

Business Plan



Artemis Natural Homes LLC

Distinctive Environmentally Responsible

Hand-Built Homes

This business plan is intended solely for informational purposes to assist you with a due-diligence investigation of this project. The information contained herein is believed to be reliable, but the management team makes no representations or warranties with respect to this information. The financial projections that are part of this plan represent estimates based on extensive research and on assumptions considered reasonable, but they are of course not guaranteed. The contents of this plan are confidential and are not to be reproduced without express written consent.



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Executive Summary

Artemis Natural Homes (ANH) is a residential construction business that focuses on building simple, quality homes using sustainable construction materials and renewable energy systems in the foothills and mountains surrounding Boulder.

Product Description

A typical ANH product will be a 1200 to 1500 square-foot, simple yet elegant southwest-style adobe home constructed of alternative or “green” building materials, for example, straw bale, recycled paper, fibrous cement, and/or earth. At a price of \$100,000 to \$130,000 with an average utility bill of \$40 a month, this home costs less to build and operate than the typical single-family house, affording the owner more discretionary income for hobbies, sports, and vacations.

Marketing and Sales

ANH is targeting customers who make up an under-served niche market for environmentally sound homes. Our target customers can be defined as well-educated individuals who have as a significant concern in housing a desire to be surrounded by nature, respect the environment, and preserve for the future. Given their more limited purchasing power and more vocal concern for the environment, initially most of our buyers will fall into the Generation X age and income category.

Our marketing strategy is to “preach to the converted,” focusing on customers who are sincerely interested in this type of housing and are seeking it out, rather than trying to convince people who are not motivated by a concern for the environment. Marketing tools will be low tech/high touch methods including word-of-mouth referrals and a website that will both promote ANH and provide a portal to sustainable building practices. Our identity will be one of integrity, honesty, standing by our product, and living by the principles on which the business is founded.

Development

ANH is actively seeking property in western Boulder County on which to build a model home. Ground breaking is expected to begin this summer. Promotion of ANH will begin while the home is under construction, with the first customer acquired by the time the model home is complete. The first sale home is expected to be complete by November 2000.

Operations

Operations strategy will minimize cost through simple, functional home design and maximize

quality through passive solar design, maximized energy efficiency and sound construction. To achieve this objective, ANH will utilize the design-build approach to construction. Design-build requires continual, open communication with the customer. Thus communication and trust is the basis for our operations.

Management

ANH is organized as an LLC and is designed to be a lifestyle business for the founder, Margot Rode. A licensed Professional Engineer, Rode has extensive construction project management experience, a BS in Civil Engineering and a MS in Construction Engineering and Management. She is also a Licensed Real Estate Broker Associate in Colorado. Rode has the vision and energy to devote to this business, combining quality construction, efficient management, and professionalism in a field with a typically “rough-cut” and “lack-of-trust” reputation.

Financial Summary

Our business projections indicate that we will become profitable in our second year. We baseline starting the business with a reasonable cash cushion. Our cash position remains relatively stable for the first three years, and then grows substantially.

We project our net equity to be about \$115,000 after year five. In that year, our return on equity will be nearly 35%, which compares to a typical ROE for the single family housing industry of 29%.

We plan to obtain funding through loans and family support.

Opportunity

Because we are a lifestyle business, we do not plan to sell controlling interest in the company.

We do believe that few great companies are built alone. We seek the support of lenders who will recognize a solid business plan, and who will understand the value that affordable green homes will add to the community.

We are also interested in potential investors. Profit-sharing arrangements may be negotiated. Sharing in the accomplishment would be possible, too. Certainly, the right investor would help us, and could have a huge impact on making a family's dreams come true.



Company Overview

Mission Statement

Protect the future through green building. One house at a time.

History and Current Status

Artemis Natural Homes (ANH) is a forming residential construction business in Boulder, Colorado. We will focus on building simple, quality homes using sustainable construction materials and renewable energy systems in the foothills and mountains surrounding Boulder. ANH will be organized as a limited liability corporation (LLC). Initially, ANH will be a two-person team: a project manager/principal and a craftsperson/builder. The principal, Margot Rode, will build a residence in 1999 that will serve as the model home to market the product and service. Our goal is to have two to three buyers under contract by the spring of 2000 and complete these by that year end. We intend to keep this a small, “lifestyle” business.

Markets and Products

ANH plans to fill a void that falls between affordable manufactured housing, existing “fixer-upper” homes and custom trophy homes that clutter mountain properties with their costly immensity. Our target market is the Generation-X age and income category, a group that values technology and the outdoors. While we cannot control rising land values, we want to provide affordable, natural solutions.

We plan to use a design-build approach, where we design a home to fit a customer’s budget and then build it. As changes occur during construction (as they always do), we adjust the design, products, etc. as necessary to make sure the original budget is maintained. We will be “green builders” in the type of products we use. We intend to use many non-traditional, environmentally-sound materials and methods. We will strive for the highest energy efficiency. Our systems approach to design will maximize energy efficiency and functionality.

Objectives

ANH will start and remain a small, quality builder of green homes. We will begin with minimal assets required for operations to make this a lifestyle business. We will take pride in the principles by which we run our business, build our homes, and live our lives. While we anticipate a growing demand for our product and services, we will maintain our mission to “protect the future and build green.” A maximum production of ten homes a year is forecast for ANH.

Formally speaking, there is no “exit strategy” for this business. Our investors are primarily ourselves and our customers. Typically construction companies are not sold because it is the people, their service and their skills, that sell the vision and the product. Should Rode or other staff separate from the business, they would either be replaced or the volume of homes built would be reduced. Since the costs associated with home construction are typically covered by buyer financing, there are few assets to be lost (or sold) with the exception of the ANH manager or builder. Therefore, our job satisfaction is just as crucial as the quality of our product.



Product/Service Description

ANH is a contractor specializing in creating quality, comfortable, and affordable homes for the buyer concerned for our environment, the future, and simplifying the way we live. ANH combines sustainable construction materials, methods and renewable energy sources to form a systems approach to home design in the Rocky Mountains and Front Range of Colorado. Building an energy efficient solar home goes beyond providing additional layers of insulation and installing more windows facing south. It requires integrating all of the home systems that can benefit from solar energy without compromising aesthetics or construction quality.

Description

A typical ANH product will be a 1200 to 1500 square-foot, simple yet elegant Southwest-style adobe home. Its massive walls made of straw, recycled paper, fibrous cement, and/or earth provide over twice the insulation and sound-proofing of a standard home. The earthen and tiled floor radiates the heat from the days' sun shining through large, double-pane windows along the south wall. It is bright and warm, even during the season's heaviest snowfall. It incurs marginal monthly utility bills by using innovative and efficient water and electrical systems, appliances, and fixtures. The structure blends with the lot on which it was placed; there is no need for "landscaping." Gardens and xeriscaping (low-water landscaping using native plantings) are irrigated from collected rainwater and filtered graywater.

It is a small house but hosts a great dinner party after a day in the backcountry. Plenty of space is provided to store the owner's outdoor gear collection. Living space is optimized by providing ample storage in partially conditioned space on the north side of the house. The earthen energy, warmth, and simplicity comfort its guests. It is a reminder to value the people and community it shelters versus the material clutter that fills most houses.

Market Comparison

ANH will be one of the growing subset of residential contractors building homes known as "green builders." Green building encourages cost-effective and sustainable building methods, conservation of fossil fuels, water and other natural resources, recycling of construction materials, reducing solid waste, and improving indoor air quality.

