



# BTF NET ZERO PLAN BOOK

**Many of our stock home plans on  
printable 8.5"x11" sheets**

*Please feel free to reach out with any  
questions at [info@bitethefrost.com](mailto:info@bitethefrost.com)*

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BITE THE FROST LLC



# WELCOME HOME

## A New Age of Home Design

*Bite the Frost Residential Designs (BTF), provides a new kind of residential home plan. BTF offers attractive & modest size homes. Each designed with space, energy & resource efficiency in mind.*

### **An Energy Efficient Home**

*A common misconception is that a new building is energy efficient. Energy efficiency begins with the exterior shape & size of a building. Followed by the location and size of its windows & door openings. High efficiency materials & appliances, while beneficial, are not enough to optimize a home. Over the past few decades, we have noticed the design & construction of many new wasteful and inefficient homes. The next generation of homeowner & contractor, wants simple & efficient home that will last.*

### **Looking to Historical Homes as a Model**

*Historical homes required remarkable material management for initial construction, maintenance and longevity. Such management was a critical aspect of home design and ownership. Complicated and inefficient homes were simply more difficult to maintain. Thus, less likely to withstand the test of time. As technology today has progressed & new building materials are a click away, quality designs have become far and few between. In recent decades, home designs have become more wasteful and more complicated. Utilizing years of construction, engineering & architectural design, BTF provides a solution for contractors & home owners alike.*

### **A New Kind of Home**

*The home of tomorrow requires the specific design and attention to detail that was once common place in historical homes. Unlike a majority of other plans available online, BTF takes into account design concepts such as:*

*Energy Efficiency & Energy Modeling  
Minimized Footprints  
Snow & Cold Climate Needs  
Space Utilization  
Accessibility  
Noise Mitigation  
Centralized Plumbing  
Mechanical Space  
Traffic Flow  
Storage Space, and  
Simplified Construction Practices*

*BTF addresses all these concepts and plenty more, while still providing a beautiful home you can enjoy for generations.*

*Each BTF plan honors the simplicity of historical homes, the energy efficiency needs of today, and the small footprint of tomorrow.*

*Welcome Home!*



## Why We Do What We Do

Energy around the world, comes from a combination of **nuclear power, renewable resources**, such as wind, solar or hydro and the **burning fossil fuels**. Even electricity on "The Grid" comes from a combination of these sources, varying by ones location.

### U.S. sources of electricity generation in 2020 were broken out per the EIA as:

- 60% fossil fuels (gas & coal & petroleum)
- 20% nuclear
- 20% renewables

Up from 17% renewables in 2019!

### ENERGY

The burning of fossil fuels, releases carbon dioxide (CO2) which is the principal greenhouse gas contributing to **global warming**. U.S. greenhouse gas emissions come in second largest in the world annually - China being in 1st place. Numbers for 2018 as Published by the EPA:

The annual U.S. **greenhouse gas emissions** totaled 5,700 million metric tons .... of those, 337 million metric tons were produced by **residential homes alone**.

While renewables develop and the 2050 target to decarbonize electricity production approaches - we can **future proof our homes** today. With well designed homes, we can reduce energy needs & **remove our residential use of fossil fuels!**

### FUTURE

We're trying to **reduce** the energy wasted & the **fossil fuels** burnt, one home at a time. So are **cities and jurisdictions** around the country!

Many cities, states, and jurisdictions are **putting in place goals and requirements for new homes to be net zero** in the near future.

- The **United States** mandated that all new federal buildings built after 2030 should be zero energy buildings
- Denver Colorado** plans to achieve net zero energy in all new buildings & homes by 2030
- California** is mandating that all new homes meet a "zero energy ready" code by 2020
- Washington State** also passed a zero energy building code

**Now other states are showing signs of following the pattern!**

### NET ZERO

## What Is A Net Zero Home?

It's a home that generates more electricity than it uses over the course of a year. This is typically achieved with **solar panels & careful sizing** of one's HVAC equipment and one's predicted energy usage. Deceiving, it is possible to have a Net Zero home that burns fuel - Not Here! Our home plans are also **Zero Carbon**.

### Not quite ready to build a Net Zero Home?

Try one of our Basic HVAC Plans - simply designed for slightly lower R-values & no preliminary solar analysis they are still zero carbon and **extremely** efficient. And we don't just say "Energy Efficient" we provide all the calculations and system sizing to prove it!

### OLD WAYS

## What Net Zero Used to Mean

- For owners and builders in recent years it's often meant:
- Expensive building materials
  - Hiring an architect and an engineering firm
  - Months of site specific analysis
  - Complicated construction means & methods

No Wonder in recent years building a net zero home has had more upfront costs than traditional construction!

**WE HAVE DONE AWAY With ALL of that!!**

### NEW WAYS

## How about a net zero plan that:

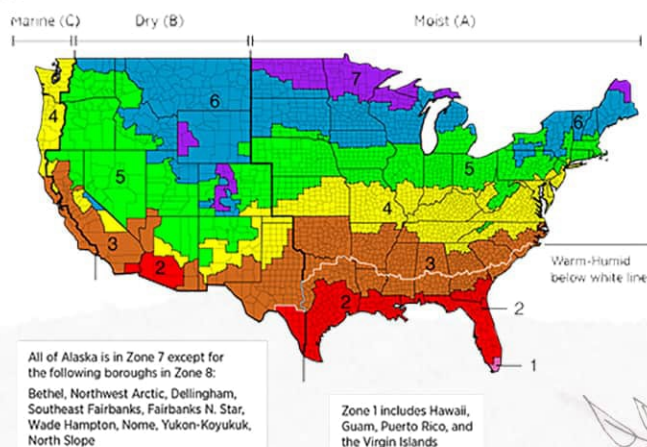
- Uses **common** building materials, like 2x6 exterior walls
- Comes with all the **calculations, energy analysis & system sizing** of an engineering firm
- Uses geographical data to work with **most any building site** in the northern half of America & Canada
- Looks **normal!** Dare we say, really normal... honoring the architectural designs of historical classics

CALCULATIONS

How did we develop Net Zero Stock Plans for multiple locations?

