clearly calling out Program Measures by Name
Photo Documentation of the Window Install (photos during install)
NFRC Labels for All Glass (This can be photos or scans)
Customer Paperwork: Terms and Conditions, Appendix F (window version) & Certificate of Completion signed by customer

Exterior Door (hinged doors on the exterior of the home or between home and unconditioned space, i.e., garage.)

Invoice - Clearly calling out Program Measures by Name
Photo Documentation (photos during install)
Customer Paperwork: Terms and Conditions, Appendix F (window version) & Certificate of Completion signed by customer

New AC Installation or Replacement AC

Appendix E - AC Commissioning Form
Invoice with equipment size, manufacturer, model number (both evaporator and condenser), and efficiency SEER, EER
AHRI Documentation
Appendix F - Post Improvement Carbon Monoxide and Ventilation Disclosure
Manual J ACCA Approved - summary report
Customer Paperwork: Terms and Conditions & Certificate of Completion signed by customer

Appendix C: Required documents for rebate application

Ductless Mini - Splits

Photo-documentation of the install

Invoice with equipment size, manufacturer, model number (both evaporator and condenser), and efficiency SEER,HSPF

Appendix E-2 Ductless CX form

AHRI Documentation

Customer Paperwork: Terms and Conditions & Certificate of Completion signed by customer

Central Heat Pump - Split Systems

Photo-documentation of the install

Commissioning Form Has Been Completed - Appendix E

Invoice with equipment size, manufacturer, model number (both evaporator and condenser), and efficiency SEER,HSPF

AHRI Documentation

Cold Climate Certification documentation

Manual J ACCA Approved - summary report

Customer Paperwork: Terms and Conditions & Certificate of Completion signed by customer

Heat Pump Water Heater

Photo-documentation of the install

Invoice with the equipment size, manufacturer, model #, previous water heater fuel type

Appendix F - Post Improvement Carbon Monoxide and Ventilation Disclosure

Customer Paperwork: Terms and Conditions & Certificate of Completion signed by customer

Mechanical Ventilation

Photo-documentation of the install

Invoice with the equipment size, manufacturer, model #

Combustion Safety Testing Completed and Recorded -Appendix F

Customer Paperwork: Terms and Conditions & Certificate of Completion signed by customer

Smart Thermostat

Invoice with manufacturer brand & model #

Customer Paperwork: Terms and Conditions & Certificate of Completion signed by customer

Appendix D: This document is no longer in use

Appendix E: AC/Heat pump commissioning form

Customer Name:				Date:				
Address:								
Installing Company:				Installing Technician:				
Split System AC/Heat Pump								
Section 1. HVAC Service Provider Checklist Please complete the following section.								
Equipment Specifications								
Unit Type	AC	<input type="checkbox"/>	Heat pump	<input type="checkbox"/>	Blower motor name plate size (HP):			
Manufacturer				Compressor RLA (Amps):				
Air Handler Model #				2 stage? Yes or No				
Outdoor Unit Model #				Expansion Valve Type		TXV		<input type="checkbox"/>
Indoor Coil Model #						Fixed orifice		<input type="checkbox"/>
Nominal capacity(tons)								
Controls								
Tstat mfgr/model #								
Tstat type:		Manual	<input type="checkbox"/>	Programmable	<input type="checkbox"/>	Communicating	<input type="checkbox"/>	
Temperature Setpoints:		Heating / unoccupied (F)				Fan Setting		<input type="checkbox"/> On
		Cooling / unoccupied (F)						<input type="checkbox"/> Off
Indoor Measurements								
Return air DB temp		(F)	Blower motor electrical power			Volts		
Supply air DB temp		(F)				Amps		
System Air Flow								
Total air flow CFM				Supply ESP (IWC)				
				Return ESP (IWC)				
				Ext. Static Pressure (IWC)				
				Total ESP is 0.80 IWC or lower		<input type="checkbox"/> Pass/Fail		
				CFM per ton is 350 to 500		<input type="checkbox"/> Pass/Fail		
Outdoor Measurements								
Compressor electrical power			Volts	Notes				
			Amps					
Electrical Work								
All electrical work performed by authorized electrician or as authorized by Electrician's board								
Disconnect box wiring shock risk reduced by lock, strap tie and/or box that provides other means of protection								
Heat Pump (If Applicable)								
System was run in both heating and cooling modes to ensure proper operation								
				Switchover Temperature		(F)		

Appendix E: AC/Heat pump commissioning form

Notes

Cold Weather Commissioning
If you choose to perform cold weather commissioning of air conditioners or heat pumps you must either fill out the section below or provide approved additional documentation in rebate application.

Manufacturer specified lengths (feet): Minimum: _____ Maximum with factory charge: _____ Maximum: _____					
Maximum line set for factory charge (manufacturer): _____					
Actual line set length: _____					
Refrigerant added, if required by manufacturer: _____ Pounds _____ Ounces _____					<input type="checkbox"/> NA
Line set purged with nitrogen, pressure tested & evacuated with pump per manufacturer's instructions.					
	OEM Guideline	Actual		OEM Guideline	Actual
Pressure test pressure (PSI)		# of evacuations performed			
Duration (minutes)		Vacuum Level (microns)			
Flare connections tightened using manufacturer's torque specification					
Visible line sets run through line set covers with transition and termination fittings					
Insulation covers full length of line sets (no exposed copper)					
Floor/wall/ceiling penetrations sealed					
Condensate line installed without dips or traps					
System was run in both heating and cooling modes to ensure proper operation					

Warm Weather Commissioning
<i>Minimum of 65 F unless otherwise stated by OEM</i>

TXV only	
Target subcooling (F) <input style="width: 100%;" type="text"/>	Actual subcooling (F) <input style="width: 100%;" type="text"/>
Actual subcooling is +/- 3 F of target, 2 F minimum <input style="width: 100%;" type="text"/>	Pass/Fail

Fixed Orifice Only	
Target Superheat (F) <input style="width: 100%;" type="text"/>	Actual Superheat (F) <input style="width: 100%;" type="text"/>
	Actual Super heat is +/- 5 (F) of target <input style="width: 100%;" type="text"/> Pass/Fail

Trained Technician's Signature	
---------------------------------------	--

Section 2. Homeowner Checklist Please check all boxes to confirm that all requirements have been met.	
<input type="checkbox"/>	I have been supplied with an Owner's Manual for the ac/heat pump
<input type="checkbox"/>	The installer taught me how to turn the unit on and off, clean the filter, switch between heating and cooling modes (if applicable), change the temperature set point, adjust air flow direction, and call for services.
<input type="checkbox"/>	Noise and vibration levels are acceptable
<input type="checkbox"/>	Line set covers are aesthetically acceptable

Customer's Signature	
-----------------------------	--

Appendix E2: Ductless minisplit commissioning form

Customer Name:				Date:	
Address:					
Installing Company:			Installing Technician:		
Ductless Heat Pump					
Section 1. HVAC Service Provider Checklist Please complete the following section.					
Outdoor Unit					
Unobstructed airflow					
Level					
Does not interfere with walkway, porch, window or door					
Installed at a servicable height					
Secured to wall or stable base					
Protected by rain cap (required if installed under roof drip line)					
Line Set					
Manufacturer specified lengths (feet): Minimum: _____ Maximum with factory charge: _____ Maximum: _____					
Maximum line set for factory charge (manufacturer): _____					
Actual line set length: _____					
Refrigerant added, if required by manufacturer: _____ Pounds _____ Ounces _____					<input type="checkbox"/> NA
Line set purged with nitrogen, pressure tested & evacuated with pump per manufacturer's instructions.					
	MFG Guideline	Actual		MFG Guideline	Actual
Pressure test pressure (PSI)			# of evacuations performed		
Duration (minutes)			Vacuum Level (microns)		
Flare connections tightened using manufacturer's torque specification					
Visible line sets run through line set covers with transition and termination fittings					
Insulation covers full length of line sets (no exposed copper)					
Floor/wall/ceiling penetrations sealed					
Condensate line installed without dips or traps					
Indoor Unit					
Level					
Adequate clearances for services and operation					
Electrical Work					
All electrical work performed by authorized electrician or as authorized by Electrician's board					
Disconnect box wiring shock risk reduced by lock, strap tie and/or box that provides other means of protection					
System					
System was run in both heating and cooling modes to ensure proper operation					
Trained Technician's Signature					
Section 2. Homeowner Checklist Please check all boxes to confirm that all requirements have been met.					
I have been supplied with an Owner's Manual for the heat pump					
The installer taught me how to turn the heat pump on and off, clean the filter, switch between heating and cooling modes, change the temperature set point, adjust air flow direction, and call for services.					
Noise and vibration levels are acceptable					
Line set covers are aesthetically acceptable					
Customer's Signature					

Appendix F: Efficiency Works retrofit program post-improvement carbon monoxide and ventilation disclosure

Customer Name: _____ Customer Address _____

Combustion Safety

Your participating contractor has tested the functioning of the exhaust system of your gas furnace and/or water heater to the standards of the Building Performance Institute. This includes a spillage (a.k.a. “back-drafting”) test performed under two test conditions: **natural conditions** and **worst-case conditions** as well as undiluted and ambient carbon monoxide (CO) measurements.

Under **worst-case conditions** a potential carbon monoxide hazard has been identified in the home. **Worst-case conditions** occur when all exhaust systems (bathroom fans, stovetop fans, dryers, furnace, etc) are all running at the same time. This simulates a depressurization condition where exhaust from gas burning appliances could enter the living space.

Under **natural conditions** a carbon monoxide hazard has been identified in the home. **Natural conditions** occur when all the systems in the home are operating in a manner most similar to the typical state of the home. Failure under natural conditions means that exhaust from gas burning appliances is likely to enter the living space regularly. Immediate actions should be taken to correct the spillage from the natural draft gas vent.

Health and Safety Issues

Breathing the exhaust from gas burning appliances is hazardous to your health. Carbon monoxide can be fatal in high doses or cause chronic health problems in lower concentrations. Nitrogen oxides, which are irritants, are also combustion by-products. Safe combustion means that there is little or no carbon monoxide production and that 100% of the combustion products are vented to the outside at all times.

Building Envelope Tightness and Indoor Air Quality

Your participating contractor has tested the amount of air leakage through your home’s exterior surfaces, referred to as the “building envelope”. This test is used to estimate the heating and cooling energy cost savings attributable to air-sealing measures, and to estimate the amount of available fresh air that enters the home through leaks in the building envelope.

While home efficiency upgrades often focus on reducing air leaks as a key strategy for saving energy and increasing comfort, these retrofits simultaneously reduce the amount of fresh air that is introduced into the home, potentially leading to increased levels of moisture and pollutants in the indoor air. It is often recommended that, when implementing air-sealing measures, a controlled mechanical ventilation system also be installed. It may seem counterintuitive to seal leaks in the building envelope only to add a mechanical system to re-introduce fresh air; however, this strategy maximizes energy savings while safeguarding indoor air quality. Relying on building envelope air leakage alone to provide fresh air means that 1) the “fresh” air often enters through leaks from undesirable locations such as an attached garage, crawl space, or attic, and 2) the more extreme the outdoor conditions (extreme heat or cold, high winds, etc.), the more leakage occurs – leaving the home over-ventilated on the days and nights when a minimum level of air leakage is advantageous. A mechanical ventilation system provides a consistent, controlled amount of ventilation air to a tight and energy efficient home.

Disclosures (Check all that apply)

I understand there is a potential carbon monoxide hazard in my home.
(Contractor has provided Combustion Safety Details on page 2 of this document.)

Customer Name_____
Customer Signature_____
Date

Appendix F: Efficiency Works retrofit program post-improvement carbon monoxide and ventilation disclosure

Note - Spillage must be checked with a mirror or smoke pencil

Appliance 1: _____
 Worst Case Depressurization (Pa) [if measured]: _____
 Natural draft gas appliance flue gas spillage time @ Worst Case? _____ Pass Test? YES NO
 Natural draft gas appliance flue gas spillage time @ Natural Conditions? _____ Pass Test? YES NO
Note: Natural Conditions are only required if spillage fails Worst Case.
 Water Heater Orphaned? YES NO
 Has original flue been relined? YES NO Existing Flue Size? _____
 CO @ Steady State (ppm): _____ Ambient Carbon Monoxide (ppm): _____
 Next Steps? _____

Appliance 2: _____
 Worst Case Depressurization (Pa) [if measured]: _____
 Natural draft gas appliance flue gas spillage time @ Worst Case? _____ Pass Test? YES NO
 Natural draft gas appliance flue gas spillage time @ Natural Conditions? _____ Pass Test? YES NO
Note: Natural Conditions are only required if spillage fails Worst Case.
 Water Heater Orphaned? YES NO
 Has original flue been relined? YES NO Existing Flue Size? _____
 CO @ Steady State (ppm): _____ Ambient Carbon Monoxide (ppm): _____
 Next Steps? _____

Blower Door Pre: _____ Blower Door Post: _____
 %Difference: _____ Wind Conditions: _____

Combustion Safety

As the participating contractor in Efficiency Works, I acknowledge that I have tested the functioning of the exhaust system of the gas furnace and/or water heater to the standards of the Building Performance Institute as called out by Efficiency Works. This includes a spillage (a.k.a. “back-drafting”) test performed under two possible test conditions: natural conditions and worst case conditions as well as undiluted and ambient carbon monoxide (CO) measurements. **I also acknowledge that I have discussed the results of those tests and any health/safety issues with the homeowner directly.**

CAZ Tester Name _____ CAZ Tester Signature _____ Date _____

Contractor Notes: _____

Appendix F2: Windows post-improvement carbon monoxide and ventilation disclosure

Customer Name: _____ Customer Address _____

Health and Safety Issues

Older windows can be the cause of comfort problems including cold surfaces and excessive air leakage. Fixing these air leakage issues can cause a home to become tighter if all or most of the older windows are replaced with newer ones. A more airtight home could potentially create difficulties for atmospherically vented HVAC equipment, including water heaters, to vent their combustion gases outside the home. Atmospherically vented appliances depend on air coming into the house as fast as it goes out to vent properly. The newer, tighter windows reduce much of the previous air leakage from occurring, which in some situations can cause the combustion gases (including irritants such as Carbon Monoxide and Nitrogen Oxides) to be pulled back down the HVAC equipment's flues/chimneys and into the home; a situation called back-drafting.

A basic Combustion Appliance Zone safety test (CAZ test) is the best way to ensure that all combustion equipment vents properly after windows are replaced. The CAZ test verifies that space- and water-heating equipment successfully exhausts all combustion gases while the house is in the worst-case scenario (i.e. being depressurized by bath fans, kitchen fans, and the main blower of the furnace/AC). **Please consider hiring a contractor to provide this service.**

Additionally, it is important that the home have properly located, working Carbon Monoxide detectors. Breathing the exhaust from gas burning appliances is hazardous to your health. Carbon monoxide can be fatal in high doses or cause chronic health problems in lower concentrations. Safe combustion means there is little or no carbon monoxide production and that 100% of the combustion products are vented to the outside at all times.

Building Envelope Tightness and Indoor Air Quality

While home efficiency upgrades often focus on reducing air leaks as a key strategy for saving energy and increasing comfort, these retrofits simultaneously reduce the amount of fresh air that is introduced into the home, potentially leading to increased levels of moisture and pollutants in the indoor air. It is often recommended that, when implementing air-sealing measures, a controlled mechanical ventilation system also be installed. It may seem counterintuitive to seal leaks in the building envelope only to add a mechanical system to re-introduce fresh air; however, this strategy maximizes energy savings while safeguarding indoor air quality. Relying on building envelope air leakage alone to provide fresh air means that 1) the "fresh" air often enters through leaks from undesirable locations, such as an attached garage, crawl space, or attic, and 2) the more extreme the outdoor conditions (extreme heat or cold, high winds, etc.), the more leakage occurs, leaving the home over-ventilated on the days and nights when a minimum level of air leakage is advantageous. A mechanical ventilation system provides a consistent, controlled amount of ventilation air to a tight and energy efficient home.

Disclosures (Check all that apply)

- I understand that Indoor Air Quality is tied to building tightness and that mechanical ventilation will often improve indoor air quality. Further information on mechanical ventilation strategies and rates are available from an Efficiency Works Advisor.
- In the event that my audit occurred prior to my window upgrade, I understand that it is advisable to hire a contractor to conduct a follow up CAZ Test to ensure my combustion appliances are functioning properly with a tighter building envelope.
- In the event that my audit occurred after my window upgrade, I understand that the CAZ test recommendation has been fulfilled.

Customer Name

Customer Signature

Date

Contractor Notes:

Appendix G: Mentoring requirements

Program mentoring requirements:

Completing the Efficiency Works Retrofit Program Service Provider enrollment requires an Orientation, remote web-based training **AND** on-the-job mentoring with Efficiency Works Homes' Program Manager or other appointed staff.

Please reach out when scheduling the first few jobs to attempt to set up mentoring-in-field- verification (MIV) site visits. This will allow you to start the program on the right foot by making sure you are doing the right things out of the gate.