The Home Builders Association (HBA) of Metro Denver, along with the Governor's Office of Energy Conservation, the E-Star Home Energy Rating Program, and Public Service Colorado created the Green Builder Program of Colorado (GBPC) in 1995. There are currently 49 residential contractors who are enrolled with the HBA as GBPC builders.¹ About half of these GBPC builders are small, building an estimated one to five homes per year. ANH will qualify as a green builder under GBPC and will compete for clients against these other smaller companies.

In order to enroll their product as a Built Green home, builders must meet a minimum criteria set by the program. While doing so does guarantee a certain level of environmental and health conscientiousness in home construction, it does not approach design and construction from a systems standpoint, using solar design, renewable energy sources, or less expensive, higher quality alternative materials.

In addition, the average price of a new home in Boulder County in 1998 was \$249,753.² Including the average cost of one-half an acre of land of \$40,000³ and site improvements (well, septic, driveway, etc.) costing approximately \$30,000, an ANH buyer can own a home in western Boulder County for less than \$200,000. These are the areas where ANH will be distinguished from our competition.

Stage of Development

ANH is a developing business. The principal, Margot Rode, is a professional engineer (PE), has extensive construction project management experience, a BS in Civil Engineering and a MS in Construction Engineering and Management. She is also a Licensed Real Estate Broker Associate in Colorado.

Rode's goal for ANH is to make this a lifestyle business for herself and one or two select craftworkers who believe in living sustainably and optimizing the use of renewable energy sources and alternative building materials. Others will perform legal and accounting operations on contract. She will focus her efforts on project management and site/building/systems design; these are her best skills.

Rode will buy land in west Boulder County or the surrounding area in the first half of 1999 and build a model home that will be her residence. The home will be a personal investment and achievement, financially separate from ANH. This will also serve as a model project to verify

¹ See www.builtgreen.org

² Boulder County Business Report, Dec. 12., 1998

³ Fowler Real Estate Mountain Office, Managing Broker's estimate

construction costs and schedules. Upon completion and verification of financial projections, ANH will market their services to promote one or two additional project starts by the end of the year.



Industry and Marketplace Analysis

Market Analysis

The housing market nationwide and in the Front Range is excellent. Although “green building” is a small segment of the industry overall, national home building statistics indicate that it is growing rapidly.

The Market

On both a local and national level, the homebuilding market is strong. Nationwide, sales of new one-family houses in December 1998 were at a seasonally adjusted annual rate of 978,000.⁴ Although this is 4% below the revised November rate of 1,015,000 it is 21% above the December 1997 rate of 805,000. Spending on new residential housing units during December 1998 was at a seasonally adjusted annual rate of \$227.9 billion, 2% above the revised November estimate of \$223.1 billion. Total starts of single-family homes are forecast to reach 1,523,000 in 1999.⁵

Locally, 20,171 single family houses were sold in 1998 in the six-county Metro Denver market,⁶ about a 17% increase over 1997. With a mean sale price of \$182,000 the size of the local market is about \$3 billion. Green building comprises about 10% of the total local homebuilding market;⁷ thus the local market is about \$300 million.

Market Trends

Quality of life and good employment opportunities are what draw people to Colorado. The 1990s have been a decade of remarkable growth in Colorado. Four million individuals call Colorado home, and state forecasters expect the population to surpass 5.5 million in the next 20 years.

The demand for environmentally sound housing is increasing steadily according to National Association of Home Builder (NAHB) studies. About three-quarters of Americans describe themselves as environmentally active or sympathetic, while 69% think environmental protection and economic development go hand in hand.⁸ Americans increasingly understand the links between the natural envi-

⁴ U.S. Department of Commerce’s Bureau of the Census; U.S. Department of Housing and Urban Development

⁵ National Association of Home Builders (NAHB)

⁶ Genesis Group

⁷ According to Doug Seiter, principal of Planit Green, a Denver-based environmental consulting firm.

⁸ 1995 Roper Starch Worldwide poll (the annual “Green Gauge” done for Times Mirror)

ronment, social environment, and overall quality of life.⁹ Environmentally focused buyers tend to be highly educated.¹⁰ Since Coloradans are the best educated citizens of all the United States,¹¹ and Boulder is a center for high-tech industry, we expect to have a relatively well-educated clientele.

Customer Analysis

New home buyers are motivated by the basic need for shelter. To make a difference in the existing home market, we must understand what motivates people to choose the houses they choose, and then we must provide something more desirable than the existing stock. The choice of housing within any given price bracket is influenced by:

- family accommodation
- investment gain potential
- lifestyle desires
- community
- proximity to work
- environmental considerations of building materials and utility costs

Twenty-five percent of respondents (regardless of age, income, or gender) to our marketing survey conducted in February, 1999 (see Appendix A) indicated that they were “somewhat” to “very” interested in green homes.

Customers

ANH will target customers who make up the under-served niche market of homebuyers who are very motivated by environmental issues. (For a detailed description of how we view our market segmentation see Appendix B.) It is with this in mind that we will initially target the 20 to 32 year age group, often referred to as “Generation X.” Since our homes are designed to be “no frills” structures with prices between \$100K and \$130K, they will be fairly affordable to young people with limited disposable income. This is also the market segment with the greatest stake in preserving the environment since they will be concerned for the future of their own children. The potential market for these buyers is huge since young singles are the fastest growing household-forming segment of the population.¹²

⁹ Roper study commissioned by S.C. Johnson

¹⁰ Anecdotally evident to both Doug Seiter of CGBP and Kristin Shewfelt of Boulder-based green builder McStain Enterprises Inc.

¹¹ The U.S. Census Bureau’s 1998 Educational Attainment Statistics reported that 89.6% of Coloradans were at least high school graduates, and that 34% had a completed bachelor’s degree or more, the highest numbers nationwide.

¹² National Association of Home Builders

Once ANH is established, we can begin to target the other segments. Our primary focus will continue to be on environmentally-sound, affordable housing, but we will be open to adding the “frills” or conveniences that other buyers may be interested in, such as bamboo or cork flooring, tile, or other decorative finishes.

Competitor Analysis

The construction industry in the Front Range is large and has attracted national companies. ANH is prepared to meet them head-on by appealing to a distinct niche.

Direct Competitors

There are approximately 100 members of the Home Builders Association of Metro Denver (HBA), and 49 belong to the Green Builder Program of Colorado (GBPC). Additionally, there are many contractors and developers who do not belong to either organization. We will limit the discussion to those that market themselves through the professional organizations. (See Appendix C for competitor assessment tools.)

Competitors can respond quickly when it comes to the type of building we do, but we feel that most won't view us as competition. Since we are aiming at building five to ten homes per year, we fall outside the radar of the large companies. Their strategy is to provide something for everyone, not to target a specific type of buyer.

Direct competition is possible from Boulder-based Strawcrafters. This small green builder has built 15 homes across Colorado, but would like to be more local to minimize the drive.¹³ Additionally, a new green builder, Sheltera, is starting in Nederland, located about 20 miles west of Boulder.¹⁴ However, even small builders who might view us as competition would have an entire methodology, not just a construction method, to copy to provide the type of service ANH offers.

¹³ Todd Stuart, principal, personal communication, April 12, 1999.

¹⁴ Ibid.



Marketing Strategy

The purpose of ANH is to design and build high-quality, environmentally-sound single family homes, one at a time. This will be accomplished by positioning ANH as a unique building company that creates quality, comfortable, and affordable homes for the buyer concerned for the environment. Our target market is different segments of the consumer market whose criteria for housing include affordability and “greenness.” The marketing tools to be utilized will be low tech/high touch methods including speakers’ bureaus, word-of-mouth referrals, open houses, realtor/lender/supplier referrals, conferences and seminars, and a website that will both promote ANH and provide a portal to sustainable building practices. Five percent of sales will be allocated to marketing.