With TONS of **energy models**, solar & electric **calculations** and LOTS of 8760 energy **analysis** ... (did we tell you it took us THOUSANDS OF HOURS to develop these plans?)

Our plans are designed for construction within Climate Zones 5A, 5B, 6A, 6B, 7 and/or 8, as published by the IECC - see map below:



Through **trial & error** - a window here, a wall shift there - We nailed down a home plan that, with minor equipment changes from location to location, can be **net zero from 5A to 8!** Of course our **stock plans include the HVAC equipment sizes/ selections for construction in each of these climate zones.** And a list of cities/ counties to help you determine what climate zone your project is in.

MODERN NEEDS

Even at this level of detail, we took it further!

We took the time to include today's modern needs.

Most of our homes have:

- 1st floor bedrooms & walk-in showers for **aging in place**
- Many 1st floor **master suites** with private bathrooms
- **Home offices**, for the "work at home" trend
- Lots of **storage space**, such as kitchen pantries & walk-in closets
- And **kitchens with all the fixin's** like islands, pantry's & eat at counters

It took us years, but we put it all together - **we gave you everything.**

ABOVE & BEYOND

Putting your mind at ease

In our background we've seen firsthand some of the **flawed stock plans sold online.**

We've seen furniture drawn half its size to make rooms 'look big' - We've seen plans where the roof lines - are not even constructible - And plans where the stairways between floors, don't even line up.... **You won't have that from us.**

We've gone above and beyond to develop our plans to be contractor friendly and up to par! **Our plans meet more than just the IRC (International Residential Code).** We've designed our plans to **meet all of these too:**

- International Energy Conservation Codes (IECC)
- U.S. Department of Energy (DOE) - Zero Energy Ready Home National Requirements
- ASHRAE 62.2 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings
- International Residential Code (IRC)
- U.S. Environmental Protection Agency (EPA) AirPLUS
- National Program Requirements of Energy Star Certified Homes
- Vermont Residential Building Energy Standard (RBES)
- Energy Star Supplement, ANSI/RESNET/ACCA std. 3.10
- U.S. Department of Energy (DOE) National Renewable Energy Laboratory (NREL) House Simulation Protocols
- U.S. Environmental Protection Agency (EPA) Solar Photovoltaic specification, checklist & guide

We've set the bar high for ourselves - perhaps a **new industry standard!**

Aiming to offer a plan for nearly every family's needs - we offer you more than a dozen net zero plans to choose from.

Purchase one of our stock plans today! **Welcome home.**

ENERGY MODELING

What is an 8760 Energy Model?

*It's an analysis of a building's performance every hour, of everyday, throughout the entire year. Using actual weather patterns for locations all over the world, an 8760 model produces extremely accurate simulations at the **highest industry standard.***

An 8760 energy model can be used to **accurately size heating & cooling systems** for every room of your building. Sizing systems properly **can cut initial equipment costs, operating costs, minimize energy usage and allow for more accurate system control.**

HISTORICAL HOMES

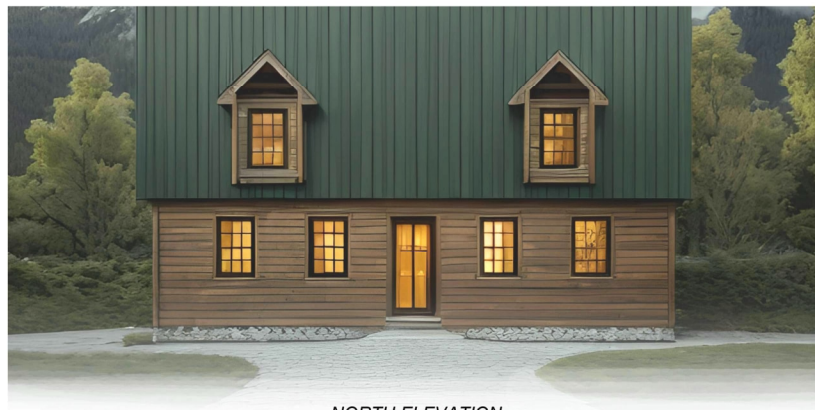
FUN FACT:

In our process of trial and error, we learned the **historical architecture** styles, like the Cape Cod home, were **remarkably efficient.**

It made sense to us, that homes of the past would be efficient... Wouldn't you like to reduce the number of trees you'd have to hand saw too?!