To schedule a mentoring session please contact:

homes@efficiencyworks.org

Appendix H: Rebate matrix

This information is now available at: <https://efficiencyworks.org/homes/rebates/#secrebates>

Appendix H: Rebate matrix

Efficiency measure	Requirements and options	Rebate amounts
Air sealing	<p>Existing: All houses with an ACH50 of greater than 3.0 are eligible Combustion safety test required Pre and post blower door testing required</p>	<p>Rebate amount varies with % reduction in house shell leakage:</p> <ul style="list-style-type: none"> • Tier 1, >15% - \$310 • Tier 2, >25% - \$460 • Tier 3, >33% - \$620 • Tier 4, >50% - \$770
Conditioned crawl space	<p>Existing: uninsulated or poorly installed insulation All three must be completed: Rim joist insulation Air sealing/insulating foundation wall Moisture/soil gas barrier Evidence of moisture requires extension of moisture/soil gas barrier up the foundation wall to the sill plate as well as provision for means of sub-barrier moisture removal. Rim joist: foam board or spray foam insulation to current IECC R-value requirements, air seal Foundation wall – options insulation levels must meet current IECC R-value requirements Insulate on interior with perforated vinyl faced fiberglass blanket, closed cell foam board or spray foam with ignition barrier (except where exempt per ICC-ES). Combustion safety test required</p>	<p>Rim joist \$1.16/linear ft.</p> <p>Foundation wall \$1.16/sq.ft.</p>

Appendix H: Rebate matrix

Efficiency measure	Requirements and options	Rebate amounts
Basement wall insulation (interior)	<p>Existing: Basement walls are uninsulated. Existing moisture problems must be mitigated, and any foundation cracks sealed</p> <p>Rim joist: closed cell foam board or spray foam to meet current IECC R-value requirements; air seal foundation plate</p> <p>Foundation wall insulation:</p> <p>Options:</p> <p>1" XPS or EPS foam board against foundation wall + unfaced R-13 fiberglass batts in finished frame wall</p> <p>Continuous spray foam or foam board to IECC R-value requirements with thermal barrier.</p> <p>Vinyl faced fiberglass blanket to IECC R - value requirements</p> <p>Combustion safety test required</p>	<p>Rim joist \$1.16/linear ft.</p> <p>Foundation wall \$1.16/sq.ft.</p>
Cantilever floor insulation	<p>Air seal exterior and interior</p> <p>Any water pipes must be located in top ½ of floor joist cavity or drywall must be removed and netting installed below water pipes before insulating</p> <p>Combustion safety test required</p>	<p>\$1.16/sq.ft.</p>
Floor over garage insulation	<p>Existing: Insulation does not fill floor cavity</p> <p>If any water pipes are located below the top ½ of floor joist cavity or drywall must be removed and netting/tenting installed below water pipes before insulating</p> <p>All open chases must be sealed</p> <p>Floor joist cavities used as return air ducts must be sealed from floor cavity being insulated</p> <p>Any drywall removed from ceiling must be restored to current code compliance</p> <p>Combustion safety test required</p>	<p>\$1.16/sq.ft.</p>

Appendix H: Rebate matrix

Efficiency measure	Requirements and options	Rebate amounts
Exterior frame wall Insulation	<p>Existing: R-9 or less</p> <p>Must air seal all wall assembly openings (windows, doors & electrical boxes) prior to dense packing walls</p> <p>Completely fill all stud cavities</p> <p>Cloth sheathed electrical wiring must be evaluated by a licensed electrician prior to insulating</p> <p>Knob and tube wiring must be abandoned or replaced prior to insulating</p> <p>Combustion safety test required</p>	\$1.16/sq.ft.
Attic insulation (flat ceiling)	<p>Existing: Insulation < R-30</p> <p>Final insulation must \geq R-60</p> <p>Baffles must be installed at all exterior top plate soffit vent locations & insulation stops to minimize wind washing</p> <p>Must air seal attic floor thermal by-passes. Must install missing air barriers or insulation on knee walls and skylights</p> <p>Must install dams above kneewalls edge when necessary to hold insulation in place.</p> <p>Must repair duct problems in attic before insulating</p> <p>All exhaust fan ducts must terminate on the exterior of the building</p> <p>Combustion safety test required</p>	\$0.77/sq.ft.
Attic knee wall insulation	<p>Insulation must be installed to RESNET Grade I</p> <p>Meet current IECC R-value requirements</p> <p>If already insulated, add R-11 spray foam, foam board or vinyl faced fiberglass blanket over existing insulation. Spray foam & foam board requires ignition barrier (except where exempt per ICC-ES).</p> <p>If uninsulated, first fill cavity, then add R-11 spray foam, foam board or vinyl faced fiberglass blanket to the cold side of the framing. Spray foam & foam board requires ignition barrier (except where exempt per ICC-ES).</p> <p>Combustion safety test required</p>	<p>Already Insulated \$0.77/sq.ft.</p> <p>Uninsulated \$1.16/sq.ft.</p>

Appendix H: Rebate matrix

Efficiency measure	Requirements and options	Rebate amounts
Cathedral ceiling insulation	No minimum existing insulation No interior Class I vapor retarders Cathedral ceiling insulation requirements: Install continuous, external R-20 insulation above the structural roof sheathing (and covered with IRC approved roofing material) Completely fill rafter cavity below structural roof sheathing with dense-packed short fiber fiberglass Air seal ceiling and can lights as appropriate Combustion safety test required	\$1.16/sq.ft.
Conditioned attics (unvented attics with spray foam on the underside of the roof deck)	All existing insulation must be removed from the attic floor (vacuum out all blown insulation) Minimum R-30 on underside of roof deck An ignition barrier is required to cover all exposed foam All attic ventilation (soffit, gable, roof vents) must be removed or sealed	\$1.16/sq.ft.
Window and/or sliding glass door replacement	Existing: Windows and sliding glass doors must be single pane, clear glass or metal framed Exterior walls and existing window frames left in place must be insulated and air sealed Windows and sliding glass doors must be ENERGY STAR® qualified for our northern climate, with a low maintenance exterior https://www.energystar.gov/products/building_products/residential_windows_doors_and_skylights/key_product_criteria	\$3.75/sq.ft.

Appendix H: Rebate matrix

Efficiency measure	Requirements and options	Rebate amounts
Air conditioners	17 SEER / 16.2SEER2 12.5 EER / 12 EER2 AC system sized using ACCA Manual J compliant method Systems > 115% of design cooling load must use Manual S Must be AHRI matched Existing AC must be SEER 10 or <, OR replacement AC system is at least 1 ton smaller System must be commissioned with Appendix E ENERGY STAR® certified	\$500
Ductless mini-split heat pumps	21 SEER / 21SEER2 9.5 HSPF / 9.1 HSPF2 Must be cold-climate multi-stage heat pump NEEP or EStar or AHRI System must be commissioned with Appendix E2 ENERGY STAR® certified	\$500/ton

Appendix H: Rebate matrix

Efficiency measure	Requirements and options	Rebate amounts
Heat pumps central split systems	Unmatched Central Air Source Heat Pump 16 SEER / 15.2 SEER2 9 HSPF / 7.8 HSPF2 Change over temp < 35F ENERGY STAR® certified Must be AHRI matched to any blower that can meet our specifications	Unmatched Central Air Source Heat Pump \$500
	Tier 1 Central Air Source Heat Pump 16 SEER / 15.2 SEER2 9 HSPF / 7.8 HSPF2 Change over temp < 35F ENERGY STAR® certified Must be AHRI matched	Tier 1 \$1500
	Tier 2 Central Air Source Cold Climate Heat Pump 16 SEER / 15.2 SEER2 9.5 HSPF / 8.1 HSPF2 Change over temp <5F Cold Climate NEEP,CEE, Energy Star, or AHRI System must be sized using ACCA Manual J compliant method System must be commissioned with Appendix E Must be AHRI matched	Tier 2 \$2000

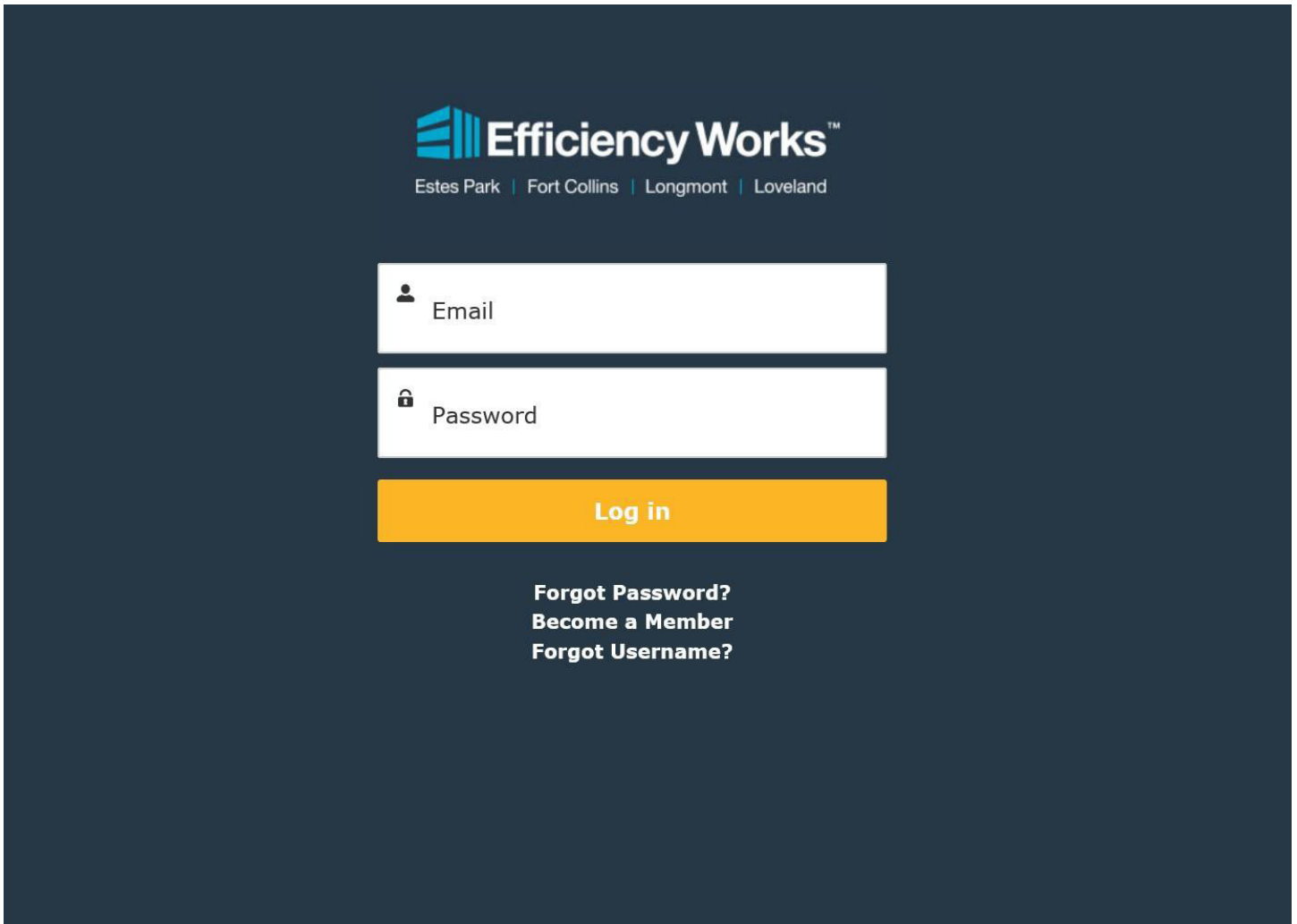
Appendix H: Rebate matrix

Efficiency measure	Requirements and options	Rebate amounts
Ground source heat pumps	Water to water 16.1 EER 3.1 COP ENERGY STAR® certified Closed Loop System must be sized using ACCA Manual J compliant method System must be commissioned with Appendix E	Water to water \$3000
	Water to air 17.1 EER 3.6 COP ENERGY STAR® certified Closed Loop System must be sized using ACCA Manual J compliant method System must be commissioned with Appendix E	Water to air \$3000
Heat pump water heater	UEF > 3.3 Replacement situation ENERGY STAR® certified Additional Rebate if CTA-2045 compliant (Eco Port)	\$800 \$100
Mechanical ventilation	Existing: Per ASHRAE 62.2-2013 calculation, home requires mechanical ventilation Install Ventilation per ASHRAE 62.2-2013 mechanical ventilation requirements Combustion safety test required	\$500
Radon fan	Must be ENERGY STAR Certified	\$75

Appendix I: This document is no longer in use

Appendix J: This document is no longer in use

Appendix K: How to apply for a rebate in Efficiency Works Homes

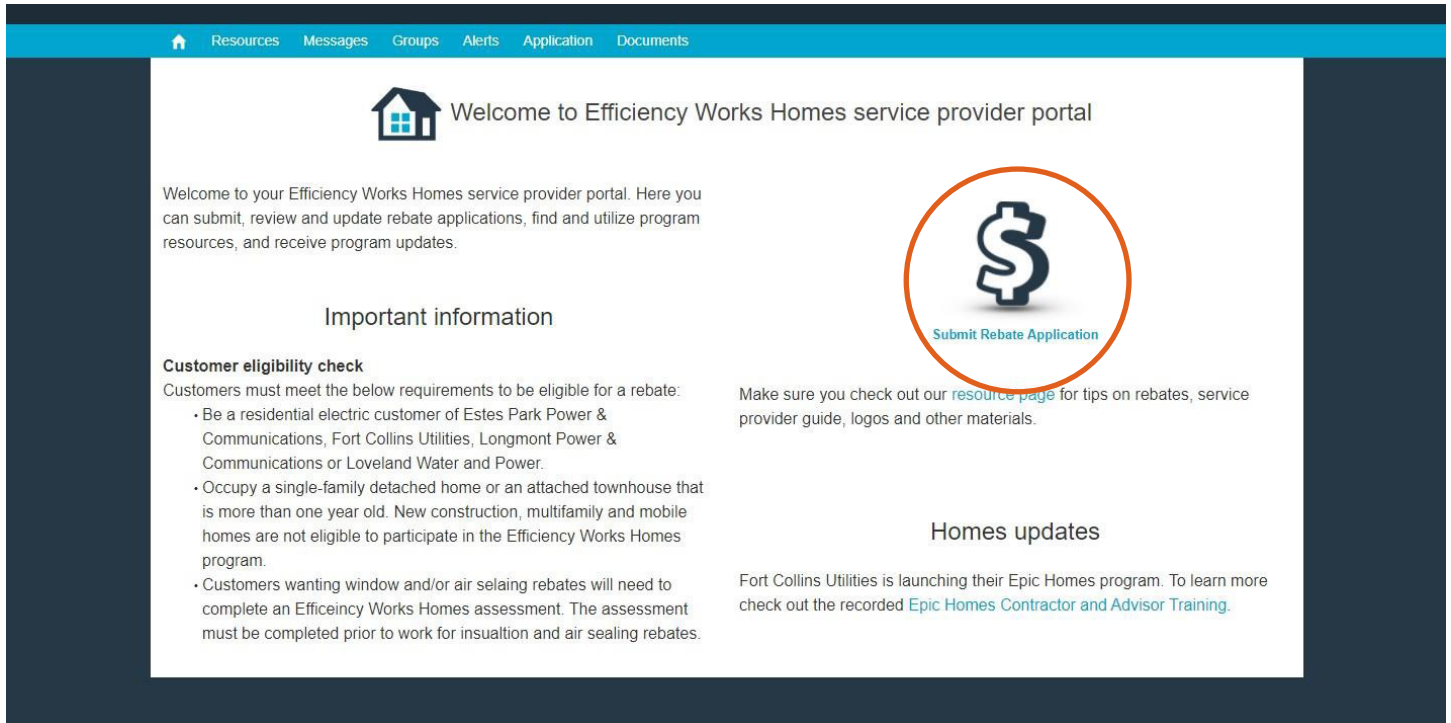


The screenshot shows the login interface for Efficiency Works. At the top, the logo and company name are displayed, followed by the locations: Estes Park | Fort Collins | Longmont | Loveland. Below this, there are two input fields: one for 'Email' with a person icon and one for 'Password' with a lock icon. A prominent orange 'Log in' button is centered below the fields. Underneath the button, there are three links: 'Forgot Password?', 'Become a Member', and 'Forgot Username?'.

When you are ready to apply for a rebate or manage an existing rebate you need to log into your Trade Ally portal.


<https://efficiencyworks.force.com/tradeally/s/login/>

Appendix K: How to apply for a rebate in Efficiency Works Homes



The screenshot shows the Efficiency Works Homes service provider portal. At the top, there is a navigation bar with links for Resources, Messages, Groups, Alerts, Application, and Documents. Below the navigation bar, a house icon is followed by the text "Welcome to Efficiency Works Homes service provider portal". A paragraph of text explains that users can submit, review, and update rebate applications, find program resources, and receive updates. A section titled "Important information" contains a "Customer eligibility check" with a list of requirements. To the right, a large orange circle highlights a "Submit Rebate Application" button, which features a dollar sign icon. Below this, there is a note about checking a resource page for tips and a "Homes updates" section mentioning the Epic Homes program.

Resources Messages Groups Alerts Application Documents

 Welcome to Efficiency Works Homes service provider portal

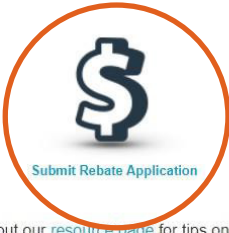
Welcome to your Efficiency Works Homes service provider portal. Here you can submit, review and update rebate applications, find and utilize program resources, and receive program updates.

Important information

Customer eligibility check

Customers must meet the below requirements to be eligible for a rebate:

- Be a residential electric customer of Estes Park Power & Communications, Fort Collins Utilities, Longmont Power & Communications or Loveland Water and Power.
- Occupy a single-family detached home or an attached townhouse that is more than one year old. New construction, multifamily and mobile homes are not eligible to participate in the Efficiency Works Homes program.
- Customers wanting window and/or air sealing rebates will need to complete an Efficiency Works Homes assessment. The assessment must be completed prior to work for insulation and air sealing rebates.