Target Market Strategy

We are targeting customers who make up an under-served niche market for environmentally sound homes. Our target customers can be defined as well-educated individuals who desire to be surrounded by nature, respect the environment, and preserve for the future. Customers will come from all age segments of the market – Generation Xers, Baby Boomers, Empty Nesters, and Retirees. But given their more limited purchasing power and more vocal concern for the environment, most of our buyers initially will fall into the Generation X age and income category. Our target market, therefore, is potentially very large.¹⁵

Evidence that home buyers want ANH’s product has been gathered in research conducted by the Genesis Marketing Group, National Association of Home Builders (NAHB), a number of Roper Starch Worldwide polls, and our own market research. These data indicate that about half of those questioned expressed interest in sustainable building practices. Importantly, those who are interested in this type of home are not willing to pay a premium. ANH’s systems and methodology will not require spending more for “being green.”

Therefore, our marketing strategy is to “preach to the converted,” focusing on customers who are sincerely interested in this type of housing and are seeking it out, rather than trying to convince people who are not motivated by a concern for the environment. Those who are deeply concerned about sustainability are likely to prefer dealing with a company that doesn’t only “talk

the talk.” Since we will position ourselves as the only area builders that specialize in green building, we believe we can capture most of the buyers who want a specialist. However, we do not intend to become a big builder using production building techniques; our goal is to build no more than 10 houses per year.

Product/Service Strategy

ANH is a service-oriented company with a unique product designed for people who value simplicity and the natural environment. What differentiates our product in our target market is that we specialize in green building, unlike our competitors who are able to provide green design and construction, but don’t specialize in it.

Our primary strength is our people. Our founder, Margot Rode, is a PE with extensive construction project management experience, a BS in Civil Engineering and a MS in Construction Engineering and Management. She is also a Licensed Real Estate Broker Associate in Colorado.

Our other strength is our integrity. We pride ourselves in our genuine commitment to the future of the earth, our respect for nature and her resources, and our desire to live in harmony with all things living. We design and build homes in tune with these values for people who share these values.

Our main weaknesses may be seen as an idealistic, Utopian regard for the planet which may lead to a perception of our company as not serious about competing in a real-world environment. But ANH is serious about providing high-quality, environmentally-sound single family homes. Customers who are interested in this type of housing will select us because of the type of home we build and because of the professional, personalized service we offer.

Competitors can respond quickly when it comes to the type of building we do, but we feel that most won’t view us as competition as we will only be building five to ten homes per year. Their strategy is to provide something for everyone, not to target a specific type of buyer. Additionally, even small builders who might view us as competition would have more than just a construction method to copy. We pride ourselves on a systems approach which needs the unique input of ANH’s people and methodology. One aspect of what we do might be reproducible, but not the entire system.

¹⁵ According to the National Association of Home Builders, young singles is the fastest household forming segment of the population.

Pricing Strategy

Using a target sales price of \$100,000 to \$130,000,¹⁶ ANH will use the design-build approach to pricing our natural homes. A budget is set from the very start of the project with the buyer and the home is designed and built around that budget. This is different from our competition:

- Production builders offer a small selection of spec homes with spec options at a set price.
- Other custom builders use design/build initially, but it is common for budgets to be exceeded because of design changes and inherent risks during construction (e.g. unfavorable site conditions, weather delays). Many contractors make a large profit from these change orders hence they welcome additions and modifications.

The design-build delivery method is very unique to residential construction but can be achieved with open communication and trust between ANH and our clients. For example, if additional engineered fill material is required because of poor soil conditions on which to place foundations, this is an added cost but a situation that was unforeseeable by ANH prior to breaking ground (unless extensive geologic testing was performed). In our contract with the customer, this is an inherent risk in the process and must be addressed on a case-by-case basis. To maintain the original budget, modifications (e.g. reduction in size or type of materials) to the super-structure are evaluated to make up for the added cost for the foundation. This ultimately keeps our pricing down as we are not including these “factors of safety” into our costs (as most contractors would do).

This will be an attractive strategy for our customers. Not only does it designate a firm budget, it promotes continuous, open communication and trust between ANH and the buyer. This aspect of our business will sell itself as our production, hence our reputation grows.

Advertising and Promotion Strategy

ANH will employ a low tech/high touch strategy for advertising and promotion. Although some print advertising may be used, e.g., Yellow Pages ads and occasional newspaper advertising, we believe personal selling and publicity will be more effective ways to get our product before the eyes of consumers. Because it affords the greatest opportunity to focus on target markets and specific customers and to deliver a specific message, personal selling by the principal, Margot Rode, will be main form of promotion. Rode will deliver talks to groups ranging from Chambers of Commerce to university groups and courses on environmentally-sound building. She will join speakers’ bureaus and local planning boards to have access to other audiences and

will participate in appropriate conferences and seminars. Additionally, her home will serve as a model home for tours so potential customers can see what their home will look like and talk personally with the builder. With her extensive relationships among local realtors and suppliers, Rode will ask them to act as personal referrals, thus activating a word-of-mouth publicity network. As homes are built, customer word-of-mouth will grow this network.

ANH will also have a web presence. The website will provide online advertising -- vital to reach our technology-savvy target market. More importantly, the site will have a value-added function that provides a portal to sustainable building practices. Therefore, ANH will use the Internet to position itself as a company that not only builds green homes but is a resources for “all things green.”

Marketing and Sales Forecasts

Our annual budget of \$4,500 for marketing and sales is low, but this is largely due to the fact that the business is small enough that it does not need a dedicated marketing/communications or sales staff, thus eliminating the need to allocate salaries for this function. The budget, therefore, comes entirely out of operating expenses. We anticipate the majority of our business will come through networking and reputation/word-of-mouth. We will maintain brochures, a web site, a Yellow Pages ad, and some small, periodical local advertising. Additionally, we will participate one or two local trade shows annually.

¹⁶ This is the price of the home and does not include land, well, septic, major site improvements (i.e., driveway), or utilities.



Operations

A homebuyer's initial experience with ANH is spending a few hours "in the product." The model home -- a simple, refined southwest adobe home -- has massive, light colored walls reflect daylight throughout. The earthen and tiled floor radiates the heat from the days' sun shining through large windows along the south wall into the kitchen, dining nook, and living room. Guests are invited to go through the entire house, allowing us to describe the systems integrated within. We talk with the customer over lunch as we evaluate her budget and needs. We sketch some plans, conceptualize size and layout by comparing it with the model that surrounds us, and explain how we will design and construct the best home, by the same sustainability standards, for that amount of money.

Operations Strategy

Operations strategy will minimize cost through simple, functional home design and maximize quality through state-of-the art energy efficiency and sound construction. We anticipate longer project schedules than production-built homes because of permitting delays due to "non-traditional" systems and materials. We estimate approximately six months to design, permit, and construct each home. Finally, we will be flexible in our designs only to the extent that the customer is willing to pay for "extras" at a premium. Our mission is to provide a home that is easy to design, permit, construct, and maintain while being functional and appealing in its simplicity and durability.

ANH will employ the design-build approach to residential construction, an increasingly popular delivery method in commercial and industrial construction. Design-build requires continual, open communication with the customer. The builder and manager must commit service and knowledge in return for the customer's trust and understanding, including any inherent risks or uncertainties that may arise during the course of the project.

Communication and trust is the basis for our operations. ANH will focus on core strengths of employees to maximize product quality, project efficiency, customer service, as well as our own job satisfaction.

We add value for our customers using the following philosophies:

- Design/build approach (maximize value for each customer);
- Systems approach (for sustainability, durability, comfort, and minimal life-cycle costs);
- Experienced, organized, resourceful, friendly project management;
- Live by the principles on which the business is founded.