ATTACHED GARAGE OPTIONS INCLUDED WITH THIS PLAN

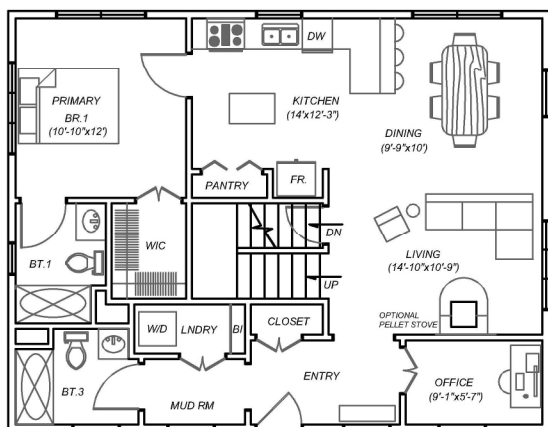
DORMER-FREE VARIATION INCLUDED WITH THIS PLAN



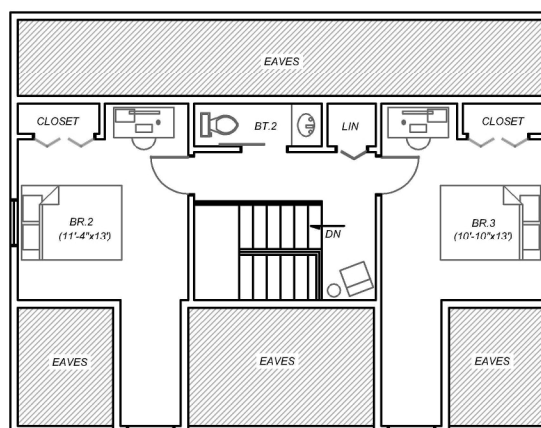
NORTH ELEVATION

# AMUR MAPLE

MODEST, TIMELESS, INSPIRED, CAPE STYLE HOME



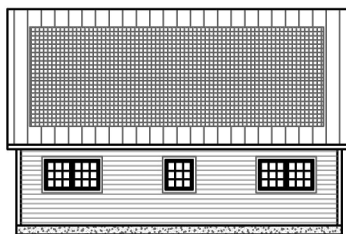
1st Floor Plan  
DNS



2nd Floor Plan  
DNS



EAST



SOUTH



WEST

FOOTPRINT: 36'-0" x 28'-0"

See Table of Contents for Solar PV estimates & availability  
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1440 SF | 3 BED | 2.5 BATH  
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EDITION 7

# AMUR MAPLE

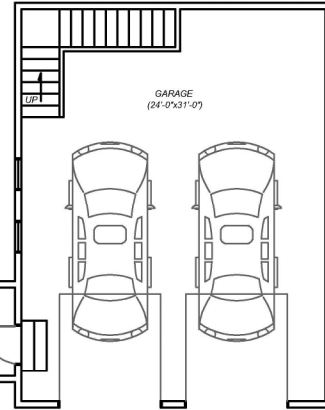
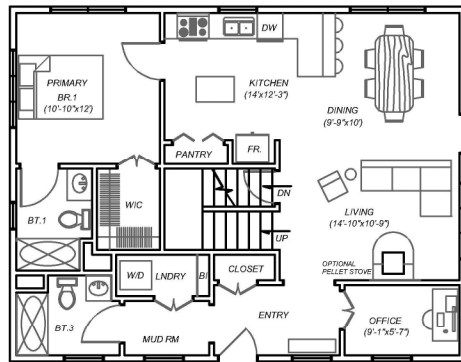
## ATTACHED GARAGE OPTIONS



### AMUR MAPLE - Attached Garage

#### Option A

DNS



1st Floor Plan - Attached Garage

#### Option A

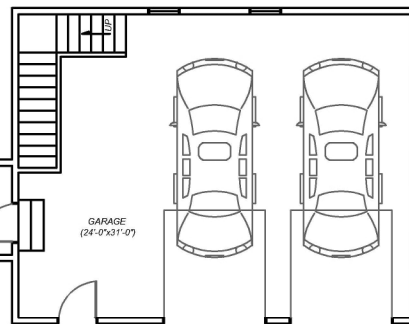
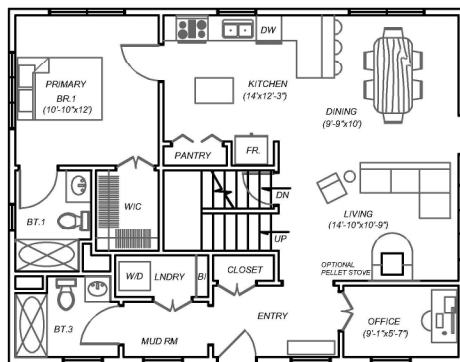
DNS



### AMUR MAPLE - Attached Garage

#### Option B

DNS



1st Floor Plan - Attached Garage

#### Option B

DNS

**Notes:**

1. For second floor plans, additional details and approx. room dimensions, see the main plan book
2. Non-Dormer version available

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**1440 SF | 3 BED | 2.5 BATH**

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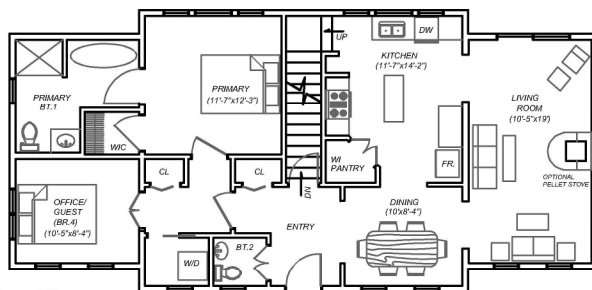
ATTACHED GARAGE OPTIONS  
INCLUDED WITH THIS PLAN



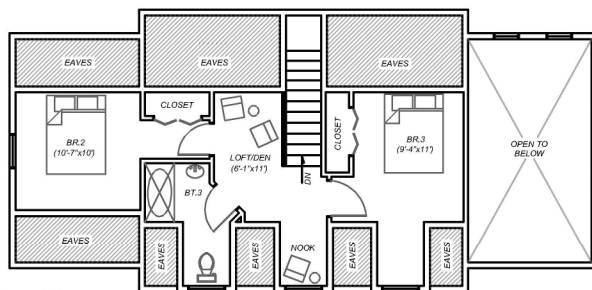
NORTH ELEVATION

# BLACK SPRUCE

ELEGANT, LUXURIOUS, TRADITIONAL, CAPE STYLE HOME



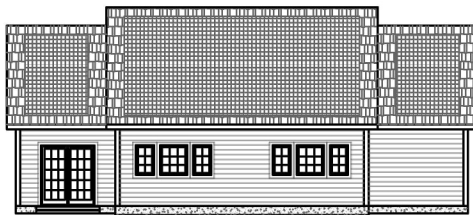
1st Floor Plan  
DNS



2nd Floor Plan  
DNS



EAST



SOUTH



WEST

FOOTPRINT: 50'-0" x 24'-0"