 Submit Rebate Application

Make sure you check out our [resource page](#) for tips on rebates, service provider guide, logos and other materials.

Homes updates

Fort Collins Utilities is launching their Epic Homes program. To learn more check out the recorded [Epic Homes Contractor and Advisor Training](#).

Step 1


Once on this page you click on **Submit Rebate Application**.

Appendix K: How to apply for a rebate in Efficiency Works Homes


[< Back to Applications](#)

Select a program for the application

Choose any program from the list of Eligible programs



Efficiency Works Homes Rebates
Efficiency Works Homes Rebate Program is utilized by our service provider network to apply for rebates on behalf of their customers. Individuals may not apply for the rebates but can find a list of service providers in our program at <https://efficiencyworks-ta.tradeally.com/tradeally/public/find.do>

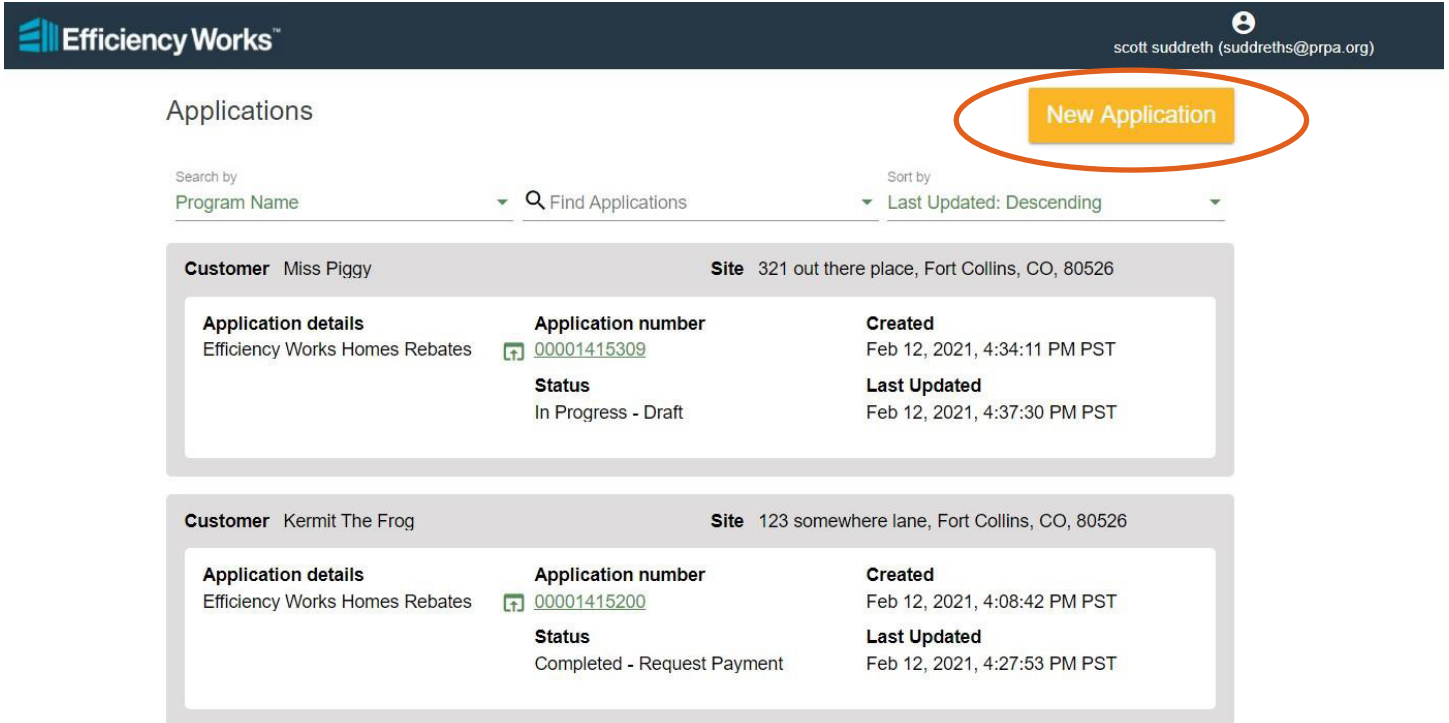


.exe ^

Step 2

This page will list the Efficiency Works Homes rebates program. Click on the forward button to continue.

Appendix K: How to apply for a rebate in Efficiency Works Homes



The screenshot shows the Efficiency Works application management interface. At the top left is the Efficiency Works logo. At the top right is a user profile icon and the email address scott.suddreth@suddreth@prpa.org. Below the header is the word 'Applications'. A search bar contains 'Program Name' and a search icon, with the text 'Find Applications' next to it. To the right of the search bar is a 'Sort by' dropdown menu set to 'Last Updated: Descending'. A yellow button labeled 'New Application' is circled in orange. Below the search and sort options are two application cards. Each card shows customer information, site address, application details, application number (with a green link icon), status, created date, and last updated date.

Customer	Site	Application details	Application number	Created	Status	Last Updated
Miss Piggy	321 out there place, Fort Collins, CO, 80526	Efficiency Works Homes Rebates	00001415309	Feb 12, 2021, 4:34:11 PM PST	In Progress - Draft	Feb 12, 2021, 4:37:30 PM PST
Kermit The Frog	123 somewhere lane, Fort Collins, CO, 80526	Efficiency Works Homes Rebates	00001415200	Feb 12, 2021, 4:08:42 PM PST	Completed - Request Payment	Feb 12, 2021, 4:27:53 PM PST

Step 3

You should now see the page above. This page allows you to look at your existing rebates you have in the program listed vertically down the page.

To access an existing application simply find it in the list and click on the green link under the application number.

To enter a new rebate application click on **(New Application)**.

Appendix K: How to apply for a rebate in Efficiency Works Homes

Efficiency Works™

Test Testuser (6@6.com)

Efficiency Works Homes Rebates | Rebate Application | 00000767708

Contractor Information

Please review and make sure the below information is correct. You can update any incorrect or out of date information in your profile in Trade Ally.

Company Name *	Partner Number
Test Construct	5034
Address 1 *	Address2
123 Test Ave	
City	State *
SF	CA
Zip Code *	
94404	
Phone Number	
(970) 111 - 2222	

Contact Information

Contact First Name *	Contact Last Name *
Ted	Testing
Contact Email *	Contact Phone
ted@testina.com	910 012 0123

POTENTIAL REBATE

\$0.00
Customer

- Contractor Information
- Customer Information
- Utility Information
- Project Information
- Air Sealing and Insulation (0)
- Payee
- Documents

Calculate | Sync/Save | Back To Applications

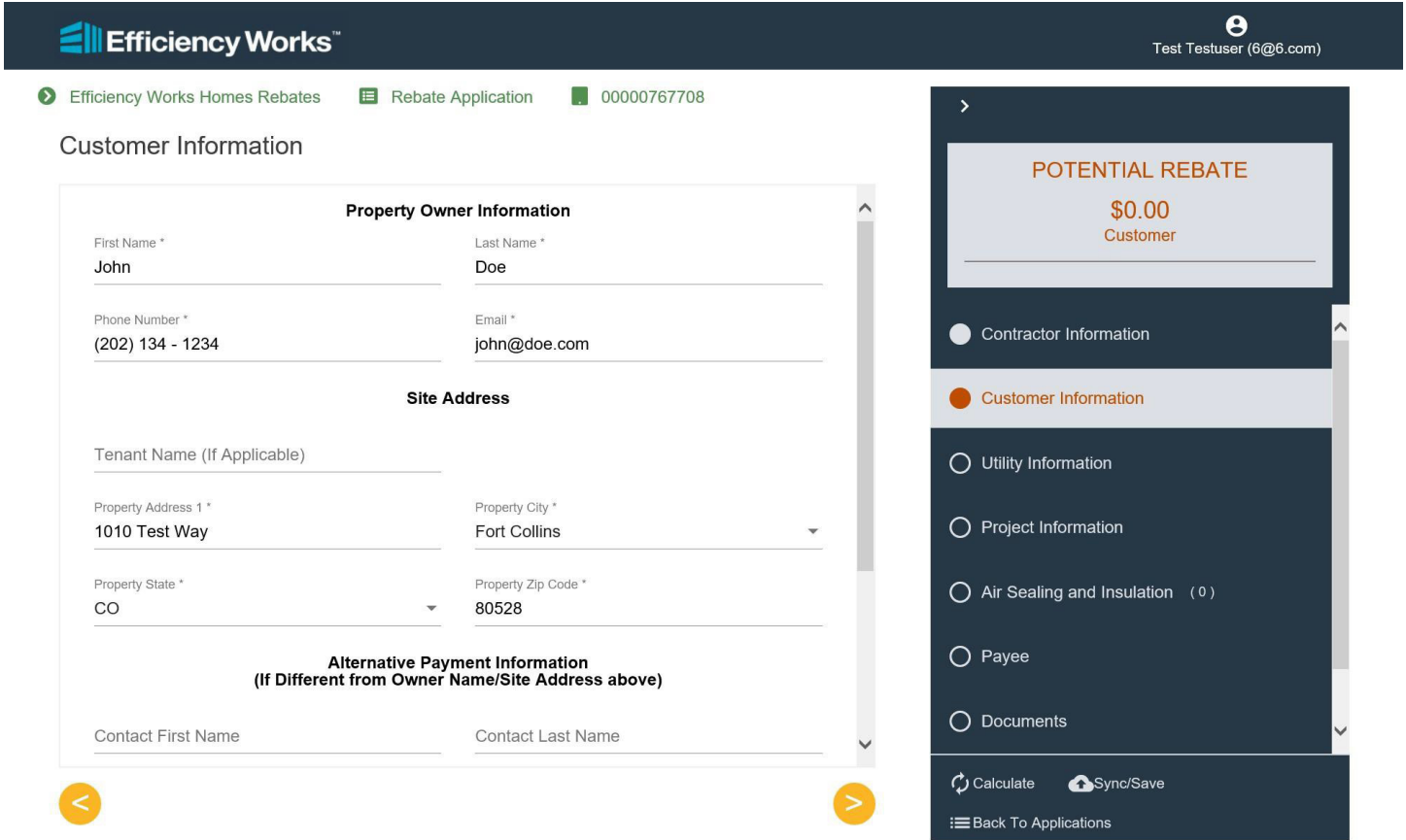
Note:

The column on the right-hand side of the page will track your progress throughout the application. You can only move forward one page at a time using the orange advance button (circled on this page in red) but you can move back as many pages as required.

Step 4

You should now see the page above. This is the **Contractor Information** page, and it should be auto-populated with your correct information as it is pulled from your profile page. If any of this information is incorrect – it should be changed in your Profile settings – see top blue circle. Click on **the orange advance button circled** to move forward.

Appendix K: How to apply for a rebate in Efficiency Works Homes



The screenshot displays the Efficiency Works Rebate Application interface. At the top, the Efficiency Works logo is on the left, and the user profile 'Test Testuser (6@6.com)' is on the right. Below the header, a breadcrumb trail shows 'Efficiency Works Homes Rebates' > 'Rebate Application' > '00000767708'. The main content area is titled 'Customer Information' and contains a form with the following sections:

- Property Owner Information:**
 - First Name * (John)
 - Last Name * (Doe)
 - Phone Number * ((202) 134 - 1234)
 - Email * (john@doe.com)
- Site Address:**
 - Tenant Name (If Applicable)
 - Property Address 1 * (1010 Test Way)
 - Property City * (Fort Collins)
 - Property State * (CO)
 - Property Zip Code * (80528)
- Alternative Payment Information (If Different from Owner Name/Site Address above):**
 - Contact First Name
 - Contact Last Name

Navigation arrows are visible at the bottom of the form. To the right, a sidebar shows a summary of the application:

- POTENTIAL REBATE:** \$0.00 Customer
- Contractor Information
- Customer Information** (highlighted in orange)
- Utility Information
- Project Information
- Air Sealing and Insulation (0)
- Payee
- Documents

At the bottom of the sidebar, there are buttons for 'Calculate', 'Sync/Save', and 'Back To Applications'.

Step 5

You should now see the page above. This page is the **Customer Information** page. You will need to fill out all the cells that have asterisks as they are the required fields. The Alternative Payment Information section will be covered in a later example in this document. Click on **the orange advance button** to move forward.

Appendix K: How to apply for a rebate in Efficiency Works Homes

The screenshot displays the 'Utility Information' section of the rebate application. At the top, a red notification states: 'Based upon the site address entered, this customer may have already had a rebate submitted for them. Please handle accordingly.' Below this, the 'Electric Utility' is set to 'Fort Collins Utilities' and the 'Gas Utility Provider' is 'Xcel Energy'. A section titled 'Select one or more Trade to indicate what type(s) of rebate is being applied for.' includes checkboxes for 'Air Sealing and Insulation' (checked), 'Windows', and 'HVAC'. The 'Completed Install Date' is '2/2/2021', with a calendar icon circled in red. A 'System Message' field is present but empty. The sidebar on the right shows a 'POTENTIAL REBATE' of '\$0.00 Customer' and a list of sections: Contractor Information, Customer Information, Utility Information (highlighted), Project Information, Air Sealing and Insulation (0), Payee, and Documents. At the bottom of the sidebar are buttons for 'Calculate', 'Sync/Save', and 'Back To Applications'.

Note:

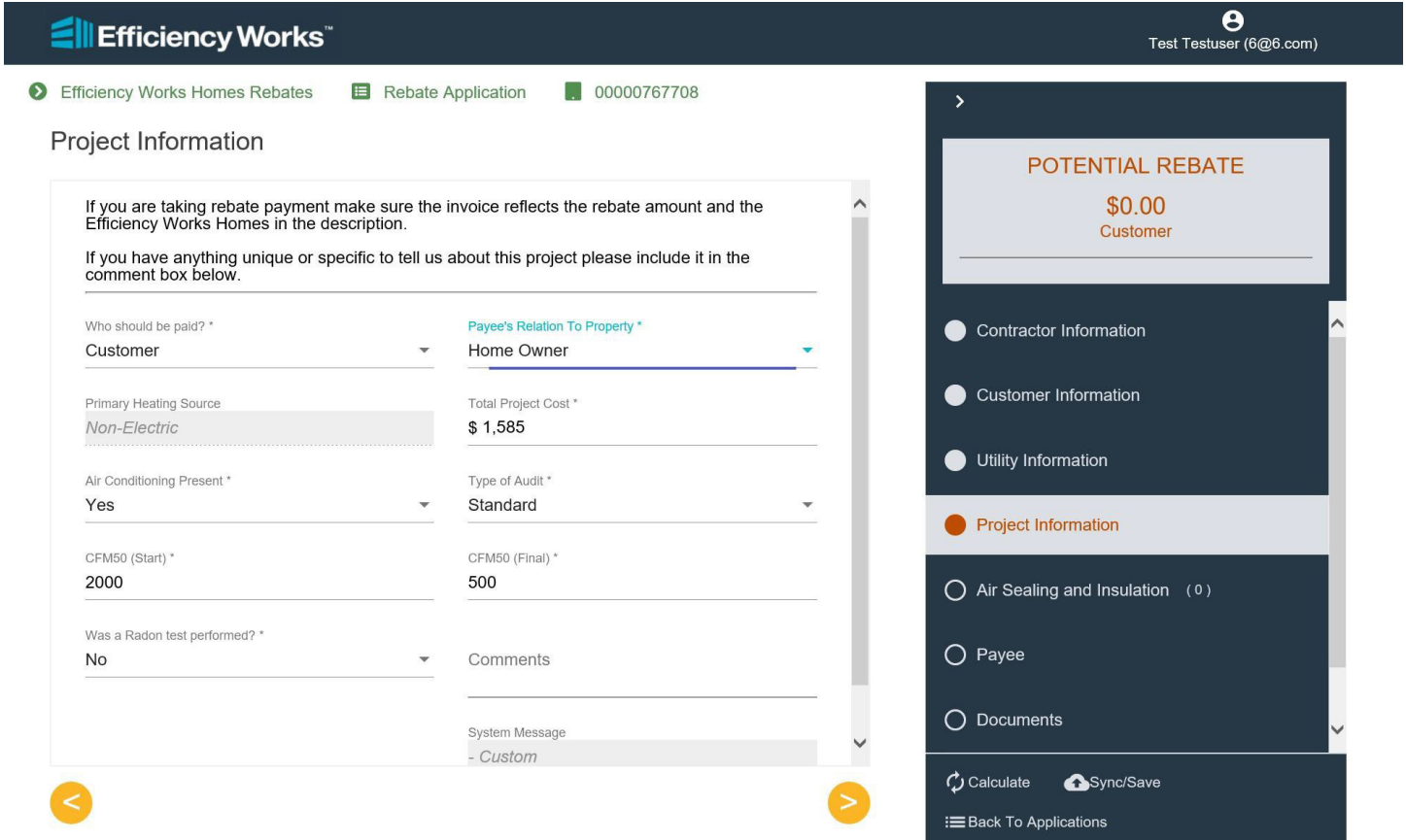
The red text at the top of the page is a notification that the system recognizes this address. If you ever see this, double check to make sure you have not already applied for the same rebate.

Step 6

You should now see the page above. This is the **Utility Information** page. Simply select the appropriate electrical and gas utility provider. Then you need to check the box beside your trade and choose the **Completed Install Date** by clicking on the calendar icon circled in red.

Click on the orange advance button to move forward.