Scope of Operations

During the first year of operations, Rode will be responsible for the following tasks:

- Marketing
- Customer support
- Designs and budgets
- Obtaining architectural and engineering approvals and required permits, inspections, and certifications
- Project management
- Back-office administrative support

As the business grows accounting and billing will be outsourced. Once production reaches four homes or more, a new manager will be hired to assist with project coordination.

Initially, a craftsperson will be responsible for all on-site activities, including:

- Carpentry and other trades
- Ordering materials and coordinating delivery
- Scheduling/coordination of all subcontractor work

One craftsperson can be expected to perform these activities to build three homes annually. Additional builders will be brought on as needed. Candidates will be experienced homebuilders who are professional, value their trade-skills, and live by the principles of ANH. Our goal is to build a team where people do what they enjoy most.

Approximately half of the trades will be subcontracted. Our business with engineers, architects, subcontractors, and material suppliers will be performed using standard contract documents that will be reviewed by ANH's attorney. We will strive to work with only a few carefully selected designers and subcontractors on all of our projects to maintain a healthy working relationship. While we will work under a formal contract for all of our services, teamwork and negotiation will be emphasized to minimize disputes and maximize the project, the product, and our job satisfaction.

Ongoing Operations

ANH's operations will initially be home-based where Rode will perform project management functions while the craftworker will be on the job site. Rode's home will also serve as the ANH model and will be located in the foothills or mountains west of Boulder. We anticipate a majority of building will be completed "in-season," or from April through November depending on the location of the home. While it is not uncommon to have mild winter weather to work, it is difficult to predict and maintain productivity. This winter "season" will be spent marketing and preparing designs/permits for upcoming projects and completing interior systems and finishes.

The company will own only office and communications equipment (computer, printer, copier, fax machine, telephones, cellular phones). A truck and tools will be the property of the craftsworker to be deducted individually as business expenses. Specialty field equipment, such as survey instruments, scaffolding, etc. will be rented as necessary.

As ANH grows beyond a production of five homes annually, we anticipate acquiring a small storage and office space in Boulder or one of the surrounding towns (i.e. Lyons or Nederland). Storage will be used for excess building materials, tools, plumbing/electrical supplies, etc. The office space will be utilized for day-to-day project management operations for Rode and the second manager.

Operating Expenses

Cost of goods sold consists of the on-site labor, materials and rented equipment used by our craftspeople, subcontracted services, fees (architectural, engineering, permitting), and contingency (approximately 3.5%). It should be noted that site-specific fees subject to all new development (i.e., geologic testing, well or septic installation, water taps, utility tie-ins, drive ways) are NOT included in these costs. Installing a well, septic system, and driveway on mountain properties can range from \$10,000 to \$30,000. Since these are unique and vary widely for each project, they will be addressed separately in our contract with the buyer.

Capital expenditures are minimal. Since we will be organized as an LLC, the project manager and craftsworkers will be responsible for their own vehicles, tools, etc. that can be deducted as business expenses. Larger equipment, tools, etc. will be rented. ANH will own (or lease) telephones, computers, and associated office equipment only.



Development

Development Strategy

The first priority of the principal is buying land and building a home that will both serve as a model home and residence. This home will serve as a feasibility study as to the pricing, process, and structural integrity for ANH's marketable product. If it takes longer or costs more than anticipated, if permits and/or construction loans prove difficult to attain, or if building materials do not hold up as planned, these will all be valuable lessons to roll into our operational plans.

Plans for the model home have been selected (see Appendix D). The factors that need to come together to make our concept work include securing land and a construction loan, hiring a craftsworker and getting bids for subcontractors, purchasing materials, breaking ground and getting to work. To this end we are actively looking for buildable lots in the mountains near Boulder, talking with qualified craftspeople and subcontractors, discussing permitting and zoning with city and county authorities, and investigating alternative building materials.

Marketing strategies will coincide with building. In addition, operational necessities including business phone lines, wireless phones and pagers must be procured.

Construction of the model home should be as straightforward as construction of a customer's home. However, the same risks of any homebuilding endeavor apply: economic downturn, unforeseen environmental problems, natural disasters, and so on.

Development Timeline

An 18-month development timeline is attached (see Appendix E). Development of ANH will begin with the purchase of land on which to build the model home. Site selection is in progress and ground breaking is expected to begin this summer. Business promotion will begin while the home is under construction, with the first customer acquired by the time the model home is complete. The first sale home is expected to be complete by November 2000.

Development Expenses

Development expenses are minimal. Since Rode will build the initial home as her residence and will pay for it with a conventional construction loan, the cost of building it is not considered in our financial analysis as a development expense. Additionally, for the first few years the model home will serve as the office, so no office lease expenses will accrue. Rode and the craftspersons will use their own vehicles, so a company truck will not be needed, at least as the company gets started.



Management

ANH is organized as an LLC and is designed to be the lifestyle business of the founder, Margot Rode. A licensed PE, she has a MS in Construction Engineering and Management from the University of Colorado. She received a BS in Civil Engineering from Purdue University in 1990. Rode is committed to the growth and success of ANH by combining quality construction, efficient management, and professionalism in the residential construction arena.

While attending graduate school, Rode obtained her real estate license and sold commercial properties. Prior to returning to graduate school, she worked for six years as a project manager on a variety of construction projects. Her core competency has always been project management: doing twenty things at once, making sure both customers/clients and employees are satisfied and that projects are on time and within budget.

Rode has also gained a great deal of practical experience in residential building: she spent six months since 1996 involved in new construction and remodeling. She also assisted on numerous small projects for friends, family, and community. She is currently employed at Jade Mountain, a supplier of “appropriate technology” products such as renewable energy system, in their technical support and sales group. (See Appendix F for Rode’s resume.)

Administrative Expenses

The primary administrative expense is management salary. Rode and future managers will be paid monthly on a per-house fee basis. Most projects will require an average of eight months of management, so the monthly payments will be divided evenly over this period (\$2,500 monthly). Craftworkers will be paid on the same per-house basis, but will be paid semi-monthly.

For the first two years, legal and accounting services will be contracted as needed. In year three, a bookkeeper will be retained to perform monthly billing and accounting. ANH anticipates renting an office space by year four as marketing and operations expand. The primary month-to-month expense will be phone charges for office, cellular, and fax lines, and for web hosting. The only insurance provided will be Workers Compensation. Benefits such as health and disability insurance, vacation time, and sick leave are not included. The salaries of all personnel have been adjusted so that each employee can reasonably cover these expenses.



Summary of Financials

Our financial projections focus on building a profitable lifestyle business.

Financial Assumptions

Our business model makes the following significant financial assumptions:

- Before the business begins operation, Rode will purchase land, design a house that demonstrates significant aspects of the ANH philosophy, and build that house. The house will serve as her primary residence, as the place of business, and as a model of ANH work.
- Rode will rely on savings and personal credit history to secure a construction loan and, subsequently, a long-term mortgage for that property. When she begins ANH, Rode will have a personal mortgage of about \$140,000 and a strong credit history.
- ANH customers will purchase land themselves.
- ANH customers will secure their own construction financing, with ANH designated as their builder. Customers' lending institutions will arrange to make progress payments to ANH as the home is completed.

The assumptions imply that beginning the business will rely on finding customers who have better-than-average credit ratings or personal resources. We believe this is consistent with our initial target area, the mountainous Front Range.