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1560 SF | 3-4 BED | 2.5 BATH  
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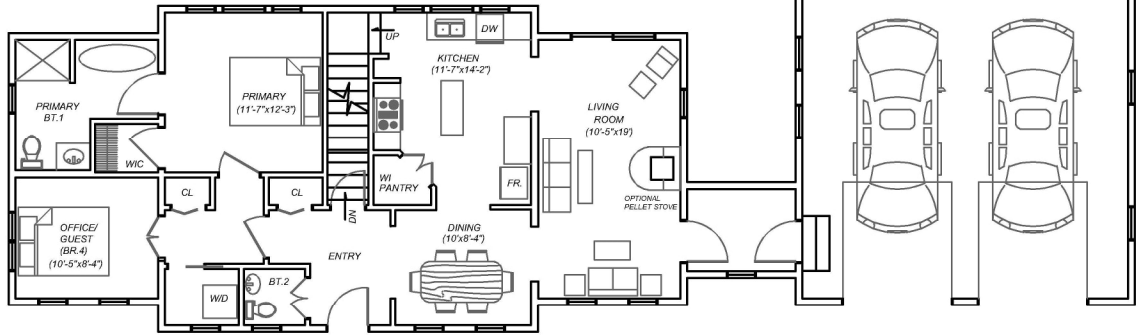
EDITION 7

# BLACK SPRUCE

## ATTACHED GARAGE OPTIONS



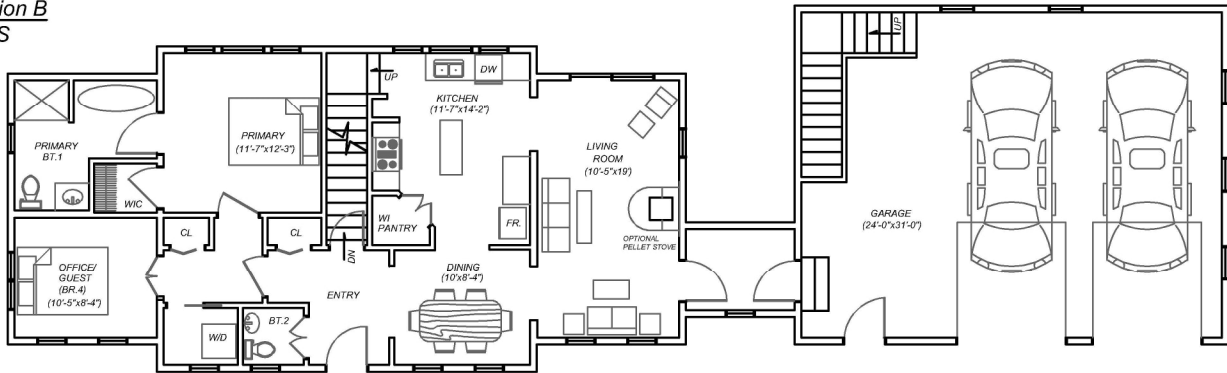
BLACK SPRUCE - Attached Garage  
Option A  
 DNS



1st Floor Plan - Attached Garage  
Option A  
 DNS



BLACK SPRUCE - Attached Garage  
Option B  
 DNS



1st Floor Plan - Attached Garage  
Option B  
 DNS

For second floor plan, additional details and approx. room dimensions, see the main plan book

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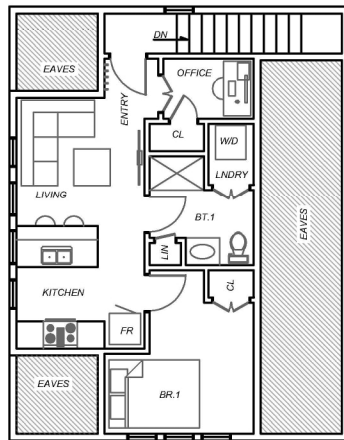
**1560 SF | 3-4 BED | 2.5 BATH**  
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VERSION B OF THIS PLAN, W/ CAR DOORS ON SOUTH WALL INCLUDED

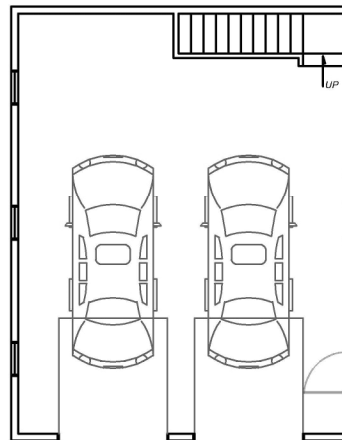


# CRABAPPLE

SIMPLE, CHARMING, CARRIAGE STYLE STUDIO ABOVE GARAGE



1st Floor Plan - VERSION A  
DNS



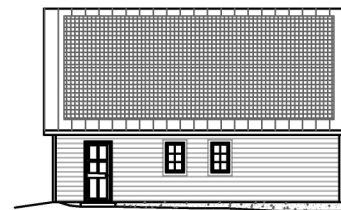
2nd Floor Plan - BOTH VERSIONS  
DNS



SIDE



BACK



SIDE

FOOTPRINT: 32'-0" x 25'-0"

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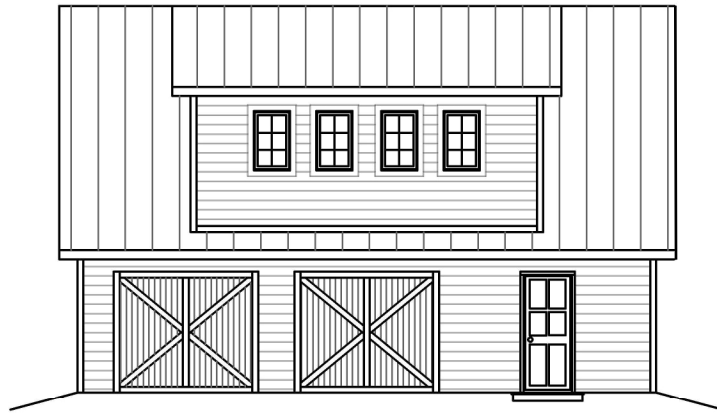
460 SF | 1 BED | 1 BATH