Appendix K: How to apply for a rebate in Efficiency Works Homes



The screenshot displays the Efficiency Works Rebate Application interface. At the top, the Efficiency Works logo is on the left, and the user's name 'Test Testuser (6@6.com)' is on the right. Below the header, there are navigation tabs: 'Efficiency Works Homes Rebates', 'Rebate Application', and a project ID '0000767708'. The main section is titled 'Project Information' and contains a form with the following fields:

- Who should be paid? ***: Customer (dropdown)
- Payee's Relation To Property ***: Home Owner (dropdown)
- Primary Heating Source**: Non-Electric (text input)
- Total Project Cost ***: \$ 1,585 (text input)
- Air Conditioning Present ***: Yes (dropdown)
- Type of Audit ***: Standard (dropdown)
- CFM50 (Start) ***: 2000 (text input)
- CFM50 (Final) ***: 500 (text input)
- Was a Radon test performed? ***: No (dropdown)
- Comments**: (text input)
- System Message**: - Custom (text input)

On the right side, a sidebar shows a 'POTENTIAL REBATE' of '\$0.00 Customer'. Below this, there are navigation options: Contractor Information, Customer Information, Utility Information, Project Information (highlighted in orange), Air Sealing and Insulation (0), Payee, and Documents. At the bottom of the sidebar, there are buttons for 'Calculate', 'Sync/Save', and 'Back To Applications'.

Step 7

You should now see the page above. This is the **Project Information** page. Once again – fill out all cells with an asterisk. Note that this is the page where you tell us **who** will receive the rebate.

Customer = Customer gets rebate (You will be asked to select Payee's Relation To Property)

Contractor = Contractor gets rebate.

Click on the orange advance button to move forward.

Appendix K: How to apply for a rebate in Efficiency Works Homes

The screenshot displays the Efficiency Works Homes Rebates application interface. At the top, the logo and navigation links are visible. The main section is titled "Air Sealing and Insulation" and includes a note: "• Estes Park rebates are only applicable for homes with electric heat." Below this is a search bar with the text "Search by: Name" and "Find product by name or model number and add to rebate". A list of four items is shown, each with a gear icon and a checkbox:

- Air Sealing - Whole House
- Air Sealing - Home/Garage
- Attic - Blown Fiber Glass/Cellulose
- Attic Knee Wall Insulation - Adding to Existing Insulation

At the bottom of the list, a green button labeled "+ Add To Project" is circled in orange. To the right, a sidebar shows a "POTENTIAL REBATE" of "\$440.00 Customer". Below this, a list of categories is shown with radio buttons:

- Contractor Information
- Customer Information
- Utility Information
- Project Information
- Air Sealing and Insulation (0)
- Payee
- Documents

At the bottom of the sidebar, there are buttons for "Calculate", "Sync/Save", and "Back To Applications".

Step 8

You should now see the page above. This is an Air Sealing and Insulation example. Select all the measures you want to apply for and click + Add To Project.

Click on the orange advance button to move forward.

Appendix K: How to apply for a rebate in Efficiency Works Homes

Efficiency Works Homes Rebates | Rebate Application | 00000768204

Air Sealing and Insulation + Add Equipment or Measures

INCENTIVES
Customer : \$ 440.00

Air Sealing - Whole House + Duplicate - Delete

CFM values entered on Project Information will automatically populate as you move forward in the application. To see the information immediately click the calculate button.

CFM50 (Start) 2000	CFM50 (Final) 500
Install Cost \$ 1,500	CFM Reduction (Percent) 75%
Rebate \$440	

POTENTIAL REBATE
\$440.00
Customer

- Contractor Information
- Customer Information
- Utility Information
- Project Information
- Air Sealing and Insulation (1)**
 - Air Sealing - Whole House**
- Payee
- Documents

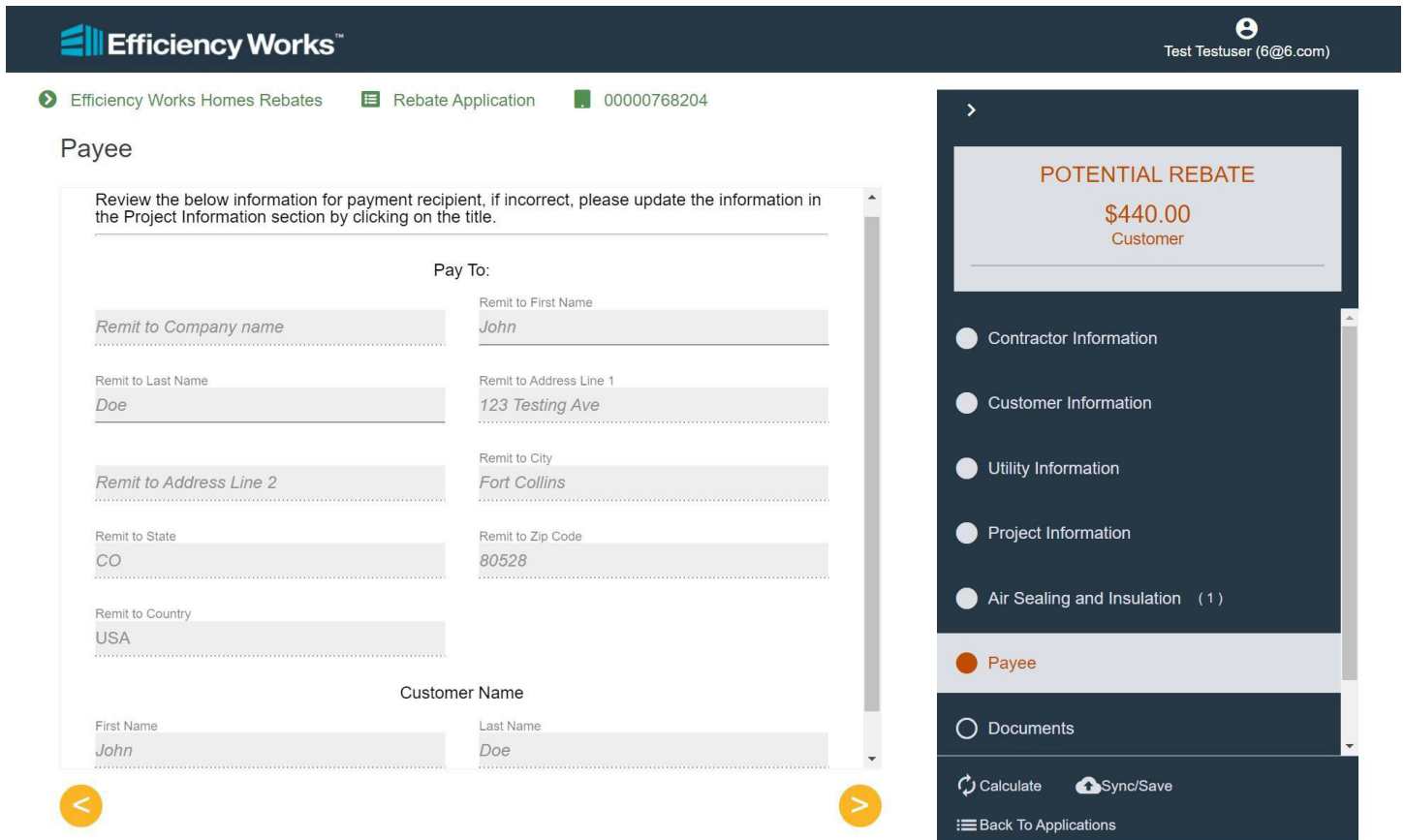
Calculate Sync/Save
Back To Applications

Step 9

Each measure has different inputs required. In this example we are applying for the Whole House Air Sealing rebate which is asking for a pre and post blower door value. The grey box above will provide a summary of the measures entered.

Click on the orange advance button to move forward once all measures are applied for.

Appendix K: How to apply for a rebate in Efficiency Works Homes



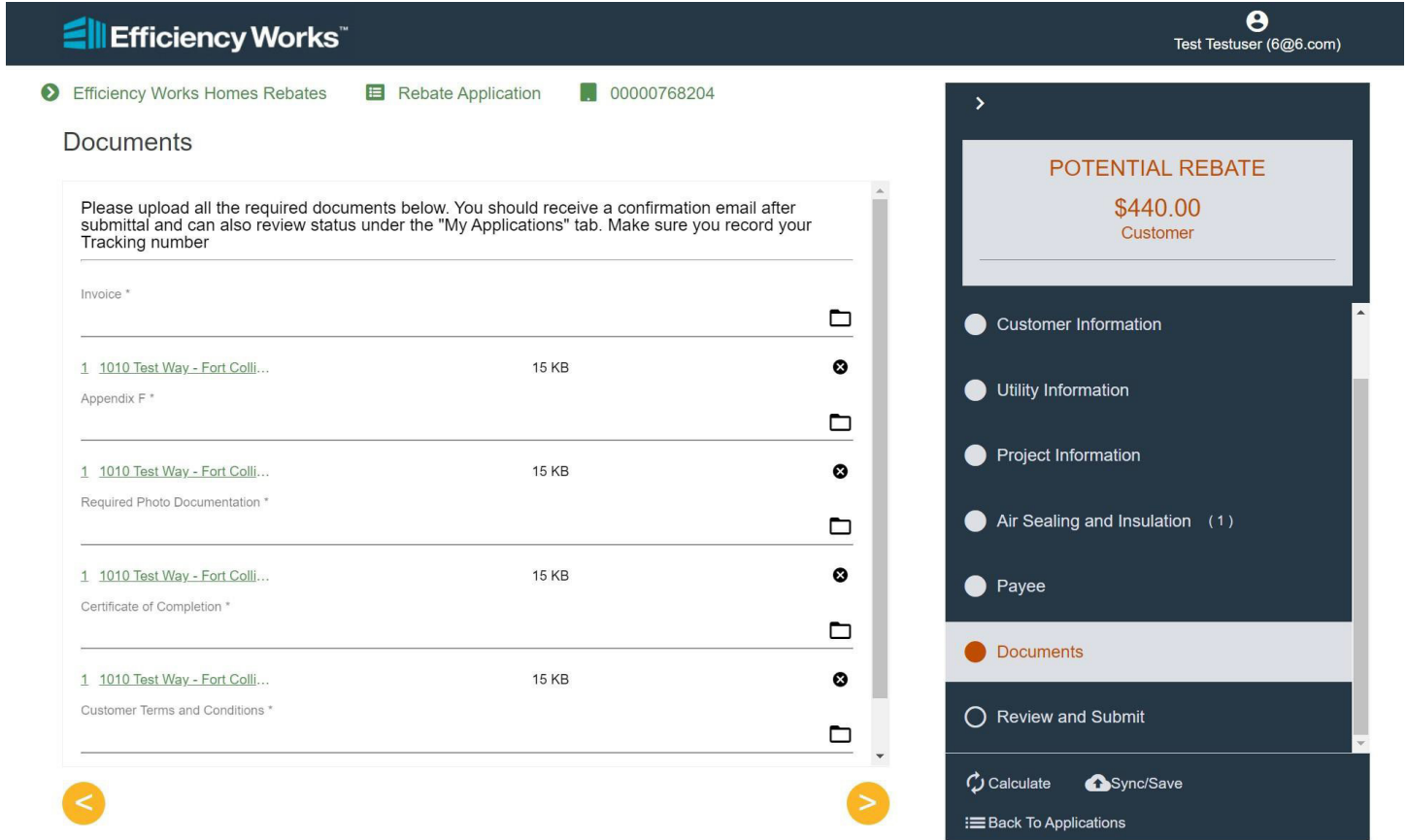
The screenshot displays the 'Payee' information page in the Efficiency Works Rebate Application. The page header includes the Efficiency Works logo, the user 'Test Testuser (6@6.com)', and navigation breadcrumbs: 'Efficiency Works Homes Rebates' > 'Rebate Application' > '00000768204'. The main content area is titled 'Payee' and contains a warning: 'Review the below information for payment recipient, if incorrect, please update the information in the Project Information section by clicking on the title.' Below this is a 'Pay To:' section with fields for 'Remit to Company name', 'Remit to First Name' (John), 'Remit to Last Name' (Doe), 'Remit to Address Line 1' (123 Testing Ave), 'Remit to Address Line 2', 'Remit to City' (Fort Collins), 'Remit to State' (CO), 'Remit to Zip Code' (80528), and 'Remit to Country' (USA). A 'Customer Name' section includes 'First Name' (John) and 'Last Name' (Doe). A sidebar on the right shows a 'POTENTIAL REBATE' of '\$440.00 Customer' and a list of sections: Contractor Information, Customer Information, Utility Information, Project Information, Air Sealing and Insulation (1), Payee (selected), and Documents. At the bottom of the sidebar are buttons for 'Calculate', 'Sync/Save', and 'Back To Applications'.

Step 10

You should now see the page above. This is the **Payee** page and is used to clarify who will be receiving the rebate based on the Project Information pages' inputs. If this is incorrect click back onto the Project Information page to adjust.

When correct, click on the orange advance button to move forward again.

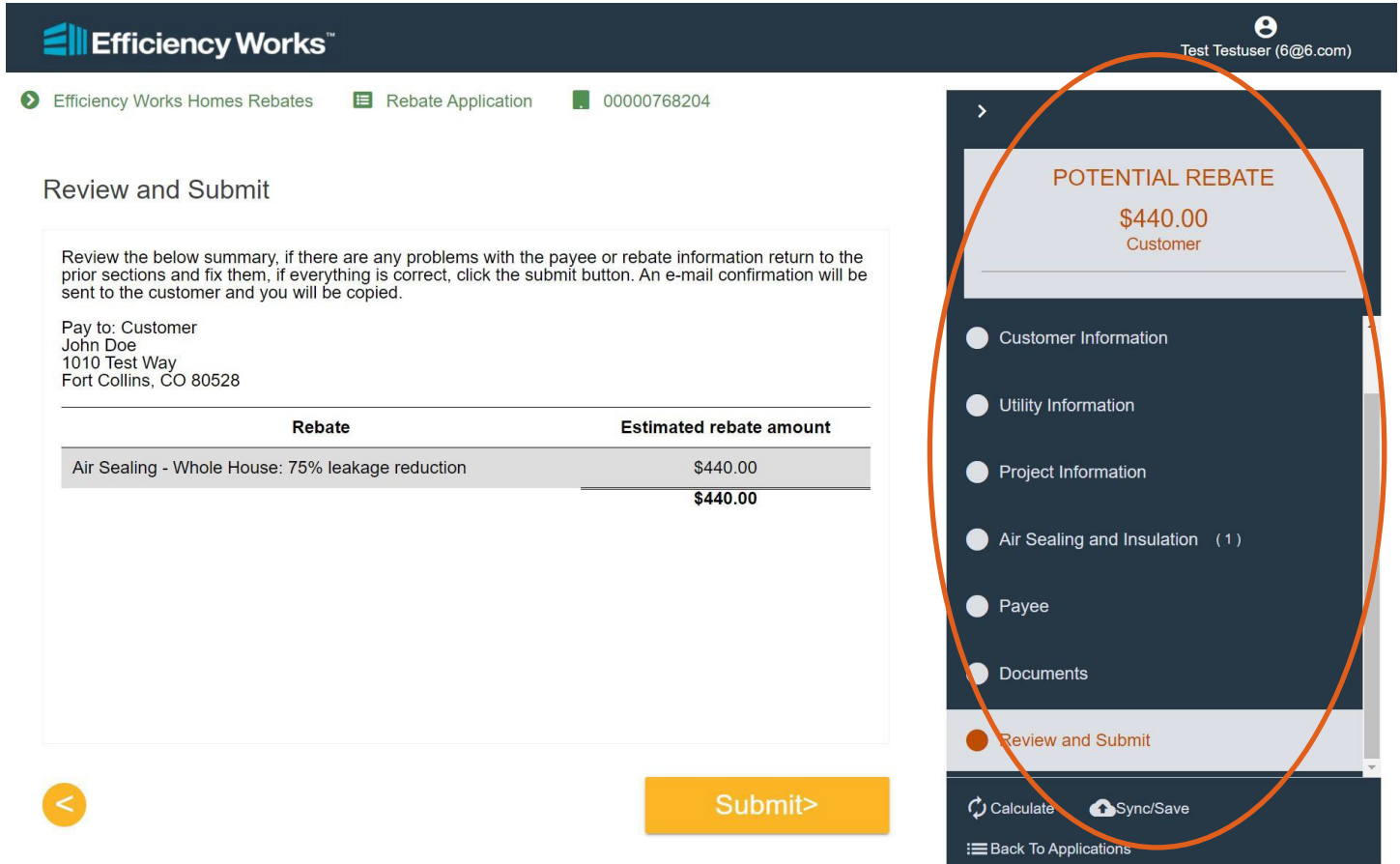
Appendix K: How to apply for a rebate in Efficiency Works Homes



Step 11

Once you have entered your measures you will be moved on to the Documents page. This is where the application will ask for specific paperwork depending on what you applied for. The **Certificate of Completion** and the **Terms and Conditions** are in the customer rebate folder that you either have in paper form or digitally (provided by the Efficiency Works team). Notice the files in this example are using our required naming scheme. Click on the orange advance button to

Appendix K: How to apply for a rebate in Efficiency Works Homes



Efficiency Works Homes Rebates | Rebate Application | 00000768204

Test Testuser (6@6.com)

Review and Submit

Review the below summary, if there are any problems with the payee or rebate information return to the prior sections and fix them, if everything is correct, click the submit button. An e-mail confirmation will be sent to the customer and you will be copied.