Financial Forecast

We expect to lose about \$15,000 in the first year, as we begin the business by completing a single home. Production ramps up to 3, 5, 7 and 8 homes in subsequent years. We recover our initial losses after the second year, and proceed to build equity steadily, up to about \$115,000 after year five. Our cash position remains fairly steady for the first three years, and improves significantly in years four and five. In the fifth year, our return on equity is nearly 35%, which compares respectably with a typical value for the single family housing industry of 29%.

Capital Requirements

As explained in the Operations section, our capital investment is minimal. We will require enough working capital to provide for:

- Initial office equipment purchases (computers, fax, copier and software).
- Costs incurred before progress payments begin to arrive from the first project house.
- Ongoing operations, as expenses are incurred before progress payments are received.

An initial investment of \$40,000 will be enough to meet our cash needs. With that much capital, projections indicate that cash reserves will drop to about \$15,000 during the first year. Year-end reserves will fluctuate around \$30,000 for the first three years.

We expect that funding will consist of:

- \$10,000 of personal resources (personal savings, or investment from family members).
- A business loan of \$30,000.

Beyond the funding needed for operations, we plan to seek an additional loan pre-approval of \$100,000. We plan to use those funds to encourage our first customers, and their lenders, to “buy in” to our business, by purchasing the building lot ourselves. (This plan is explained further in Appendix G.) We plan to explore options such as Small Business Administration guarantee programs. The SBA 7(A) Loan Guarantee Program sets an eligibility limit for our SIC classification of \$17M annual revenue, and provides an 80% guarantee on loans up to \$100,000. Alternatively, the SBA Women’s Prequalification Pilot Loan Program offers similar terms.

Financial Risks

We plan to aggressively ramp up home sales and production after the first year. If we sell or complete fewer homes than planned, our income projections will be delayed.

The risk of reduced sales is mitigated by the fact that we do not incur material, subcontractor or significant labor costs until a construction contract has been signed. Our plans to increase staff are conservative, and could be adjusted to cope with different levels of sales.

Construction delays are difficult to project, and have various possible causes – material shortages, weather, design surprises. Because we expect to enter into contracts with a design-build philosophy, we plan to educate our customers and maintain very active communication right from the start. The design-build approach was developed to permit rapid, in-budget response to problems.

Our financial projections indicate that if we completed one less house per year than our baseline, our profits would be reduced, but we would still break even in the second year, make profit in the third, and keep our cash position positive.

Because we do not rely on selling homes to the upper end of the market (homes over \$350,000), we believe a market downturn would not destroy us – it might even bring us a new segment of customers.

Exit Strategy

Formally speaking, there is no “exit strategy” for this business. Rode expects to build an economically-sound lifestyle by building environmentally-sound homes. Should she or other staff separate from the business, they would either be replaced or the volume of homes built would be reduced. Since the costs associated with home construction are typically covered by buyer financing, there are few assets to be lost (or sold) with the exception of the ANH manager or builder.



Funding Needs

We have baselined getting the bulk of our funds through loans. We believe this is compatible with a small, personal lifestyle business. Our business plan does permit some flexibility in this matter.

Capitalization Requirements

To meet our cash flow needs during the first five years of ANH, we will seek an operating loan in the amount of \$30,000.

We would expect to pay a nominal premium above prime for this loan. Conservative cash flow projections indicate that 1/3 of the loan could be repaid after year three, with the balance to be repaid after year five.

We will look for an opportunity to take on an additional \$100,000 of debt on reasonably favorable terms. This cash would be used for temporary purchase of buildable land, to be contractually agreed upon with an ANH home buyer, to ease the buyer's financing situation.

We will seek a competitive rate for this loan, some nominal premium above prime. Cash flow projections indicate that interest on such a loan could be accommodated without significant impact. We would plan to repay the principal of the loan after year five, with a schedule to be negotiated with the lender.

We will seek a lender who has an interest in providing ANH with a significant competitive advantage early on. The land to be purchased could serve as collateral for this loan, and so we would consider a prequalified loan agreement which could take advantage of the collateral opportunity.

Valuation of Business

At the end of year 5, our net equity is projected to be about \$115,000. (Valuation is discussed more thoroughly in Appendix H.

Investment Opportunity

Because the success of ANH will depend on the quality and speed of decisions by the founder, we are not prepared to offer controlling interest in the company.

However, we do believe that there are investors and organizations who are motivated by the same dreams we have. Sustainable housing is more than just an exploitable business niche. Therefore, we keep the option open to share the risks, the profits, and the accomplishment of

ANH. We believe that, in the long term, we can offer a return on equity at least as large as the general home-building industry.

Our baseline plan is built on loans. We realize that not all lenders will choose to lend to a new home builder. However, we do believe that with growing demand for green homes, growing government promotion of sustainable development, and the availability of support options such as SBA loan guarantees, we will be able to obtain the funds we need to make ANH a reality.

Investor funds would reduce our need for loans. We would not claim, however, to offer our investors extremely high rates of financial return. The proper role of an investor in ANH would have to be negotiated on an individual basis. Certainly, the right investor would help us, and could have a huge impact on making a family's dreams come true.



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Appendices

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Appendix A	Artemis Natural Homes Marketing Survey
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Appendix A Artemis Natural Homes Marketing Survey

In order to complete an assignment for a business class we're asking you to help us gather information. These data will be used to assess the marketability of our concept, and your anonymity will be respected. If you do not want to respond to this survey, please hit "delete" now. If you would like to participate, please return the survey to the sender only, not the entire list.

Concept: We are establishing a contracting company specializing in creating quality, comfortable, and affordable homes for the buyer concerned for our environment, the future, and simplifying the way we live. We combine sustainable construction materials and methodologies and renewable energy sources to form a systems approach to home design. These "green" homes will cost the same or less than those constructed using "traditional" materials and will have lower utility costs. Not only that, we build homes one at a time to your needs and specifications.

To help us serve you most effectively, please take 5 or 10 minutes to provide the following information:

What is your housing situation today?

- Own a single-family home
- Own an attached home (condo/townhouse)
- Rent a single-family home
- Rent an attached home (condo/townhouse/apartment)

How many in your household?

How long have you lived there?

If you currently rent, have you considered buying a home? Why or why not?

If you own, have you thought of moving to a new residence? Why or why not?

What are the most important considerations of choosing a home to buy? Rank the following characteristics from 1 to 5, with "1" indicating "VERY IMPORTANT" and "5" indicating "NOT AT ALL IMPORTANT". If you'd like, elaborate on why and how these considerations are important, and add other details as needed.

- Affordability
- Location
- Utility cost
- Size (# of bedrooms and baths)
- Proximity to work
- Age of home
- Builder reputation
- Quality of construction
- Appearance
- "Greenness" of home
- Other:

What is your sex?

What is your age?

Household yearly income range: (optional)

- <\$20,000
- \$20,000 - \$40,000
- \$40,000 - \$60,000
- \$60,000 - \$80,000
- \$80,000 - \$100,000
- >\$100,000

What newspapers do you read regularly?

Which magazines do you read regularly?

What radio stations do you listen to?

What TV shows do you watch?

What type of work do you do?

Do you have a fax machine?

Do you have email?

Do you have a Web site?

If you were going to buy a home now where would you look for information (Realtor, lender, builder, etc.) and/or advertising (newspaper, "Where to Live" magazine, etc.)?

Would you buy the type of home described in the introduction?

Do you have any other comments? Please provide below.

Your responses will be used to determine marketability of this concept. If you'd like to know the outcome or want more information on this proposed company, include your email address below.

Thanks very much for your time. Please return this survey to:

Appendix B Market Segmentation Analysis

Describing how buyers are segmented by the general housing industry provides a point of departure for our marketing program, and helps us to understand the marketing strategies of our competitors.