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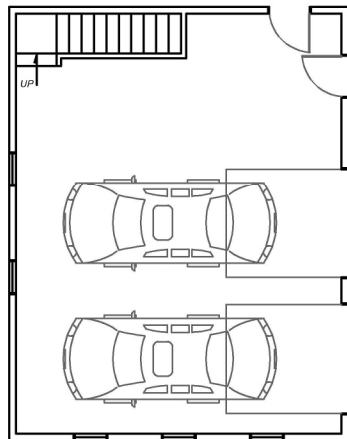
EDITION 7

VERSION A OF THIS PLAN, W/ CAR DOORS ON GABLE END INCLUDED

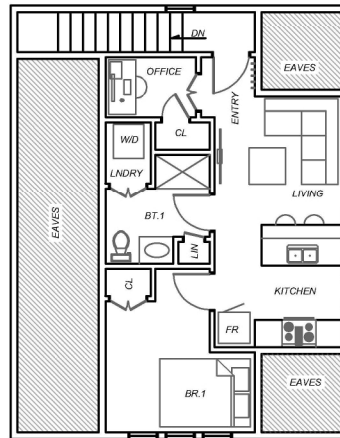


# CRABAPPLE

SIMPLE, CHARMING, CARRIAGE STYLE STUDIO ABOVE GARAGE



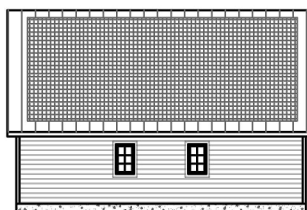
1st Floor Plan - VERSION B  
DNS



2nd Floor Plan - BOTH VERSIONS  
DNS



SIDE



BACK



SIDE

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460 SF | 1 BED | 1 BATH  
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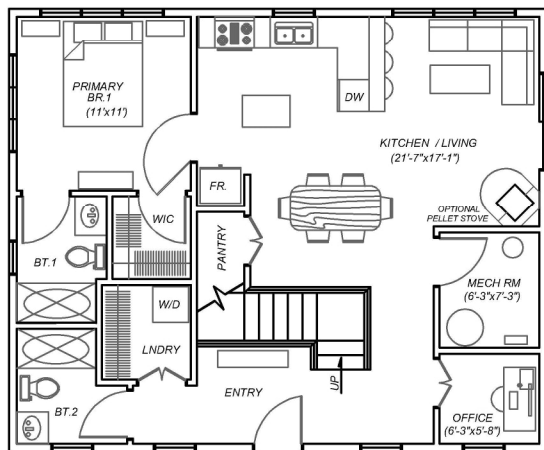
VARIATION AS CLASSIC CAPE  
W/ TWO FRONT DORMERS  
INCLUDED WITH THIS PLAN



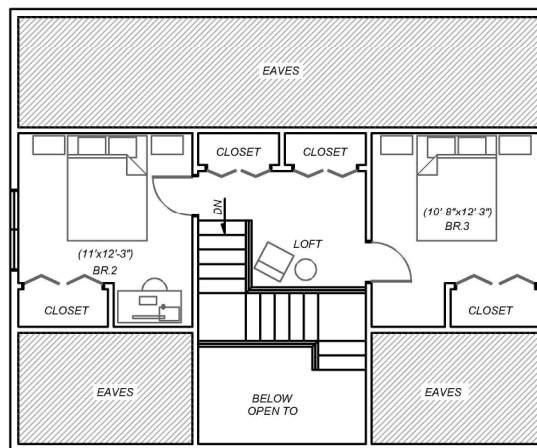
NORTH ELEVATION

# GOLDEN BEECH

TIMELESS, EFFICIENT, CREATIVE, CAPE STYLE HOME



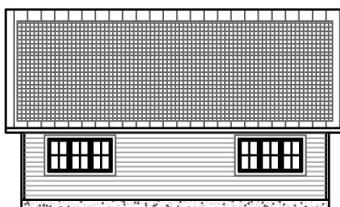
*1st Floor Plan*  
DNS



*2nd Floor Plan*  
DNS



EAST



SOUTH



WEST

FOOTPRINT: 34'-0" x 28'-0"

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**1300 SF | 3 BED | 2 BATH**

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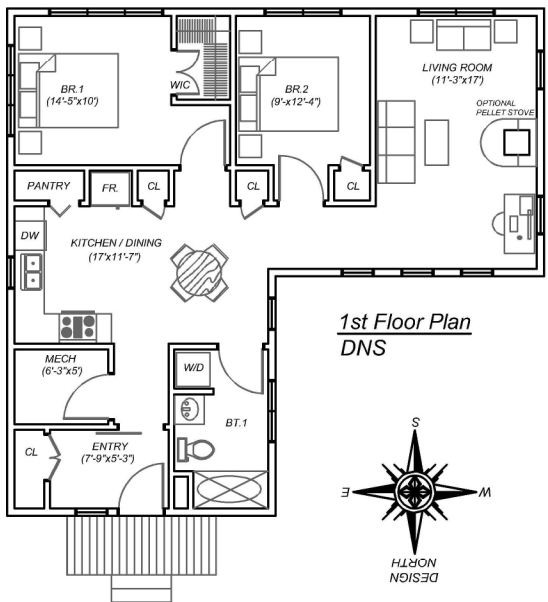
ATTACHED GARAGE OPTIONS  
INCLUDED WITH THIS PLAN



NORTH ELEVATION

# GRAY BIRCH

TINY, EFFICIENT, PRACTICAL, RANCH STYLE COTTAGE



EAST



WEST



SOUTH

FOOTPRINT: 36'-0" x 34'-0"