Pay to: Customer
John Doe
1010 Test Way
Fort Collins, CO 80528

Rebate	Estimated rebate amount
Air Sealing - Whole House: 75% leakage reduction	\$440.00
	\$440.00

Submit >

POTENTIAL REBATE
\$440.00
Customer

- Customer Information
- Utility Information
- Project Information
- Air Sealing and Insulation (1)
- Payee
- Documents
- Review and Submit**

Calculate | Sync/Save | Back To Applications

Step 12

This is your review page. This should summarize every measure you have applied for, along with the eligible rebates. Make sure this is correct before submitting. If everything is correct click on the **Submit > button**. If anything is incorrect click back to the appropriate page as needed using the page titles in the navy-blue box on the right-hand side.

Appendix K: How to apply for a rebate in Efficiency Works Homes


Application sent!

Thank you! Your application is being reviewed. We will reach out with any questions. You can check the status of your rebates from your [account view](#).

Application number 00000768204
Sent on Feb 9, 2021, 8:29:52 PM PST

Efficiency Works Homes Rebates
1010 Test Way, Fort Collins, CO, 80528

Equipment or measures

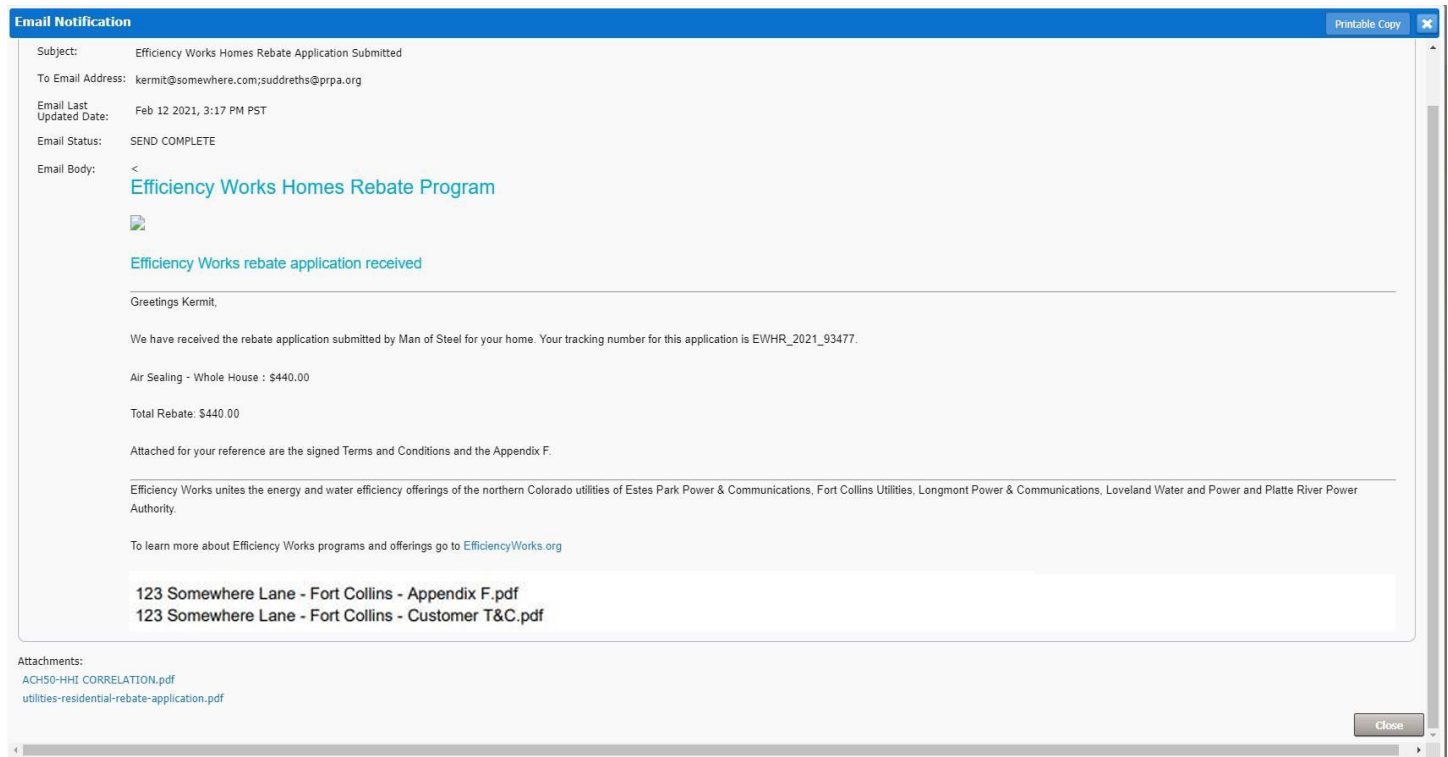
 Air Sealing - Whole House

 Print this page

Congratulations! You are now finished. This shows your **tracking number** and automates an email that is then sent to you and the customer to let everyone know that the rebate has been successfully applied for.

Appendix K: How to apply for a rebate in Efficiency Works Homes

Email notification for a rebate application



This is an example of the email notifying the service provider and the customer that the rebate application has been received by the program.

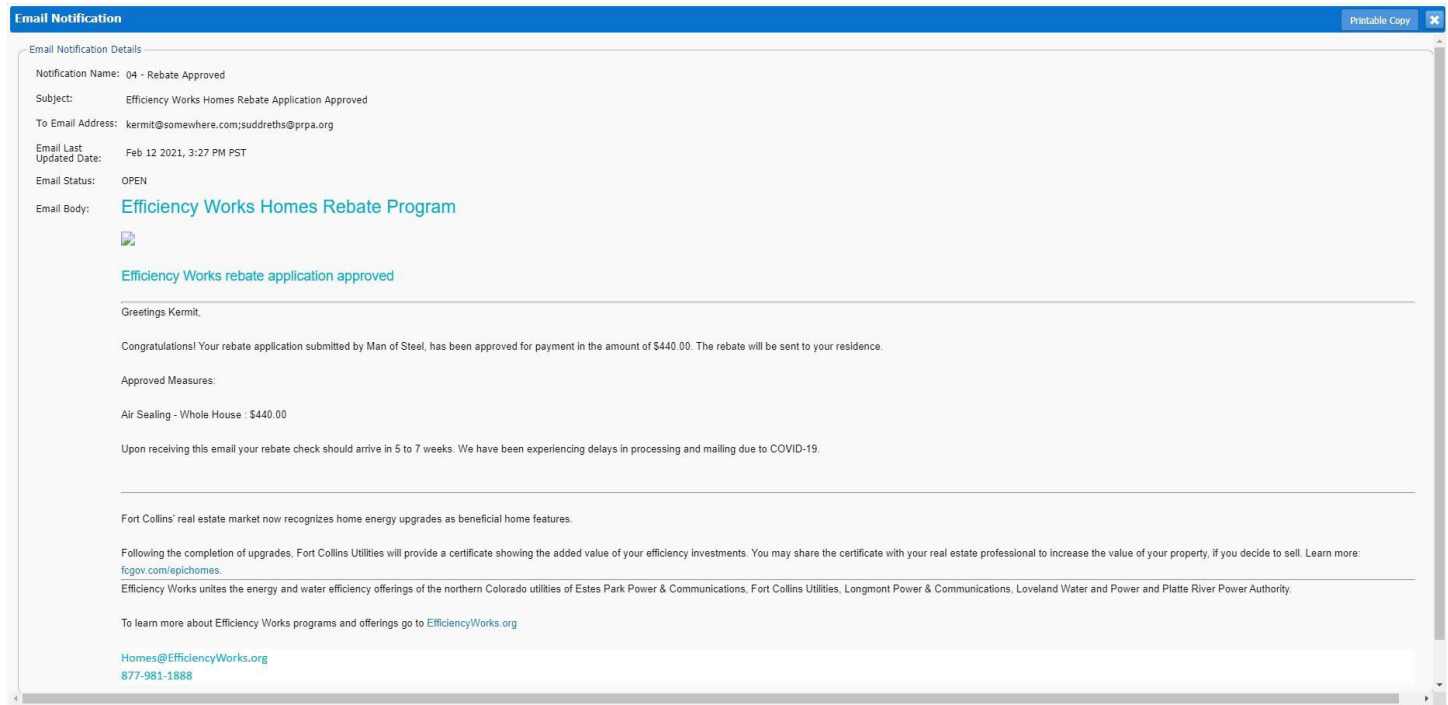
Take note of the tracking number in the first sentence after the Greeting. That number will allow you to find the job in your portal if necessary

Due to the need to protect customer personal information, we will only be using the first name to distinguish this application from any other.

Note that **Appendix F** and the **Terms and Conditions** document are attached to this for the customer's records.

Appendix K: How to apply for a rebate in Efficiency Works Homes

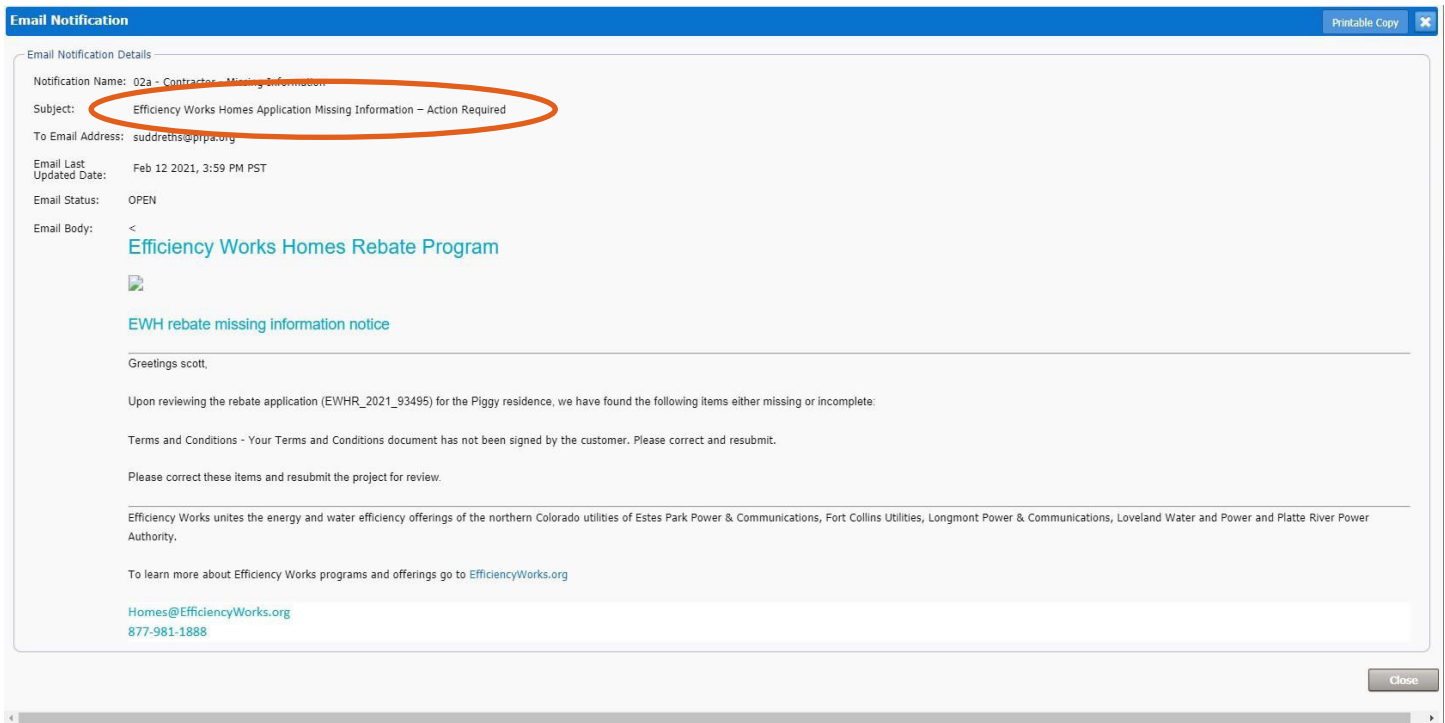
Email notification for an approved rebate application



This is the email that will show up once the rebate has been approved. This keeps the customer, service provider, and the program on the same page as to the status of any rebate in the program.

Appendix K: How to apply for a rebate in Efficiency Works Homes

Rebate application returned as Missing Information



The screenshot shows an email notification interface. At the top, there is a blue header with the text "Email Notification" and a "Printable Copy" button. Below the header, the email details are listed:

- Notification Name: 02a - Contractor - Missing Information
- Subject: **Efficiency Works Homes Application Missing Information – Action Required** (circled in orange)
- To Email Address: suddreth@pppa.org
- Email Last Updated Date: Feb 12 2021, 3:59 PM PST
- Email Status: OPEN
- Email Body: < [Efficiency Works Homes Rebate Program](#)

The email body contains the following text:

[EWH rebate missing information notice](#)

Greetings scott,

Upon reviewing the rebate application (EWHR_2021_93495) for the Piggy residence, we have found the following items either missing or incomplete:

- Terms and Conditions - Your Terms and Conditions document has not been signed by the customer. Please correct and resubmit.

Please correct these items and resubmit the project for review.

Efficiency Works unites the energy and water efficiency offerings of the northern Colorado utilities of Estes Park Power & Communications, Fort Collins Utilities, Longmont Power & Communications, Loveland Water and Power and Platte River Power Authority.

To learn more about Efficiency Works programs and offerings go to EfficiencyWorks.org

Homes@EfficiencyWorks.org
877-981-1888

At the bottom right of the email content area, there is a "Close" button.

On occasion, a rebate application will be returned to the service provider with the status **Missing Information** if something is found incorrect, missing, or confusing. This will be indicated by an email sent to the key contact person at the company. If you receive one of these emails you need to go back into your portal and update the application with the relevant info and then resubmit.


Appendix K: How to apply for a rebate in Efficiency Works Homes

Rebate application returned as Missing Information cont.

Applications New Application


Search by Application Status Find Applications Sort by
Application Status Missing Information Last Updated: Descending


Customer Miss Piggy **Site** 321 out there place, Fort Collins, CO, 80526

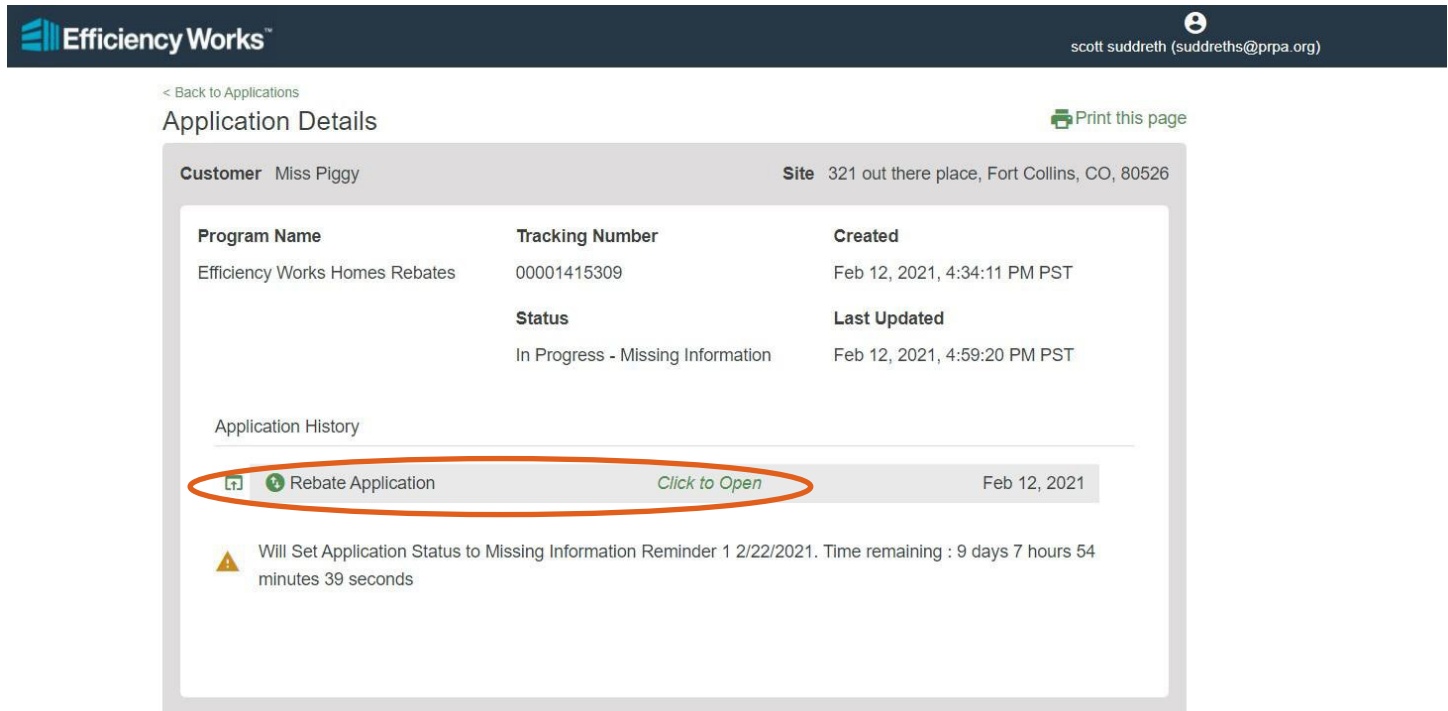
Application details Efficiency Works Homes Rebates	Application number 00001415309	Created Feb 12, 2021, 4:34:11 PM PST	
	Status In Progress - Missing Information	Last Updated Feb 12, 2021, 5:09:13 PM PST	

Use the search filters directly above your applications to search by “Missing Information” as the Application Status. Click on the Application number in green font to make your corrections.