20 – 32 “Generation X”

This age group is more technologically oriented than other groups, so the science behind a structure may be a more effective selling point with them. Environmental and health concerns are often not a “new” themes for this group, but actual implementation of environmentally responsible technology may be new and may require explaining.

Stereotypically, pride comes from a pragmatic approach to problems, perhaps making this group more accepting of alternative technologies or the trade-offs in appearance or amenities that are part of sustainable building practice.

Wealth distribution is more widely scattered in this group than in other groups, but typically resources can be described as “modest,” and buying power is often influenced heavily by “earning potential” rather than actual savings. Typical homes for this group will range from <\$100K to about \$160K.¹⁷

33 – 50 Baby boomers

Consumers in this age group and are often in the market to buy “up.” Investment concerns are significant. The market for properties above \$160K (up to and including >\$500K “trophy homes”) is dominated by this age group.

Forty to fifty-year-olds who are buying first homes often face financing challenges similar to the 21-30 group, but with the added complication that their earning outlook is less optimistic.

Buyers in this group accept technology but are not enamored with it, except that quality telecommunications are greatly appreciated. Security is important, in terms of investment safety and property safety, since they may have significant material wealth. Prestige often motivates buying decisions, because this group has the economic clout to permit it.¹⁸

¹⁷ D. Haurin, P. Hendershott, and S. Wachter, “Wealth Accumulation and Housing Choices of Young Households: An Exploratory Investigation,” *Journal of Housing Research*, 7:1, 1996, pp. 33-57.

¹⁸ J. Gyourko and P. Linneman, “The Affordability of the American Dream,” *Journal of Housing Research*, 4:1, 1993, pp. 39-72.

51 – 64 *Empty nesters*

Changing family situations may motivate moving to a smaller home, or to a more “liberating” home, further from schools, relatives, etc. Buyers in this group may judge a community by whether it offers security and privacy.

“Trophy homes” are often purchased by affluent empty nesters. However, as dependence on the local community decreases, prestige within the immediate vicinity may become less important. “Spiritual” considerations, including geography, become more influential for these buyers.

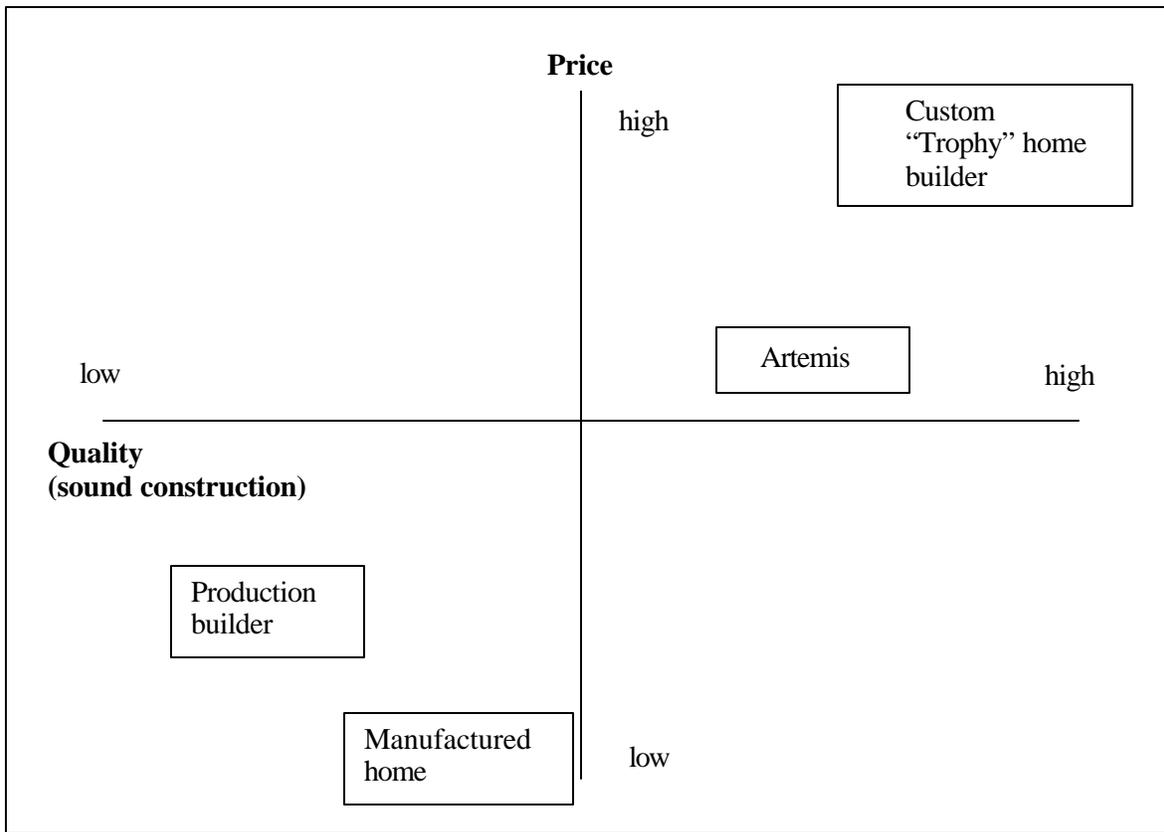
65 and over *Retirees*

Relocation for this group often involves moving “down,” due to declining health or income, to smaller, less expensive or lower-maintenance housing. The psychological impact of changes can be very significant. Affluent seniors may seek property that is easier to maintain, but luxurious.