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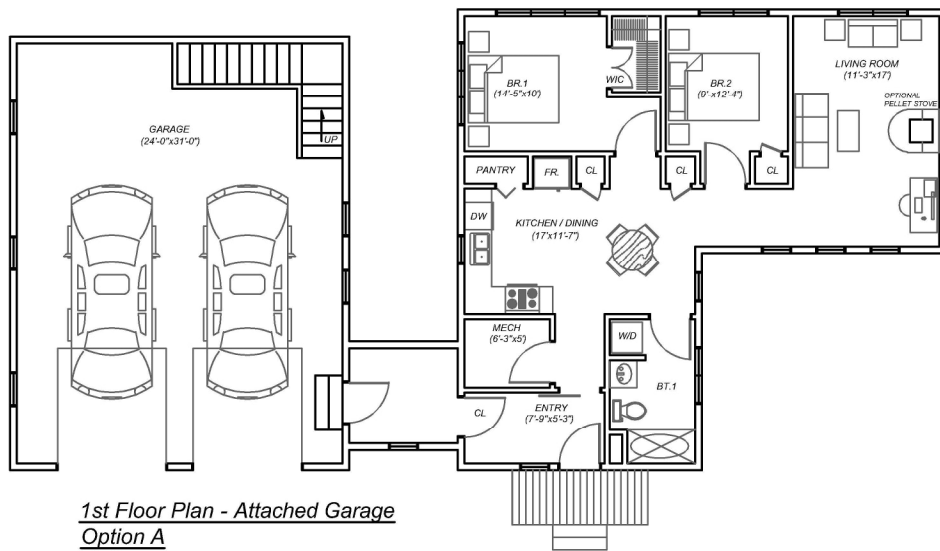
890 SF | 2 BED | 1 BATH  
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EDITION 7

# GRAY BIRCH

## ATTACHED GARAGE OPTIONS



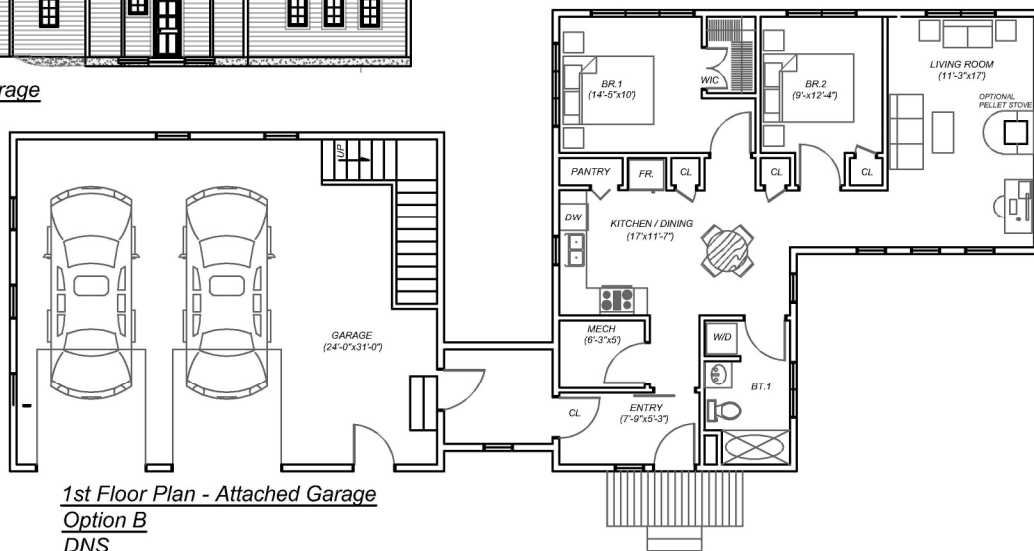
GRAY BIRCH - Attached Garage  
Option A  
DNS



1st Floor Plan - Attached Garage  
Option A  
DNS



GRAY BIRCH - Attached Garage  
Option B  
DNS



1st Floor Plan - Attached Garage  
Option B  
DNS

For second floor plan, additional details and approx. room dimensions, see the main plan book

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890 SF | 2 BED | 1 BATH

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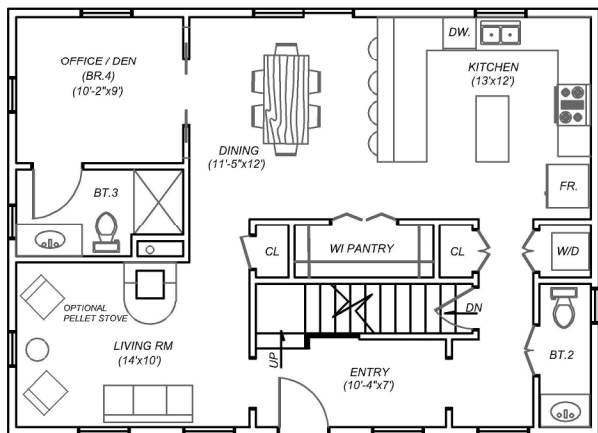
ATTACHED GARAGE OPTIONS  
INCLUDED WITH THIS PLAN



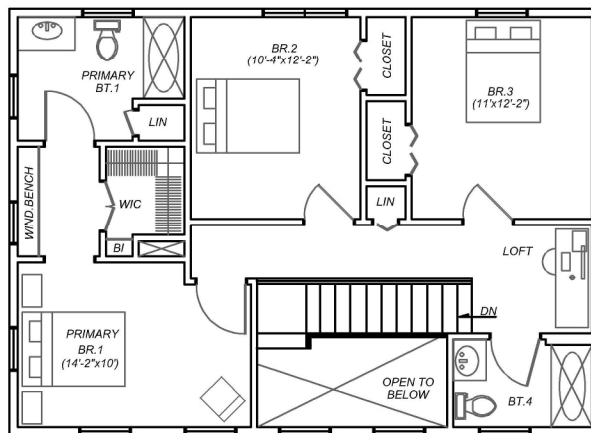
SOUTH ELEVATION

# MAPLE

AGELESS, ATTRACTIVE, ELEGANT, COLONIAL STYLE HOME



1st Floor Plan  
DNS



2nd Floor Plan  
DNS



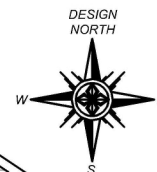
WEST



NORTH



EAST



FOOTPRINT: 36'-0" x 26'-0"