Customer Miss Piggy **Site** 321 out there place, Fort Collins, CO, 80526

Application details Efficiency Works Homes Rebates	Application number 00001415309	Created Feb 12, 2021, 4:34:11 PM PST	
	Status In Progress - Missing Information	Last Updated Feb 12, 2021, 4:59:20 PM PST	

 Will Set Application Status to Missing Information Reminder 1 2/22/2021. Time remaining : 9 days 7 hours 56 minutes 51 seconds

Appendix K: How to apply for a rebate in Efficiency Works Homes**Rebate application returned as Missing Information cont.**



< Back to Applications


Application Details Print this page

Customer Miss Piggy **Site** 321 out there place, Fort Collins, CO, 80526

Program Name	Tracking Number	Created
Efficiency Works Homes Rebates	00001415309	Feb 12, 2021, 4:34:11 PM PST
	Status	Last Updated
	In Progress - Missing Information	Feb 12, 2021, 4:59:20 PM PST

Application History

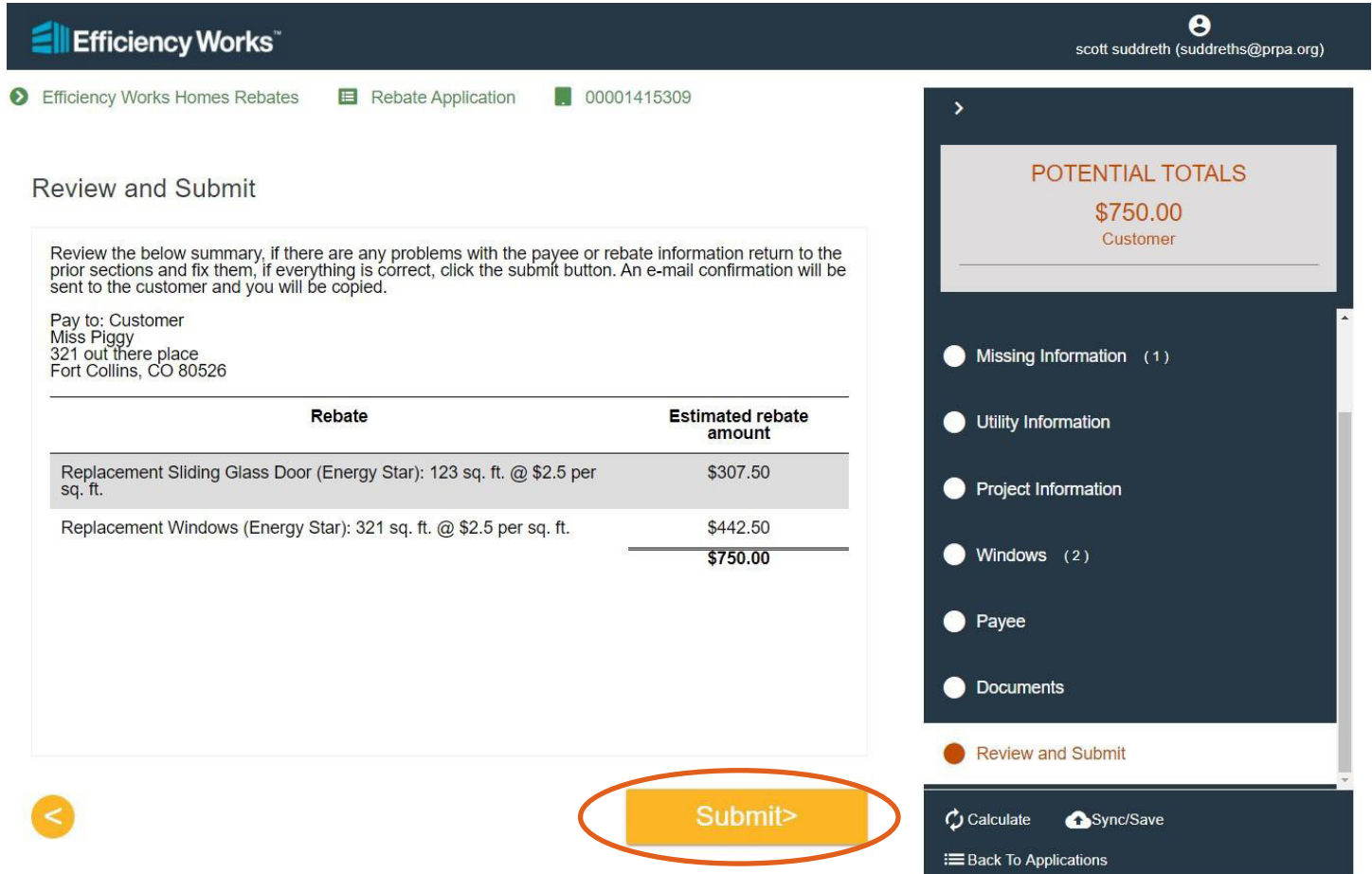
  Rebate Application <i>Click to Open</i>	Feb 12, 2021
---	--------------

 Will Set Application Status to Missing Information Reminder 1 2/22/2021. Time remaining : 9 days 7 hours 54 minutes 39 seconds

The Application Details page then pops up with a short summary of the application. To move forward click on the circled text.

Appendix K: How to apply for a rebate in Efficiency Works Homes

Rebate application returned as Missing Information cont.



Efficiency Works™ scott.suddreth (suddreths@prpa.org)

Efficiency Works Homes Rebates | Rebate Application | 00001415309

Review and Submit

Review the below summary, if there are any problems with the payee or rebate information return to the prior sections and fix them, if everything is correct, click the submit button. An e-mail confirmation will be sent to the customer and you will be copied.

Pay to: Customer
Miss Piggy
321 out there place
Fort Collins, CO 80526

Rebate	Estimated rebate amount
Replacement Sliding Glass Door (Energy Star): 123 sq. ft. @ \$2.5 per sq. ft.	\$307.50
Replacement Windows (Energy Star): 321 sq. ft. @ \$2.5 per sq. ft.	\$442.50
	\$750.00

[Submit >](#)

POTENTIAL TOTALS
\$750.00
Customer

- Missing Information (1)
- Utility Information
- Project Information
- Windows (2)
- Payee
- Documents
- Review and Submit**

Calculate | Sync/Save | Back To Applications

Next you will see the Review and Submit screen. Click on the Submit button to resubmit the application.

Appendix K: How to apply for a rebate in Efficiency Works Homes**How to submit a rebate for an AC during cold weather**

Submitting an AC during the cold months is common in our program.

To do this there are **two options**.

Air Conditioner 1 + Duplicate - Delete

Tier 1 - SEER 14.5, EER 12.0 - **\$150 rebate**
Tier 2 - SEER 15.0, EER 12.5 - **\$250 rebate**
Tier 3 - SEER 16.0, EER 12.5 - **\$350 rebate**
Tier 4 - SEER 17.0, EER 12.5 ECM Motor, Multi-Stage Blower - **\$500 rebate**

New AC Installation or Replacement
AC system sized using ACCA Manual J compliant method
Max \$500 per customer

Installation Type *

Stages * Blower Motor *

SEER * EER *

Permit Pulled?
Checkbox is required

Does AC need to be Cx at a later date? *

< << >> >

Option 1: Furnace & AC both installed in cold weather – you simply apply for the rebate for both units like normal. The only difference is this – you toggle “**Does AC need to be CX at a later date?**” to **Yes**. This will allow you to submit the rebate with all required documentation except the AC Commissioning sheet (Appendix E).

Appendix K: How to apply for a rebate in Efficiency Works Homes

How to submit a rebate for an AC during cold weather - continued

We will process the furnace rebate during our next rebate review. Our system will pay out the furnace immediately and will tell the customer that the AC is on hold “Waiting on Commissioning” – see example below.

Email Notification Details

Notification Name: 04 - Rebate Approved


Subject: Efficiency Works Homes Rebate Application Approved

To Email Address: kklasinski@nexant.com

Email Last Updated Date: Jan 30 2020, 10:18 AM PST

Email Status: OPEN

Email Body: [Efficiency Works Homes Rebate Program](#)



[Efficiency Works rebate application approved](#)

Greetings mr,

Congratulations! Your rebate application submitted by SF Const. INC, has been approved for payment in the amount of \$500.00. The rebate will be sent to your residence.

Approved Measures:

- Replacement Gas Furnace : \$500.00
- Awaiting Commissioning:
 - Air Conditioner

Upon receiving this email your rebate check should arrive in 3 weeks.

Fort Collins' real estate market now recognizes home energy upgrades as beneficial home features.

Following the completion of upgrades, Fort Collins Utilities will provide a certificate showing the added value of your efficiency investments. You may share the certificate with your real estate professional to increase the value of your property, if you decide to sell. Learn more: fcgov.com/epichomes.

Efficiency Works unites the energy and water efficiency offerings of the northern Colorado utilities of Estes Park Power & Communications, Fort Collins Utilities, Longmont Power & Communications, Loveland Water and Power and Platte River Power Authority.

To learn more about Efficiency Works programs and offerings go to EfficiencyWorks.org

Homes@EfficiencyWorks.org
877-981-1888

Appendix K: How to apply for a rebate in Efficiency Works Homes**How to submit a rebate for an AC during cold weather - continued**

Option 2: You are installing the AC alone.

You apply for the AC by itself – toggle **Does AC need to be commissioned on a later date?** To “Yes”

Air Conditioner 1 + Duplicate - Delete

Tier 1 - SEER 14.5, EER 12.0 - **\$150 rebate**
Tier 2 - SEER 15.0, EER 12.5 - **\$250 rebate**
Tier 3 - SEER 16.0, EER 12.5 - **\$350 rebate**
Tier 4 - SEER 17.0, EER 12.5 ECM Motor, Multi-Stage Blower - **\$500 rebate**

New AC Installation or Replacement
AC system sized using ACCA Manual J compliant method
Max \$500 per customer

Installation Type *

Stages * Blower Motor *

SEER * EER *

Permit Pulled?
Checkbox is required

Does AC need to be Cx at a later date? *

< << >> >

Now, the software will allow you to submit the rebate application requiring all documents EXCEPT the AC commissioning form (Appendix E)

When warmer weather finally rolls around – this application will be waiting in your portal for Appendix E to be added and then it can be submitted.

Appendix K: How to apply for a rebate in Efficiency Works Homes

How to fill out the Certificate of Completion so the customer receives the rebate

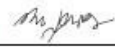
To fill out the **Certificate of Completion** so the customer receives the rebate – you fill out the top portion.

Make sure you have the rebate amount included here or the document **isn't considered a legal sign off**.

Also make sure that the amount listed as the rebate is accurate. If it shows more \$ than they are eligible for you will be required to get a new signature with the correct amount.

Efficiency Works Homes Certificate of Completion

I certify that the work and/or project I am applying for an Efficiency Works Homes rebate has been completed to my satisfaction.

Participant Signature*  Date* 1-30-20
 Name* Mr. Jones Phone* 111-111-1111
 Mailing Address* 1234 somewhere drive
 City, State, and Zip* Fort Collins, CO 80525
 Rebate Amount* \$962.10

Authorization to Pay an Alternate Recipient (Contractor)

I (Participant) authorize Platte River Power Authority to make the incentive payment to the identified party below. This section to be completed by the participant. **ONLY COMPLETE THIS SECTION IF YOU WANT THE REBATE TO BE PAID TO AN ALTERNATE RECIPIENT.**

Participant Signature _____ Date _____
 Name _____

Alternate Payment Recipient (Contractor)

This section to be completed by third party (such as installing contractor)

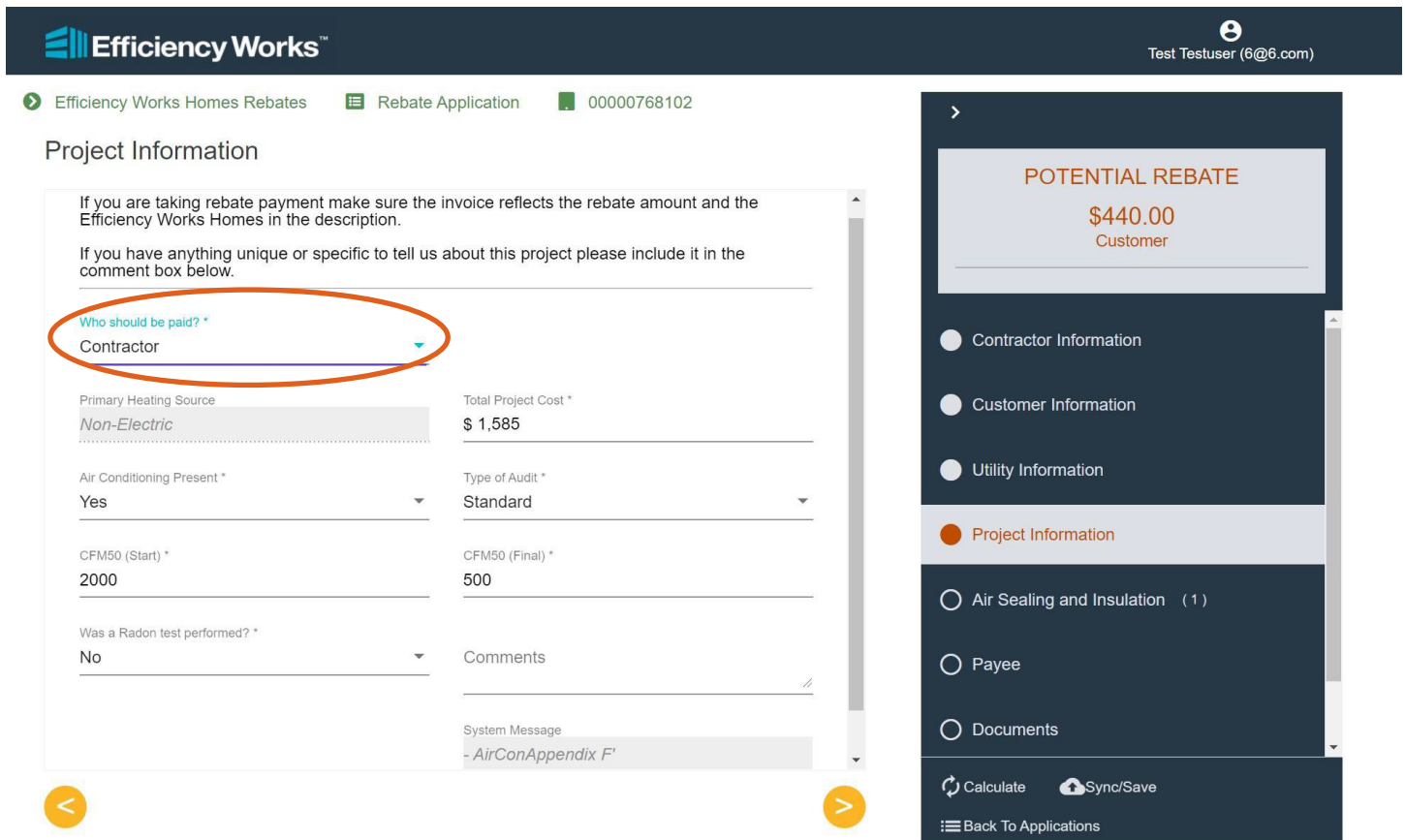
Contact Person _____ Phone _____
 Title _____
 Company Name _____
 Mailing Address _____
 City, State, and Zip _____
 Comments _____

* Denotes a required field.

Appendix K: How to apply for a rebate in Efficiency Works Homes

How to claim the rebate as the service provider

You have the option as a service provider to offer the customer the Efficiency Works Home' rebate up front as a discount. This would mean that your invoice should show this clearly and then the program will reimburse your company for that rebate when the application is processed. To choose this option toggle the **“Who should be paid?”** drop-down to **“Contractor”** on the **Project Information** page.



The screenshot displays the Efficiency Works Rebate Application interface. At the top, the Efficiency Works logo is on the left, and the user profile 'Test Testuser (6@6.com)' is on the right. Below the header, navigation links include 'Efficiency Works Homes Rebates', 'Rebate Application', and the ID '00000768102'. The main section is titled 'Project Information' and contains a form with the following fields:

- Primary Heating Source: *Non-Electric*
- Total Project Cost: \$ 1,585
- Air Conditioning Present: Yes
- Type of Audit: Standard
- CFM50 (Start): 2000
- CFM50 (Final): 500
- Was a Radon test performed?: No
- Comments: (empty)
- System Message: - AirConAppendix F'

The 'Who should be paid?' dropdown menu is highlighted with an orange circle and set to 'Contractor'. To the right, a sidebar shows a 'POTENTIAL REBATE' of \$440.00 for the Customer. Below this, a list of sections is shown with radio buttons: Contractor Information, Customer Information, Utility Information, Project Information (selected), Air Sealing and Insulation (1), Payee, and Documents. At the bottom of the sidebar are buttons for 'Calculate', 'Sync/Save', and 'Back To Applications'.

Appendix K: How to apply for a rebate in Efficiency Works Homes

For the service provider to claim the customer's rebate – they have to fill out the **Certificate of Completion** to reflect that.

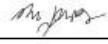
This means that the middle and bottom section must be filled out as well. See example to the right.

Take note that this would also mean that your invoice should clearly reflect a

\$962.10 discount for Efficiency Works Homes rebates somewhere on it.

Efficiency Works Homes Certificate of Completion

I certify that the work and/or project I am applying for an Efficiency Works Homes rebate has been completed to my satisfaction.