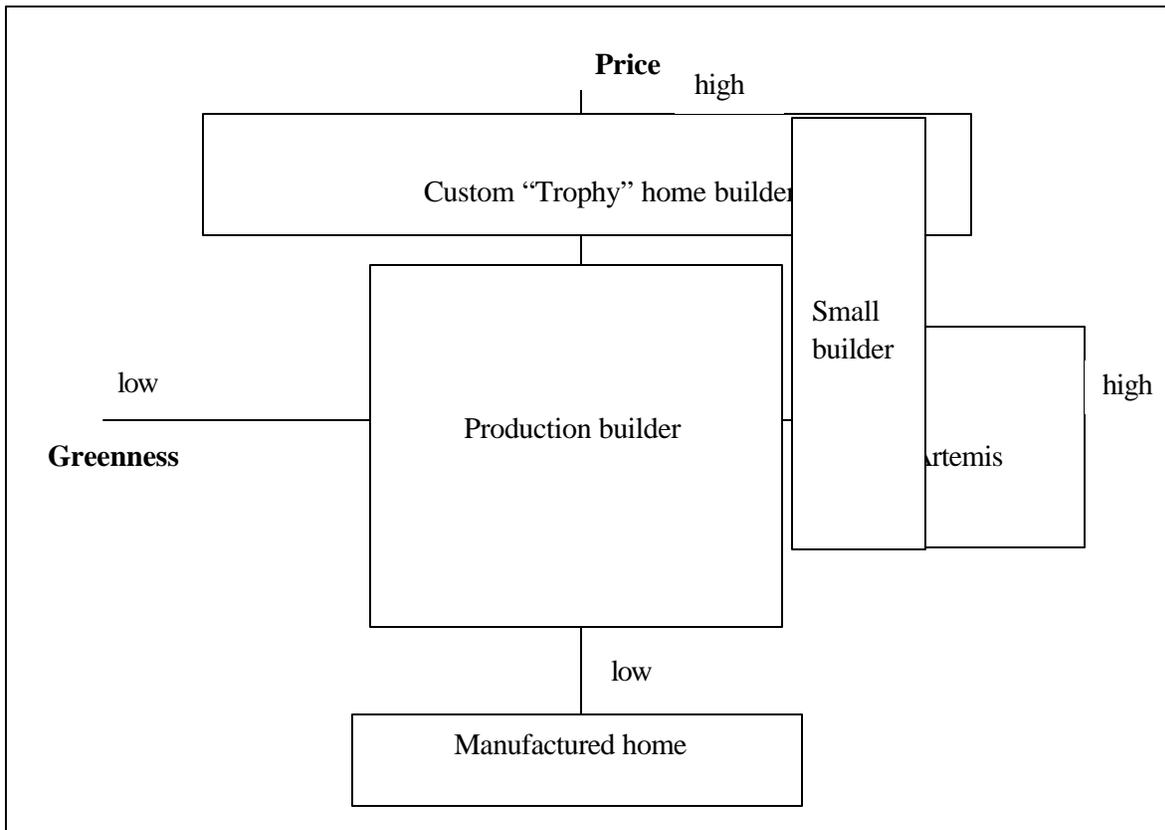
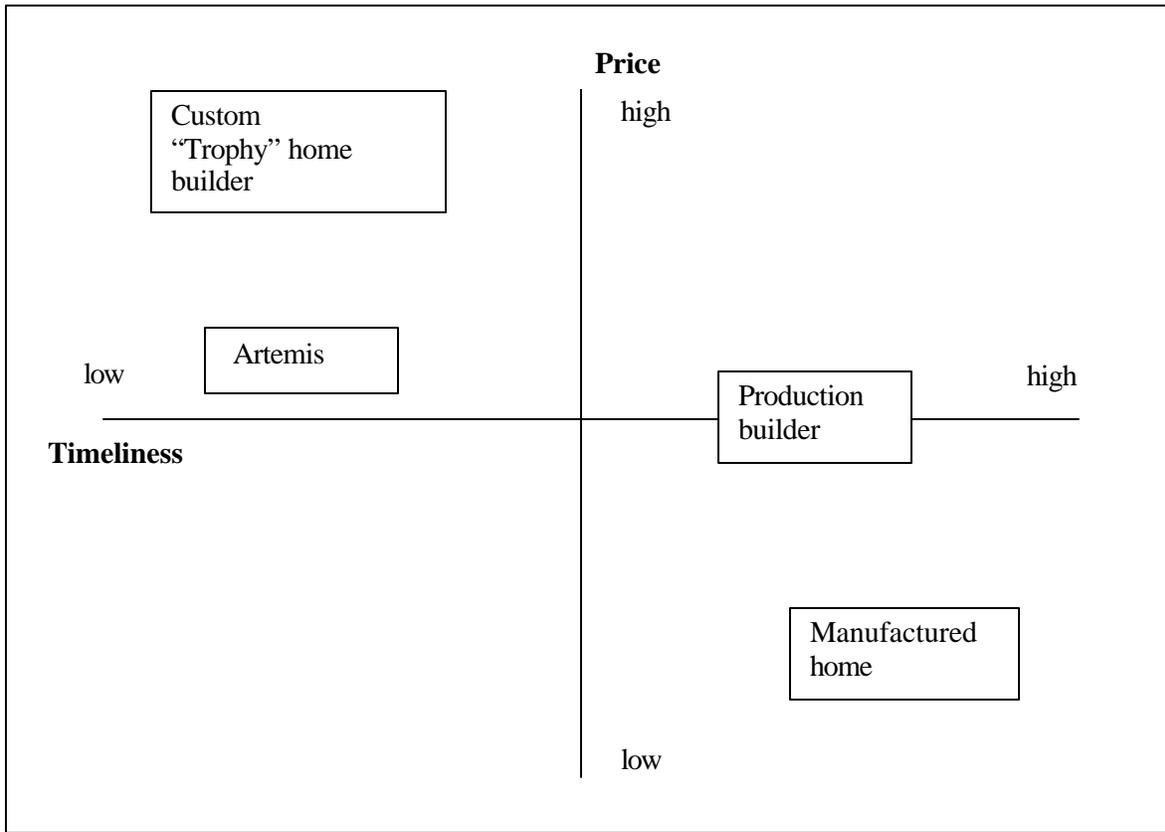
Technology for its own sake is relatively unimportant for this group. Community interdependence becomes more important. Good roads, health care and neighbors become more valuable. Low maintenance and low utility costs can be significant considerations.

Appendix C Competitor Assessment Tools

Product Attribute Analysis of Competition



Product Attribute Analysis of Competition (continued)

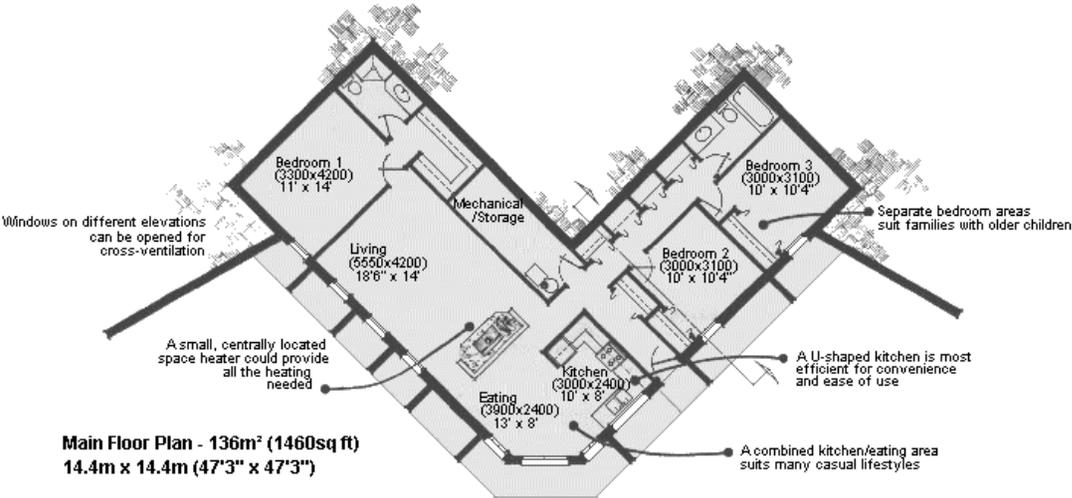


Appendix C (continued)

SWOT Analysis

<p>Strengths of Competitors</p> <ul style="list-style-type: none"> ● Name recognition ● Large developments with huge inventories ● Deep pockets ● Multiple resources – in-housing financing, realtor relationships ● Houses built on spec offer opportunities for impulse buying 	<p>Weaknesses of Competitors</p> <ul style="list-style-type: none"> ● Not dedicated to green building ● Contributors to sprawl ● “They’re all made of ticky-tacky and they all look just the same” – Malvina Reynolds ● Not a personal relationship with the buyer ● More attention paid to frills than to quality building ● Some production builders are known for building on bentonite ● Some builders don’t stand by their warranties and are plagued by lawsuits
<p>Opportunities for Artemis</p> <ul style="list-style-type: none"> ● Appeal of being the only really green builder around ● Green building is a growth market ● Many customer segments to individually focus on ● Unique land opportunities in mountains and plains ● Woman-owned business ● Word-of-mouth advertising can be cost-effective ● State and local initiatives and tax incentives for low-cost and ecologically sound homes 	<p>Threats to Artemis</p> <ul style="list-style-type: none"> ● Disappearing land opportunities ● Sudden change in economic climate ● Suppliers’ difficulties ● Customer financing ● Built-out market ● Other exclusively green builders entering the market

Appendix D Typical ANH Floorplan



Appendix E Development Timeline

See associated spreadsheets [Artemis.htm](#)

Appendix F Management Resume

MARGOT A. RODE

1135 35th Street #3

Boulder, Colorado 80303

(303) 998-0184

Email: rodem@ucsu.Colorado.edu

EDUCATION

Master of Science, Construction Engineering and Management, University of Colorado, Boulder, Colorado, Expected May 1999.