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1750 SF | 3-4 BED | 2 BATH

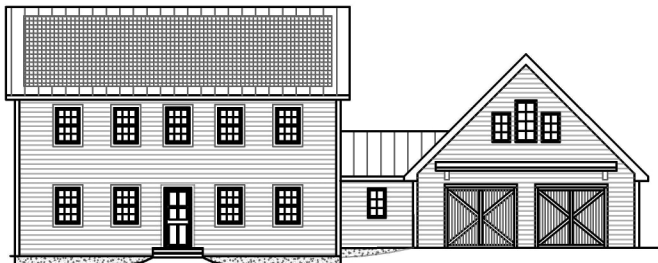
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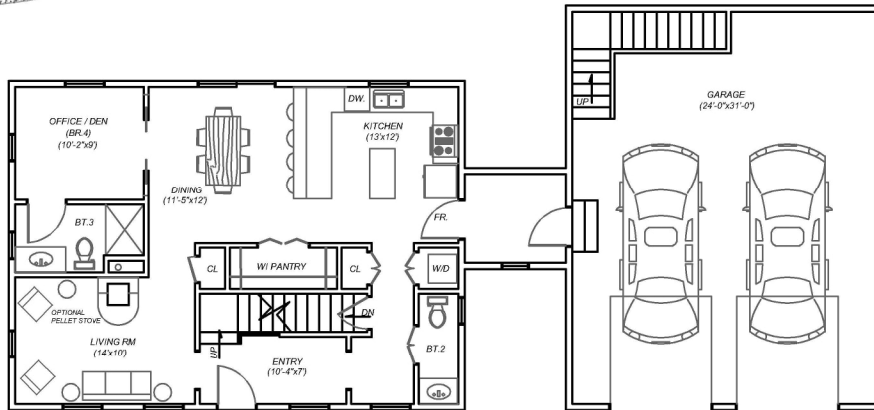
EDITION 7

# MAPLE

## ATTACHED GARAGE OPTIONS



MAPLE - Attached Garage  
Option A  
DNS

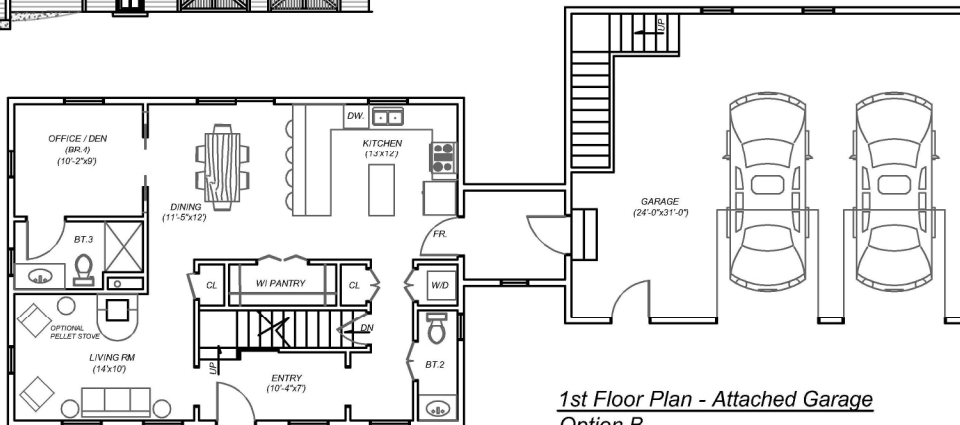


1st Floor Plan - Attached Garage  
Option A  
DNS

DESIGN  
NORTH



MAPLE - Attached Garage  
Option B  
DNS



1st Floor Plan - Attached Garage  
Option B  
DNS

For second floor plan(s), additional details and approx. room dimensions, see the main plan book

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1750 SF | 3-4 BED | 2 BATH

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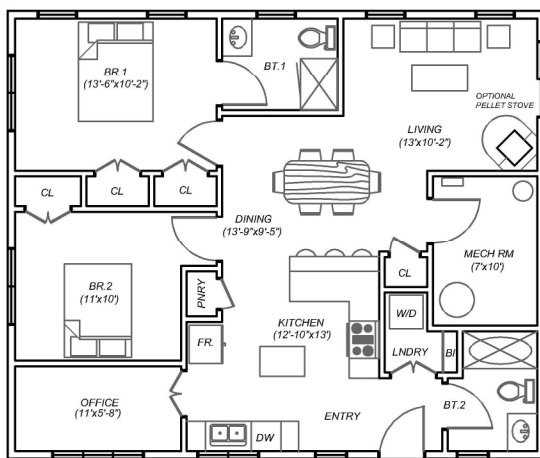
EDITION 7



NORTH ELEVATION

# SCARLET OAK

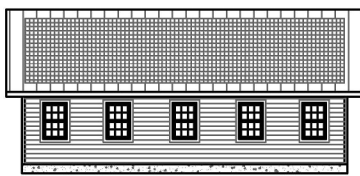
MODEST, SENSIBLE, EFFICIENT, RANCH STYLE COTTAGE



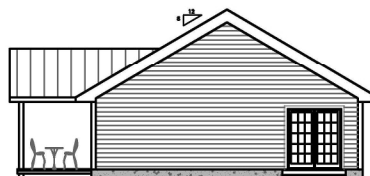
1st Floor Plan  
DNS



EAST



SOUTH



WEST

FOOTPRINT: 36'-0" x 30'-0"

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1080 SF | 2 BED | 2 BATH  
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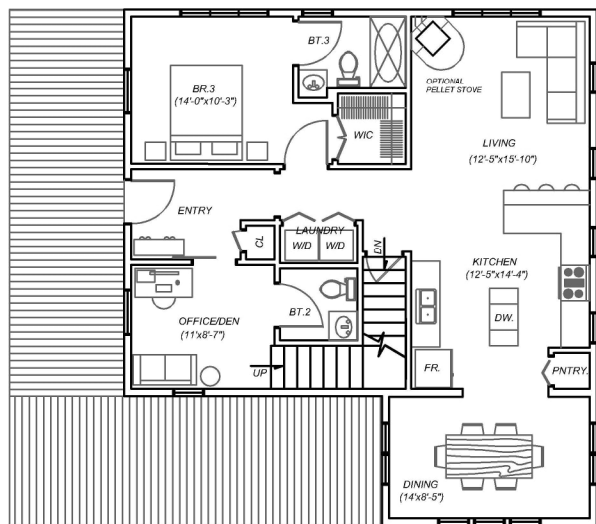
ATTACHED GARAGE OPTIONS  
INCLUDED WITH THIS PLAN