Participant Signature*  Date* 1-30-20
Name* Mr. Jones Phone* 111-111-1111
Mailing Address* 1234 somewhere drive
City, State, and Zip* Fort Collins, CO 80525
Rebate Amount* \$962.10

Authorization to Pay an Alternate Recipient (Contractor)

I (Participant) authorize Platte River Power Authority to make the incentive payment to the identified party below. This section to be completed by the participant. **ONLY COMPLETE THIS SECTION IF YOU WANT THE REBATE TO BE PAID TO AN ALTERNATE RECIPIENT.**

Participant Signature  Date 1/30/20
Name Mr. Jones

Alternate Payment Recipient (Contractor)

This section to be completed by third party (such as installing contractor)

Contact Person Jack Sparrow Phone 970-999-0987
Title Rebate Processor/office manager
Company Name ABC Heating and Cooling
Mailing Address 4444 - Industrial drive
City, State, and Zip Fort Collins, CO 80523
Comments _____

* Denotes a required field.

Appendix K: How to apply for a rebate in Efficiency Works Homes

How to make sure the homeowner gets the rebate vs. the tenant

If you have a tenant/landlord situation then you have a couple of different steps required.

First you have to fill out the **Alternative Payment Information** section of the **Customer Information** Form with the landlord's address.

The screenshot displays the Efficiency Works mobile application interface. At the top, the logo and user information 'Test Testuser (6@6.com)' are visible. The main content area is titled 'Customer Information' and contains a form with the following fields:

- Tenant Name (If Applicable): Ted Test
- Property Address 1 *: 1010 Test Way
- Property City *: Fort Collins
- Property State *: CO
- Property Zip Code *: 80528
- Alternative Payment Information (If Different from Owner Name/Site Address above)** (circled in orange):
 - Contact First Name: John
 - Contact Last Name: Doe
 - Contact phone number: 202 1341234
 - Contact email: johndoe@email.com
 - Address 1: 555 Imagination Drve
 - City: San Diego
 - State: CA
 - Zip Code: 22222

On the right side, a sidebar menu is shown with the following items:

- POTENTIAL REBATE: \$440.00 Customer
- Contractor Information
- Customer Information** (selected)
- Utility Information
- Project Information
- Air Sealing and Insulation (1)
- Payee
- Documents

At the bottom of the sidebar, there are buttons for 'Calculate', 'Sync/Save', and 'Back To Applications'.

Appendix K: How to apply for a rebate in Efficiency Works Homes

How to make sure the homeowner gets the rebate vs. the tenant - cont.

The next thing you need to do is choose **Secondary Contact** from the Who should get paid drop-down list in **Project Information**.

This will tell the software to pay using the secondary address provided on the Customer Information screen.

You can verify this by looking at the **Payee** section.

The screenshot displays the Efficiency Works software interface. At the top, the logo and user information 'Test Testuser (6@6.com)' are visible. The main content area is titled 'Project Information' and contains a form with the following fields:

- Who should be paid? * (Dropdown menu with 'Secondary Contact' selected and circled in orange)
- Total Project Cost * (\$ 1,585)
- Type of Audit * (Standard)
- CFM50 (Start) * (2000)
- CFM50 (Final) * (500)
- Was a Radon test performed? * (No)
- Comments
- System Message

On the right side, a sidebar menu is visible with the following items:

- POTENTIAL REBATE (\$440.00 Customer)
- Contractor Information
- Customer Information
- Utility Information
- Project Information (Selected)
- Air Sealing and Insulation (1)
- Payee
- Documents

At the bottom of the sidebar, there are buttons for 'Calculate', 'Sync/Save', and 'Back To Applications'.

Appendix L: Service Provider improvement plan

The Improvement Plan is for service providers that have been put on ‘inactive’ status but are willing to correct course in order to remain active. This Improvement Plan form is used to address any of the following situations: 1.) Documenting corrective actions with respect to service provider or technician performance in the program, 2.) Resolving repetitive problems or non-conformances, 3.) Identification and resolution of technical or programmatic issues with service providers.

Instructions:

Program Manager to complete this form with the service provider and obtain signature(s). Service provider to complete all actions listed in the Improvement Plan. Program Manager verifies effective implementation of the Improvement Plan. Improvement Plan must include specific actions to improve performance, how improvements will be monitored and measured, and timeframe to improve performance.

Plan Start Date: _____

Service Provider: _____

Section 1: Summarize and identify contractor performance issues, causes, and action plan

Performance Issue	Cause	Action Plan for Improvement

Program Manager Sign-off

Name (Print)

Title

Date

Signature

Appendix L: Service Provider improvement plan

Service Provider Sign-off

_____	_____
Name (Print)	Title
_____	_____
Date	Signature

By signing, the service provider acknowledges agreement with the identified performance issues, causes, and action plan for improvement.

Section 2: Identify Responsible Personnel

Action Item	Responsibility

Section 3: Verification of Effective Implementation of Improvement Plan – Program Manager Notes

Program Manager Sign-off

_____	_____
Name (Print)	Title
_____	_____
Date	Signature

Appendix L: Service Provider improvement plan**Service Provider Sign-off**

_____	_____
Name (Print)	Title
_____	_____
Date	Signature

By signing, the Program Manager and the service provider acknowledge effective implementation of the Improvement Plan.

Appendix M: Streamlined pathway summary

The Streamlined Pathway

- In 2016 a Pilot was conducted in Fort Collins called Efficiency Works Neighborhoods
- The goal was to help customers complete more comprehensive jobs
- Installation standards were enhanced
- Customers were targeted using a Propensity approach
 - House type, age of home, general income, etc.
- Insulation and Air Sealing measure pricing was standardized
- An Efficiency Works assessor was responsible for energy auditing and consultative sales

The Sales Process

What does the home need based on existing conditions such as:


- Primary leakage area
- Existing insulation
- Age of HVAC equipment
- Type of windows
- Potential for solar PV

Customizable Packages

- Monthly cash flow, not big \$
 - Using Elevations Loan
 - Savings helps offset costs

Joe & Jane Homeowner
123 Main Street
Fort Collins CO 80526
8/2/2016

YOUR ENERGY EFFICIENCY PACKAGES



Following are recommendations for improving the safety, comfort, indoor air quality and energy efficiency of your home. When considering energy efficiency, it is important to think of your home as one large interactive system. Each part works individually but also in concert with the other parts of your home. This is known as the Whole House Approach. In order to maximize your benefits, your investment, as well as your energy savings, your home energy advisor has grouped measures into three or four packages.

Measures are based on your Energy Specialist's evaluation:				
	\$11,404	\$13,154	\$27,644	
Description	GOOD	BETTER	BEST	
Attic Air Sealing	✓	✓	✓	
Insulate Attic	✓	✓	✓	
Seal & Insulate Knee Walls	✓	✓	✓	
Seal & Insulate Cantilevered Floors	✓	✓	✓	
Seal Garage to House Air Leaks	✓	✓	✓	
Air Seal & Insulate Crawl Space Walls	✓	✓	✓	
Duct Sealing	✓	✓	✓	
Whole House Fan, AirScape 2.5e		✓	✓	
Rooftop Solar PV			✓	
Loan Term (Years):	20	GOOD	BETTER	BEST
Estimated Monthly Payment:	\$ 69	\$ 80	\$ 168	
Estimated Monthly Savings:	\$ 10	\$ 10	\$ 72	
Estimated Monthly Net Payment:	\$ 59	\$ 70	\$ 96	

*Loan payment estimates based on loan through the Home Efficiency Loan Program (H.E.L.P). Loan amount maximum is \$25,000 in this program. Packages with totals over \$25,000 can be partially financed through the program. Loan terms subject to change.

Appendix M: Streamlined pathway summary

The streamlined pathway - goals

- Create hybrid of Home Performance and Efficiency Works Retrofit Program
- Overcome time barrier with turnkey service

Reduce complexity with fewer steps

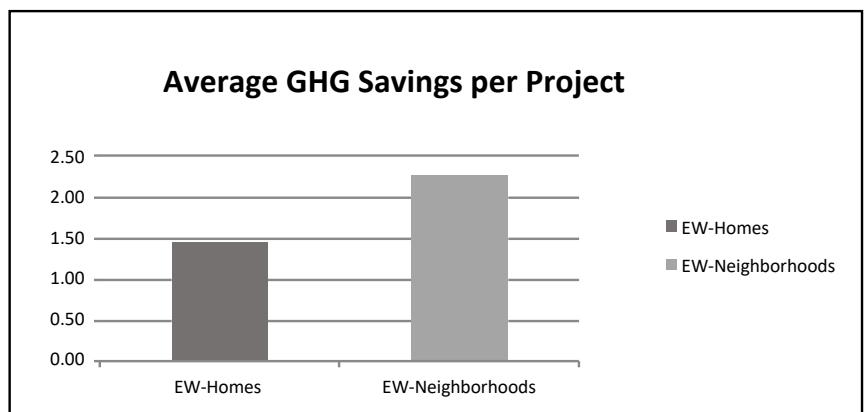
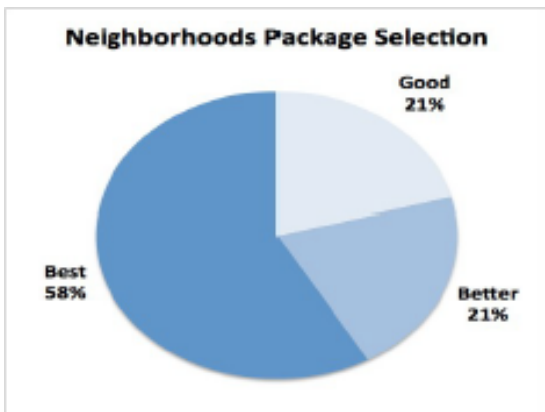
- HP auditor presents three packages of measures
 - Good: Comprehensive envelope (base package)
 - Better: Base + HVAC or windows
 - Best: Base + HVAC and windows, and/or solar PV

Reduce project cost barriers

- Present monthly cash flow: savings offsetting costs
- Instant rebates to reduce up front project cost
- Maximum loan amount up to \$25k
- Double solar PV rebate when bundled w/ EE package










The standard pathway - results

- 60% greater kWh, Therm & GHG savings per home compared to traditional program
- 74% participation of those marketed to
- 48% conversion rate post-audit
 - 58% choose the Best package
 - 61% of projects used financing



Appendix M: Streamlined pathway summary

Required internal photo documentation

General Notes:			
<p>This photo documentation guide is to establish a great paper trail of the before and after on our more important details in the program. This is a piece of the EW-N program and are required on ALL jobs. While this may feel like a lot of extra work initially - we firmly believe that this will improve your internal quality control which will help the overall program.</p> <p>Please use as high a resolution setting that you camera will allow so we end up with good photos.</p>			
EXPECTED PHOTOS	EXAMPLE	EXAMPLE	EXAMPLE
Clean Attic Floor - Top Plates - Bypasses - Large Holes			
Sealed top plates- Exterior and Interior, electrical/plumbing/HVAC penetrations, chases, rulers, dams, etc.			
Unsealed Can light - Sealed Can Light			

The streamlined pathway - Service Provider eligibility

- Service provider must be a Tier 1 service provider
 - Service provider must be completing at least one job per month
 - Service provider must have no egregious PIV failures
- Service provider must have already completed at least 10 jobs.
- Service provider must have had at least 2 passing PIVs
- Service provider must be able to provide its own combustion safety testing and/or blower door testing

Advanced installation standards

- Vacuuming of attics
- Spray foaming (closed cell) of external top plates (with blocking)
- Installing bath fans – ability to test performance once installed
- Installing windows – subs allowed provided someone attends the required training or has FGIA certification.
- Removing drywall – repairing drywall – subs allowed
- Painting - subs allowed
- Installing moisture/soil gas barrier to radon industry standards – including perforated pipe under poly
- Designated Quality Assurance Officer on the team

Next steps to participate

- If you have reviewed the program structure and requirements and are interested in participating:
- Contact Program Manager to start the process: homes@efficiencyworks.org
- Program Manager will work with the management team to evaluate if all of the requirements are met for the interested service provider
- Once requirements are met - the interested service provider will receive the Installation Standards with pricing
- Once enrolled service provider will be required to attend a 1 Day Training that will orient you to the program and identify company Quality Assurance Officer

Appendix N: Streamlined Approach Installation Standards

General notes

These installation standards are based on Efficiency Works - Homes Installation Standards That means that you will need to meet the Homes Installation Standards PLUS any additional requirements in the EW-Streamlined Pathway Installation Standards.

Measure	Installation standards	Required tests	Notes
ATTIC			
Full vacuuming of the attic	This means that you shall vacuum the entire attic floor to reveal all of the areas that need to be sealed.	Photo-documentation required	In the spirit of sustainability vacuumed insulation should be repurposed as much as possible. This should only be done if the insulation is relatively clean and not full of organic pollutants. If contractor is unwilling to vacuum rockwool - we will send job to next contractor who will.
Attic prep and air seal	See EWR Program Installation Standards Appendix A ADD REQUIREMENT TO SEAL EXTERIOR TOP PLATES. ADD ATTIC HATCH MUST BE OPERABLE WITH DURABLE INSULATION DAM	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	When the ACH50 is 8 or greater we expect a 25% -50% reduction in infiltration. When ACH50 is less than 4: identified bypasses must be sealed - insulation removal method prior to air sealing at the contractors discretion.
Air sealing and insulating exterior top plates	The exterior top plate shall be sealed (when accessible) by creating an insulation dam with a fiberglass batt shoved just past the top plate. Closed-cell spray foam is then applied to not only coat the entire top plate but to also fill the space between the top plate and baffle or roof deck - 3-5 inches of foam.	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	This is expected to be accomplished on most homes. Scissor trusses will be a possible exception.

Appendix N: Streamlined approach installation standards

Measure	Installation standards	Required tests	Notes
Air sealing non-IC rated can lights	See EWR Program Installation Standards Appendix A	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	This is a real opportunity to replace Non-IC rated recessed light cans with modern air tight ICT cans.
Attic hatch and dam	See EWR Program Installation Standards Appendix A Dam must be built out of 2x lumber and be able to support a 200lb person	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	Advisor will determine if trim is needed at original site visit. Trim shall be installed to provide a flat surface for attic hatch. Wood joints shall be tight and done to finish carpentry standards. Trim is required to be primed at finish.
Blown attic insulation	See EWR Program Installation Standards Appendix A	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	This can be fiberglass or cellulose.

Appendix N: Streamlined approach installation standards

Measure	Installation standards	Required tests	Notes
Install new or replace existing bath fans	When used as spot ventilation: must be 1.25 sones or less and measure 50 cfm or more once installed. When used for mechanical ventilation use WhisperGreen Select Model #FV-05- 11VKS1	Contractors will need the ability to measure this flow Suggest Energy Conservatory Exhaust Fan Flow Meter Fan must be tested to prove 50 CFM or greater is achieved. Results & method must be reported to program. Photo-documentation required	OPTION 1: New or Replacement Fan Only using existing ductwork that terminates outside - using existing wiring OPTION 2: New or Replacement Fan Only - install new ductwork that terminates outside - using existing wiring OPTION 3: New Fan Only - install new ductwork that terminates outside - adding new wiring for fan and/or light
Bath fan ducting	If using flex must be careful to use long radiuses and pull flex tight. Insulated flex must be R-8 If using rigid ducting - must insulate to R-8 No 90 degree turns directly off housing Duct must be sealed to fan housing with HVAC mastic.	Contractors will need the ability to measure this flow Suggest Energy Conservatory Exhaust Fan Flow Meter Fan must be tested to prove 50 CFM or greater is achieved. Photo-documentation required. Results & method must be reported to program.	This line item is intended to address existing fans that will not be replaced and ducting is not adequate. Typically ducting for these fans is not terminated to outside or is routed with excessive bends or elevation changes. CONDITION 1) Termination cap not installed. Price to install termination cap and ducting as necessary. CONDITION 2) Poorly installed ducting with adequate termination cap (excessive length or bends). CONDITION 3) Replace all ducting and install new termination cap. Leave existing fan.

Appendix N: Streamlined approach installation standards

Measure	Installation standards	Required tests	Notes
Accessible knee walls	See EWR Program Installation Standards Appendix A Must use spray foam - Can be low or medium density - Open or Closed cell - Two part only. Ignition barrier not required in attics unless storage is present or drop down stair access.	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	This price is for all knee walls. Access will be priced separately below.
Skylight shafts	See EWR Program Installation Standards Appendix A Remove existing batt insulation if present and replace with spray foam to EW Homes Installation standards - R-11 minimum over face of framing. Ignition barrier not required in attics unless storage is present or drop down stair access.	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	
Batt insulation removal from attics	Removing old batts from attic with intent to dispose of at landfill.	Photo-documentation Required	
Whole house fans	See EWR Program Installation Standards Appendix A Additionally, use rigid adjustable elbow directly out of fan when flex duct cannot be installed without collapsing. The fan should be tilted towards the roof deck slightly to avoid disturbing the insulation. Netting or Tyvek shall be spread and fastened directly below the fan's air path to help keep all insulation in place.	Photo-documentation required	Non-ducted fans are acceptable where space is limited. Must have insulated, self-sealing, mechanical dampers. All whole house fan installs shall include electrical and drywall repair and adequate attic ventilation for the standardized price. When roof venting is added to the work order we want this to occur in 144 Net Free vents

Appendix N: Streamlined approach installation standards

Measure	Installation standards	Required tests	Notes
Roof venting	This is for when we add Whole House Fans or when we think additional venting is needed for an existing whole house fan.	Photo-Documentation Required To verify that the Whole House Fan is not over pressurizing the attic we now require zonal pressure test. To do this a manometer needs to have a tube up in the attic with the reference tap open to the house (with many windows open). Run the Whole House Fan on it's highest setting and simply record the resulting pressure in pascals. (We think we want 10 pascals or lower but are wanting to explore this to improve our fan performance)	Each vent shall provide 144 square inches of net free area.
Whole house fan cover (for the older, existing whole house fans)	A commercially available product must be used.	Photo-documentation required	Battic would be an example of the classic system with Velcro. Please make sure to remind homeowners the importance of replacing this cover on hot days and leaving it on all winter.
Moving an attic access	Seal over existing attic access with spray foam to bring area up to R-38. Create a new attic access with homeowner's direction. Trim shall be installed to provide a flat surface for attic hatch. Wood joints shall be tight and done to finish carpentry standards. See Attic Hatch Standard above for trim info.	Photo-documentation required	This would allow us to abandon a closet access that has bad location and find a better one for better accessibility with customer's approval.