Bachelor of Science, Construction Engineering and Management (with Distinction), Purdue University, West Lafayette, Indiana, December 1990.

Additional training includes: Industrial Motor Controls (Indiana Vocational Technical College, 1994), Treatment Technologies for Contaminated Soil and Groundwater (NGWA, 1994)

CERTIFICATIONS

Professional Engineer, Indiana No. PE19600419

Real Estate Broker, Colorado No. FA40010981

OSHA 29 CFR 1910.120 40-Hour Health & Safety Training (HAZWOPER)

EXPERIENCE

Jade Mountain, Boulder, CO (January, 1999-Present)

Jade Mountain is a catalog supplier of renewable energy systems and sustainable construction and living products. Provide sales and technical support for incoming orders, including preparing quotes and system designs (primarily photovoltaics, water pumping, hydro-electric, and wind generation).

The Income Property Specialists, Boulder, CO (April, 1997-May, 1998)

Sold real estate as an Associate Broker and Broker Assistant. Prepared business plans for the redevelopment of existing properties and new property construction in the City of Denver.

University of Colorado, Civil Engineering Department, Boulder, CO (August, 1997-May, 1998)

Worked as a teaching assistant for Construction Scheduling, Cost Estimating, Surveying, and City Planning courses (2 semesters). Taught computer labs for Primavera and Timberline applications.

ARCADIS Geraghty & Miller, Inc., Indianapolis, IN (March, 1995 - August, 1996)

Served as a Project Staff Engineer responsible for project management and engineering for soil and groundwater remediation projects and supervision of field scientists, engineers, and technicians. Specific areas of responsibility included: client and contractor relations and communications; writing proposals and preparing cost estimates for remedial services; emergency response; designing and performing field technology studies and interpreting test data; designing piping, equipment, and instrumentation for remedial systems; compiling construction drawings and specifications; soliciting competitive bids for construction and equipment; obtaining permits (including NPDES, wastewater system construction, and building permits); managing construction, system installation, and operation and maintenance; tracking project budgets and schedules; and research of innovative technologies and equipment, including air sparging, soil venting, LNAPL recovery, and bioremediation for the removal of volatile organic compounds. Experienced using MS Word, Excel, and AQTESOLV, and AutoCAD LT.

Specific Projects Include:

Project Manager for a \$200K contract over an 8-month period to perform an extensive subsurface investigation, evaluate risk-based clean-up objectives, and manage/implement drainage design and erosion control, subsurface remediation, treatment/discharge of stormwater, and site restoration associated with a major train derailment in Illinois.

Project Manager for a \$170K contract over a 1-year period for the remediation of a large dissolved and free-phase petroleum hydrocarbon plume at a service station site in northern Indiana. Project involved negotiations with off-site property owners for access and installation of a 9-well recovery/treatment system, including piping below a major intersection using horizontal boring techniques.

Project Manager for site-assessment and creosote remediation project at a large railroad property in southern Indiana. Project involved multiple investigatory phases leading to preparation of a risk assessment to establish site-specific cleanup goals and minimize the overall remediation effort.

**ATEC Associates, Inc. (currently ATC Associates, Inc.), Indianapolis, IN
(February, 1992 - February, 1995)**

Served as a Staff Engineer and Remediation Group Leader responsible for managing and engineering for soil and groundwater remediation projects. Roles and responsibilities similar to those described above.

ANH Appendices

Specific Projects Included:

Project Engineer for large free-product recovery system for a bulk-oil terminal in Indianapolis. Included numerous subsurface/source investigations, hydrogeologic testing, and feasibility studies. Performed remedial design, provided oversight for system installation, and managed the operation, maintenance, and monitoring program for 2-years.

Project Engineer for heavy-oil recovery system at a manufacturing plant in southern Indiana. Performed bench test and designed a vacuum-enhanced dewatering and flushing system to remove oil from soils and groundwater beneath and adjacent to the facility.

Exxon Company, U.S.A., Los Angeles, CA (February-December, 1991)

Served as Construction and Maintenance Engineer for 60 Exxon retail facilities. Managed all construction and maintenance projects at stations; including underground tank replacements, piping, retail automation, leak detection and monitoring. Strong emphasis on safety, regulatory compliance, environmental integrity, and quality assurance.

AT&T (International Real Estate), Basking Ridge, NJ (May - August, 1990)

Prepared real estate business cases for international lease spaces, which included contractor proposal review for design and specification compliance and drafting architectural layouts for office space.

John E. Healy & Sons, Inc., New Castle, DE (May - August, 1987-1989)

Served as Estimator, Assistant Project Engineer, and Assistant Project Manager on various competitive bid construction projects, including a newspaper printing and office facility (\$45M) and a school renovation and addition (\$6M). Responsibilities included leading weekly owner and contractors meetings, implementing change orders and project schedules, reviewing shop drawings, performing quantity take-offs, awarding subcontracts, and preparing project bids.

Appendix G Promotional Investment Plan

We anticipate that we may have some customers who are interested in our product, but who may be limited by traditional lenders. Lenders typically prefer to see builders with a long, established track record. When we begin ANH, we will not have that.

We believe there are more resources available to a new company founded to provide sustainable homes than there are resources available for home-buyers to buy those homes. Recent trends have indeed increased the awareness by lenders of issues such as energy efficiency and the validity of new building materials. However, the green aspect of existing loan programs typically extends to allowing a marginally higher debt ratio for efficient homes. We are not sure this will be enough to counter the stigma, in the eyes of traditional lenders, of being a new builder.

Therefore, we seek to prove our worth by obtaining loans or loan guarantees on our own behalf, with the funds to be used to help finance the total purchase for our first customers. We will seek these loans:

- from programs such as Small Business Administration 7(A) Loan Guarantee Program, or the Women's Prequalification Pilot Loan Program,
- from local governments that are innovating ways to promote sustainable development,
- from national agencies and organizations, such as Fannie Mae

While we have not identified the specific program to be utilized, we believe that the momentum of the sustainable building movement will make finding such programs possible.

For purposes of financial projection, we have baselined a loan of \$100,000 at 10% interest, negotiated as a balloon note to be paid after the first 5 years of the company. It is assumed that this money will be invested in land for the duration of a construction project, and on completion of the project will be rolled into the next project, making it unavailable for operations. The land is counted as a non-depreciating, non-earning asset. It is assumed that the land is used as collateral for the loan, and that the resale of the land is written into the home-buyer's contract. This model allows us to assess the impact of interest payments on our bottom line.

This plan clearly demands further legal scrutiny. However, we believe a loan arrangement such as this could significantly improve our ability to win customers in the early phase of the business.

Appendix H Discussion of Company Valuation

Our net equity after year five is about \$115,000.

Companies are often valued based on projected earnings and a price to earnings ratio (PE). Such an approach would be misleading in our case. Most PE numbers are established by trading stock markets. With a total capitalization less than \$500,000, ANH is not directly comparable to even the smallest traded stocks.

As a point of comparison, U.S. Home Corp. has a PE of 6.38. U.S. Homes produces single family homes, but they are a national company, producing hundreds of houses in the Denver market alone. They perform in more profitable market segments, such as home finance and spec home production. Their PE represents a high bound on what ANH would expect for PE.

Our profit in year five is \$40,000. Valuing our company based on net equity results in a PE of 2.9. We believe this is reasonable.

Appendix I Selected Financial Statements

See associated spreadsheets [Artemis.htm](#)