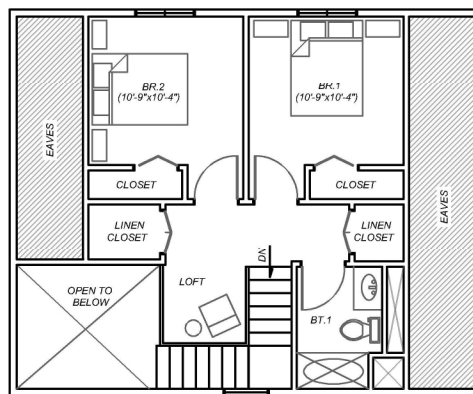
WEST ELEVATION

# WHITE OAK

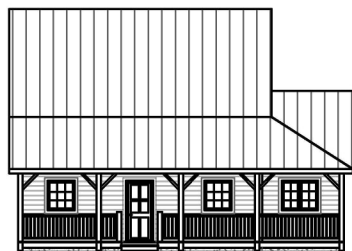
CALMING, HUMBLE, CHARMING, CRAFTSMAN STYLE HOME



1st Floor Plan  
DNS



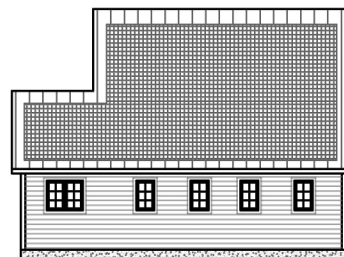
2nd Floor Plan  
DNS



NORTH



EAST



SOUTH

FOOTPRINT: 33'-0" x 36'-0"

See Table of Contents for Solar PV estimates & availability  
For Clarity: Approx. Dimensions Shown. Do not scale.  
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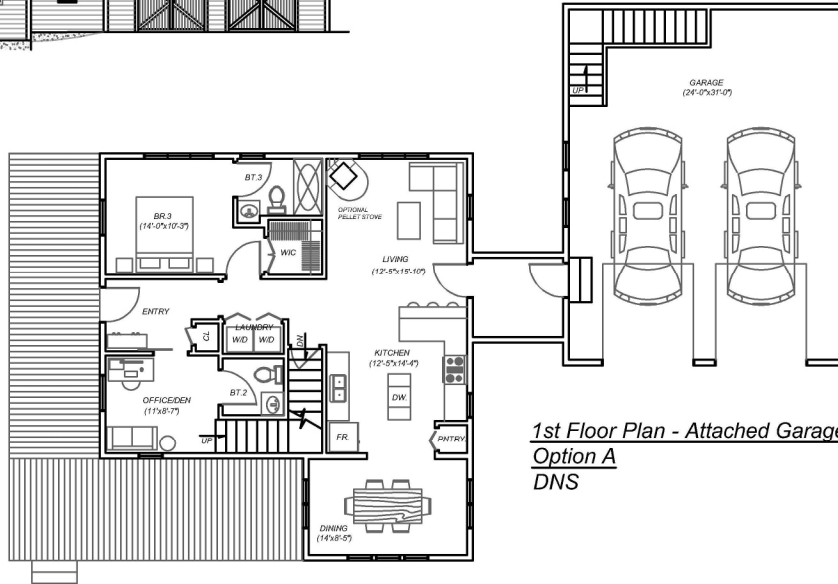
1550 SF | 3 BED | 2.5 BATH  
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EDITION 7

# WHITE OAK

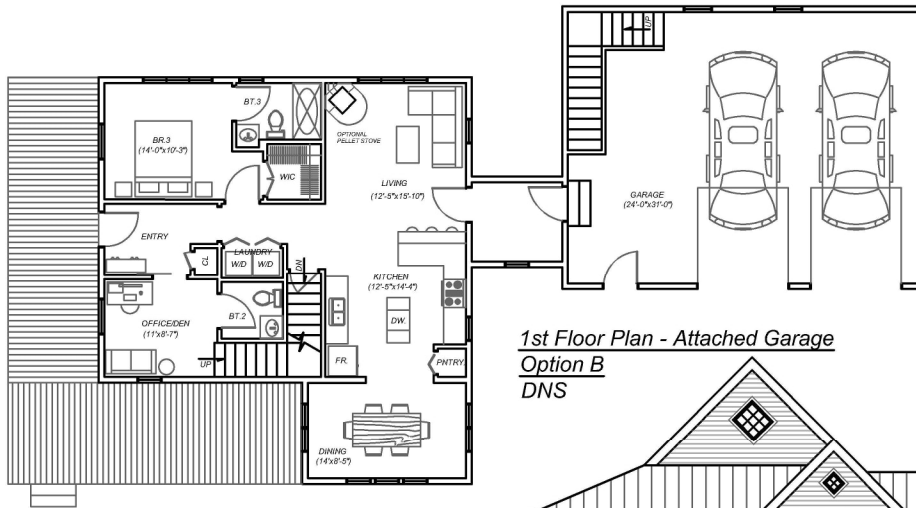
## ATTACHED GARAGE OPTIONS



WHITE OAK - Attached Garage  
Option A  
 DNS



1st Floor Plan - Attached Garage  
Option A  
 DNS



1st Floor Plan - Attached Garage  
Option B  
 DNS



WHITE OAK - Attached Garage  
Option B  
 DNS

For second floor plan, additional details and approx. room dimensions, see the main plan book

See Table of Contents for Solar PV estimates & availability  
 For Clarity: Approx. Dimensions Shown. Do not scale.  
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