Appendix N: Streamlined approach installation standards

Measure	Installation standards	Required tests	Notes
Adding a gable vent for access to attic	Gable vent can be permanently installed upon completion of attic improvement. Verify aesthetics with homeowner.	Photo-documentation required	This access option will be recommended only when the total truss span is 24' or more and the gable is less than 16' from the ground, typically the lower attic on a tri-level. The gable vent would be used to gain access to the knee wall at the least and, if conditions warrant, full insulation removal, air sealing and insulation. This pricing request is to add the gable vent only. All other work to be priced using standard pricing.
Knee wall access	This could vary substantially from cutting through a bit of drywall or OSB to removing an entire porch ceiling or part of a garage ceiling. Service Provider will price per job after site visit.	Photo-documentation required	

Appendix N: Streamlined approach installation standards

Measure	Installation standards	Required tests	Notes
GARAGE			
Air seal between house and garage	Any and all accessible penetrations shall be sealed. These include Inside end of joist space, chases, supply ducting & boots where they meet the floor or ceiling, and returns. Remember that the top and bottom of this cavity is supposed to be an air barrier. This measure requires a sealed piece trim such as a 1x4 along the bottom of the drywall to create a better air seal. See EWR Program Installation Standards Appendix A	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-Documentation Required This measure shall be confirmed with the Open a Door Zonal Pressure test to the garage. The original values will be in your Tech Data Sheet.	Customers have complained about the visual of what the spray foam looks like when it spills out of its intended area. Please attempt to clean this up as much as possible to keep the appearance as clean as possible. Please note that the bottom of the wall shall be addressed with a piece of 1x4

Appendix N: Streamlined approach installation standards

Measure	Installation standards	Required tests	Notes
<p>Floor over garage dense pack</p>	<p>See EWR Program Installation Standards Appendix A At least 1.5 Feet of drywall shall be removed where ceiling touches house interior wall to allow for proper air sealing (Full depth blocking must be air sealed around perimeter & any holes through blocking for utilities - if full depth blocking is not present it needs to be backed and air sealed) In addition to this a strip of drywall should be removed approximately centered in the space that allows full removal of batt insulation. Tent pipes when present per EWR Program Installation Standards When present - seal HVAC return ducts with mastic before dense packing.</p>	<p>Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required</p>	<p>Pricing covers dense packing only. Drywall removal and replace pricing is separate.</p>
<p>Pipe freeze protection insulation in garage (walls & ceilings)</p>	<p>When water pipes are present: Tent pipes per Phase I Installation Standards. All rigid foam/insulation will be covered with drywall.</p>	<p>Photo-documentation required - Make sure this is clearly visible in photos.</p>	<p>Use any insulation to achieve R-19 on the unconditioned side of pipes. Install drywall to fire tape stage or finished and textured per existing conditions. The intention is to prevent frozen pipes.</p>
<p>Drywall replacement and fire tape finish</p>	<p>Must have a professional fire tape finish.</p>	<p>Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required</p>	<p>No sanding should be needed when job is complete. This detail is intended for floor over garage areas. (Drywall repair related to WHF removal is addressed in the WHF pricing)</p>

Appendix N: Streamlined approach installation standards

Measure	Installation standards	Required tests	Notes
Drywall replace with full finish and texture	Must have a professional full finish with texture.	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	Job should be paint ready when completed. This detail is intended for floor over garage areas. Drywall repair related to WHF removal is addressed in the WHF pricing
Seal return headers/panning	Must expose the header and trunk to joist duct transition and seal with duct mastic.	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	
Air seal supply registers	This is to address the boot connections to the floor as well as the elbows of that same connection in floor over garage or cantilever situations.	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	This is to prevent the dense packing material from entering the living space and duct system.
Install attic access garage ceiling	It we need an attic access in areas that have more than 30" of height then we will ask to leave a permanent access	Photo-documentation required	Trim shall be installed to provide a flat surface for attic hatch. Wood joints shall be tight and done to finish carpentry standards.

Appendix N: Streamlined approach installation standards

Measure	Installation standards	Required tests	Notes
CANTILEVERS			
Cantilevered floor dense pack	Four options		
Cantilever drill and fill from bottom	See EW-Homes Installation Standards Appendix A This is the option for drilling from the basement rim joists and from underneath the cantilever. When dense packing is complete the holes must be plugged in a manner that will be aesthetically acceptable after painting. A 1 x 4 installed to cover holes is also acceptable.	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	This applies to cantilevers that are 18" and higher from the ground
Cantilever drill and fill (From exterior wall with siding removed)	See EWR Program Installation Standards Appendix A Drill & Fill from outside - this includes removing the bottom row of lap siding to gain access to the sheathing for drilling and replacing siding when done.	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement.	This will exclude aluminum siding and vertical wood siding as well as asbestos. This will include cantilevers that are lower than 18" to the ground.
Cantilever drill and fill from interior	See EWR Program Installation Standards Appendix A Drilling and dens packing the cantilever from the basement or crawlspace rim joists.	Combustion Safety Test required record results on Appendix F Photo-documentation required	This will only be sought if there is an unfinished basement or dropped ceilings that allow access.
Cantilever dense-pack - drop the soffit	See EWR Program Installation Standards Appendix A Drop the Soffit -Net and Dense pack New plywood for bottom of soffit must be primed and ready for paint.	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	

Appendix N: Streamlined approach installation standards

Measure	Installation standards	Required tests	Notes
CRAWLSPACE/BASEMENTS			
Install combustion air pipe in conditioned crawlspace	See EWR Program Installation Standards Appendix A This pipe and opening needs to be sized per IRC as adopted by AHJ.		This is not only the opening but an actual pipe that is routed over to beside the atmospheric appliance.
Spray foam crawlspace rim joists	See EWR Program Installation Standards Appendix A	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	
Spray foam basement rim joists	See EWR Program Installation Standards Appendix A	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	
Insulate crawlspace walls	See EWR Program Installation Standards Appendix A Additionally: Shall be a foam product (spray or board) - ignition barrier is required	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	

Appendix N: Streamlined approach installation standards

Measure	Installation standards	Required tests	Notes
Insulate basement walls	See EWR Program Installation Standards Appendix A We are going to call out a specific flash and batt. Hold framing 1" off the foundation wall and spray 1 inch closed cell behind stud and cavity and install R-13 unfaced batt	Combustion Safety Test required record results on Appendix F Blower door test required prior to air sealing and after insulating in order to measure house tightness improvement. Photo-documentation required	Only for homes going through basement remodel - follow Phase I Installation standards
CRAWLSPACE/BASEMENTS			
Install moisture/soil gas barrier in crawl space	See EWR Program Installation Standards Appendix A Additionally, use polyurethane caulk sealant ie Permthane, not spray foam, to seal barrier to walls, footings, etc. Install perforated drain pipe under barrier. (3-4" diameter pipe)	Photo-documentation required	A radon mitigation contractor should be able to add piping and a fan if necessary to reduce radon levels but not have to improve the moisture/soil gas barrier. We need to have proof that your soil gas barrier and glue system are compatible and effective. We have found that Dura-Skrim (clear) does not adhere to Permthane caulking
Crawlspace exterior entrance	See EWR Program Installation Standards Appendix A The door needs to be insulated with foam to R-20, should be air tight, and should not need tools to open or close .	Photo-documentation required	Locking hooks or hasps are recommended to ensure an air tight seal.
Batt insulation removal from crawlspaces	Removing old batts from crawlspace with intent to dispose of at landfill.	Photo-documentation required	
Repairing a soil/gas barrier	Simply patching with a rectangular piece of barrier and urethane caulk.	Photo-documentation required	less than 5 square feet

Appendix N: Streamlined approach installation standards

Measure	Installation standards	Required tests	Notes
GENERAL			
Duct sealing (outside air or thermal boundary)	See EWR Program Installation Standards Appendix A All duct sealing must be done with UL 181 approved tape or mastic. Mastic shall be used anywhere there isn't an access issue such as a door.	Leaky ducting in the attic must be sealed with mastic. Depressurize home with blower door and use smoke in attic to verify effective duct sealing. Photo-documentation required	When ducting is present outside of the thermal boundary sealing with mastic is required .
Duct sealing (Inside air and thermal boundary)	All duct sealing must be done with UL 181 approved tape or mastic. Mastic shall be used anywhere there isn't an access issue such as a door.	Measure pressure in basement WRT the rest of the house. Training may be required. If pressure difference is negative assess return duct leakage and seal if accessible. If duct sealing is not possible advise homeowner to contact HVAC contractor to balance airflow. Photo-documentation required	This is focused on return leakage that can depressurize areas of the home. We are trying to minimize CAZ depressurization and possible IAQ problems. The assessor/energy expert will determine the need for this based on visual inspection as well as pressure diagnostics.
Wall insulation, dense pack cavities, 2 x 4	See EWR Program Installation Standards Appendix A We only want to dense pack those walls that are empty - You can use either fiberglass or cellulose - if using fiberglass - make sure it's rated for dense- packing (short fiber)	Photo-documentation required	Consider putting home under a positive pressure during the installation to avoid excess dust in the home

Appendix O: Service Provider scoring system

- Each service provider is assigned 100 points upon entering the program.
- A score of 70 or above is needed in order to maintain active (enrolled) status.
- The score does not have an impact on Tier status.
 - Score is not shared with homeowners.
 - Score is used internally for service provider management and shared with each respective service provider.

Tracking

- PIV results, point deductions, point additions will all be recorded in I-Energy.
- Service provider scores will be displayed on:
 - Monthly report cards
 - Efficiency Works website

Losing Points

The service provider can lose points for mistakes based on the Technical Standards checked during a PIV. Point deductions can also occur for issues such as:

- Customer complaints
- Failure to respond to info request within 1 week
- Failure to submit paperwork within 2 weeks of project completion
- Etc.

Example:

Field Manager does a PIV and finds 3 items that are not up to program standards

- No attic card (-1)
- Knee-wall insulation not fully encapsulated (-2)
- Attic insulation not up to the level specified in the invoice/on the attic card (-2)

This would result with the service provider losing 5 points overall.

Earning Points

The service provider can earn points from things such as:

- Positive feedback from a customer
- A PIV with no corrections
- Pattern of rebate applications submitted without any issues

Appendix O: Service Provider scoring system

Example:

QA does a PIV and finds 2 items that are not up to program standards.

- No Insulation Attic card (-1)
- Knee-wall insulation not fully encapsulated (-2)
- Customer provides positive feedback (+3)

This would result with the service provider gaining 2 points overall.

Maximum allowable score is 130 points.

Other Ways to Earn/ Lose Points

Other Ways To Earn/Lose Points	
QC Inspection passed with no corrections on Installations	5
Received Positive Homeowner Feedback	3
Received Positive Advisor Feedback	3
Completed Improvement Plan	10
Major Customer Complaint	-5
Minor Customer Complaint	-3
Failing to Use the Communication Protocol when necessary	-3
Forgetting a single item of the Communication Protocol	-1
Customer Complaint Related to Customer Service	-1
Failure to Address Complaint w/in One Week	-1
Failure to Respond to Info Request w/in One Week (2 Day Expectation)	-1
Failure to Submit paperwork	-1
Failure to Meet Bid Request Response Time	-1
Additions or deductions are applied to completed projects post completion date	

Appendix O: Service Provider scoring system

Falling Below 70

If a service provider's score falls below 70 then they are required to execute an Improvement Plan:

- The Program Manager will meet with the service provider and help them figure out their main deficiencies
- Reports will be used to pin-point the exact issues and patterns that led to the inadequate score
- The service provider will have 60 days to complete the Improvement Plan
- The service provider will have an "Inactive" status
 - They cannot receive any future leads until they resolve all outstanding issues
 - They cannot bring new jobs to the program until they resolve all outstanding issues

Examples:

- Window service provider has very low volume in the program: The solution might be an office visit by Program Manager to teach their sales team how to sell our program better.
- Insulation and Air Sealing service provider keeps forgetting to add ignition barrier paint to their spray foam and attic cards: The solution might be to implement an internal Quality Assurance photo-documentation checklist for each job that reminds the workers what to double-check before leaving a customer's house. The Program Manager can provide guidance as needed.
- HVAC service provider continuously provides furnace commissioning forms that are incorrect: The solution might be for the Program Manager to work with the company's technician during a MIV in order to walk them through the process so that they understand the requirements and submit accurate forms moving forward.

FAQS

What if a service provider does not complete the Improvement Plan?


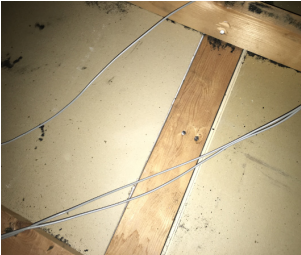







- The service provider is removed from the program.

Why is 100 the starting score and 70 is the minimum acceptable score?

- 100 is the starting point, but it's relationship to 70 is important.
- New service providers are allowed a 'probationary' time, or on-boarding period.
- When we see service provider scores dipping below 90, we are engaging with them in order to help remedy the situation before further deductions occur.

Appendix P: Photo documentation guide

The purpose of this photo documentation guide is to establish a great paper trail of the before and after on our more important details in the program.

Energy efficiency measure	Expected photos	Example	Example	Example
Full vacuuming of the attic	Clean attic floor Top plates Bypasses Large holes			
Attic prep and air seal	Sealed top plates (Interior) Electrical penetrations Plumbing penetrations HVAC penetrations Chases Insulation rulers Insulation dams Attic hatch			
Air seal exterior top plates	Insulation dams Insulation baffles Finished top plates			





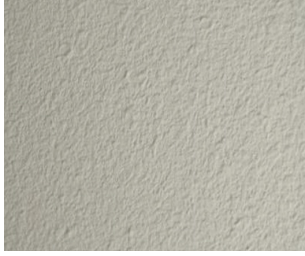







Appendix P: Photo documentation guide

Energy efficiency measure	Expected photos	Example	Example	Example
Air sealing non-IC rated can lights	Unsealed can lights Sealed can lights			
Attic insulation	Finished shots with: Rulers Dams Insulation chart			
Install new or replace existing bath fans	Photos of installed fan - below & above Make sure to capture clear view of exhaust to exterior			
Bath fan ducting	Photos of installed duct Make sure to capture clear view of exhaust to exterior			
Accessible knee walls	Before After A photo of the air barrier under the wall if added			
















Appendix P: Photo documentation guide

Energy efficiency measure	Expected photos	Example	Example	Example
Skylight shafts	Before After			
Install attic access garage ceiling	Finished photos Show how door is insulated and weatherstripped			
Knee wall access	Finished photo Show how door is insulated and weatherstripped			
Floor over garage dense pack	Pictures of: Drilled holes Action shot Packing Finished plugs Removed Drywall and air sealing			
Pipe freeze protection insulation in garage (walls and ceilings)	Photos of the water pipes before "tenting" and after			
















Appendix P: Photo documentation guide

Energy efficiency measure	Expected photos	Example	Example	Example
Drywall replace and firetape	Drywall opened up Drywall finished with firetape			
Drywall replace with full finish and texture	Finished photos - with close ups to capture full finish and texture			
Seal return cavities	Sealed returns			
Cantilevered floor dense Pack	Two options:			
Drill and fill	Pictures of the process and finished surface			







Appendix P: Photo documentation guide

Energy efficiency measure	Expected photos	Example	Example	Example
Drop the soffit	Pictures of the process and finished surface			
Spray foam crawl space rim joists	Unsealed rim joists Sealed rim Joists Ignition barrier			
Spray foam basement rim joists	Unsprayed rim joists Sprayed rim joists Ignition barrier			
Insulate crawl space walls	Uninsulated walls Insulated walls Ignition barrier			
Insulate basement walls	Before and after			


Appendix P: Photo documentation guide

Energy efficiency measure	Expected photos	Example	Example	Example
Window replacement	Picture with trim removed			
Duct sealing (outside air or thermal boundary)	Unsealed ducts Sealed ducts			
Duct sealing (inside air and thermal boundary)	Unsealed ducts Sealed ducts			
Whole house fan cover	Installed product			
Wall insulation, dense pack cavities, 2 x 4	Photos of process and finished surface			

Appendix P: Photo documentation guide

Energy efficiency measure	Expected photos	Example	Example	Example
Install moisture/soil gas barrier in crawl space	Close up of connection to wall Wide angle shot of installed barrier			
Air seal between house and garage	Photos of air sealing Bottom of drywall Drywall penetrations around electrical panel Around door to house			

Appendix Q: Service provider score card

 <small>Estes Park Fort Collins Longmont Loveland</small> EWH - Homes Contractor Score Card Program Participation		
Contractor:	Franklin Energy	
Tier:		
Score:	0	
City	Homes Upgraded	Total Measures
Fort Collins	0	0
Loveland	0	0
Longmont	0	0
Estes Park	0	0
Total	0	0
Project QCs Completed	0	
QCs with Corrections Notice	0	
Rebate Status	Number of Status	
Approved	0	
Review Pending	0	
Missing Information	0	
Waiting on Commissioning	0	
Rejected	0	
kWh Savings	Year to Date	0