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Colorado Earth Overview

A review of earthen masonry construction
and how we support the building industry
and built environment

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Our Mission

We are here to address the issues surrounding construction today, and to offer a product and professional design and construction services that put us on a path towards true sustainability.

Lisa Morey, Owner of Colorado Earth LLC

HISTORY OF EARTHEN CONSTRUCTION….

With over 10,000 years of constant use, it remains the only building system that is not a fad.

Walls of Jericho
8000 B.C.

China, 5000 B.C.

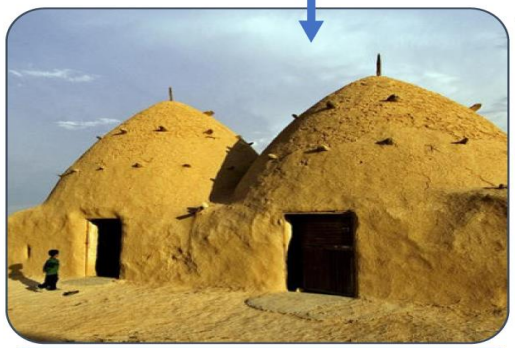
The Chinese have been building rammed (or tamped) earth since 5000 B.C. An early example is the Great Wall of China.

Arg-e-Bam, Iran
200 A.D.

Nigeria, 1000 A.D.

Remains in Eredo include a 100-mile long earthen wall where Africans built the largest city in the medieval world.

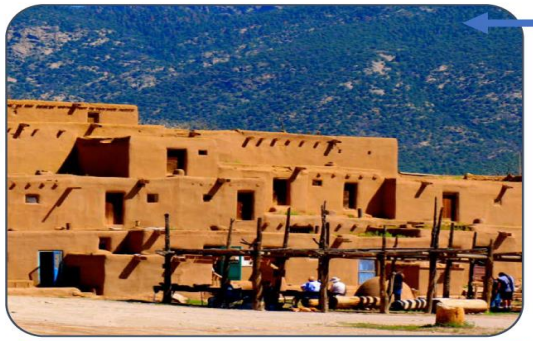
Shibam, Yemen
1500 A.D.



Beehive Homes, Syria
3700 B.C.

3000 B.C.

The Egyptians used what is considered an early form of concrete, mud and straw to form bricks, and gypsum and lime to make mortars.



Taos Pueblo
1000 A.D.

Mali, 1200's A.D.

The Great Mosque of Djenné is considered by many architects one of the greatest achievements of Sudano-Sahelian architectural style.

Mexico City, Mexico
2017

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Issues with Building Industry Today

- Cost
- Maintenance
- Longevity
- Natural Disasters
- Resource Availability
- Labor
- Energy Consumption
- Life Cycle – Cradle to Grave
- Health
- Global Impacts

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How Earthen Construction Serves People and our Planet

- Reduce maintenance and costs for home owners
- Reduce energy consumption
- Protection from forest fires, flash floods and other
- Material is readily available
- Skills are easily acquired
- Support a growing industry that is needed!

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Benefits of Earthen Masonry

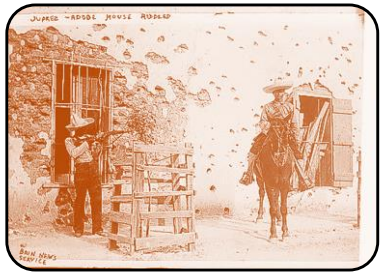
Most arguably one of the **Lowest Embodied Energy** Product on the market – reducing our planet's overall Carbon Footprint.

Earthen masonry walls and plasters absorb and release water vapor and pollutants creating healthier **Indoor Air Quality**

Dirt doesn't burn, and neither do our walls. Check out an ASTM Fire Rating test – we are **Fire Proof!**

Our product is 100% biodegradable – after a long period of use, it is return to its natural, original state.

Earthen walls are aesthetically beautiful and can achieve higher market value.



Though we hope this is not of a concern, it is good to know that our walls are bulletproof, literally.

Side-by-side testing shows that earthen walls use 50% less energy than traditional wood frame walls.

With today's economy, resources are becoming less available. Earthen masonry is a locally produced building material that is readily available.

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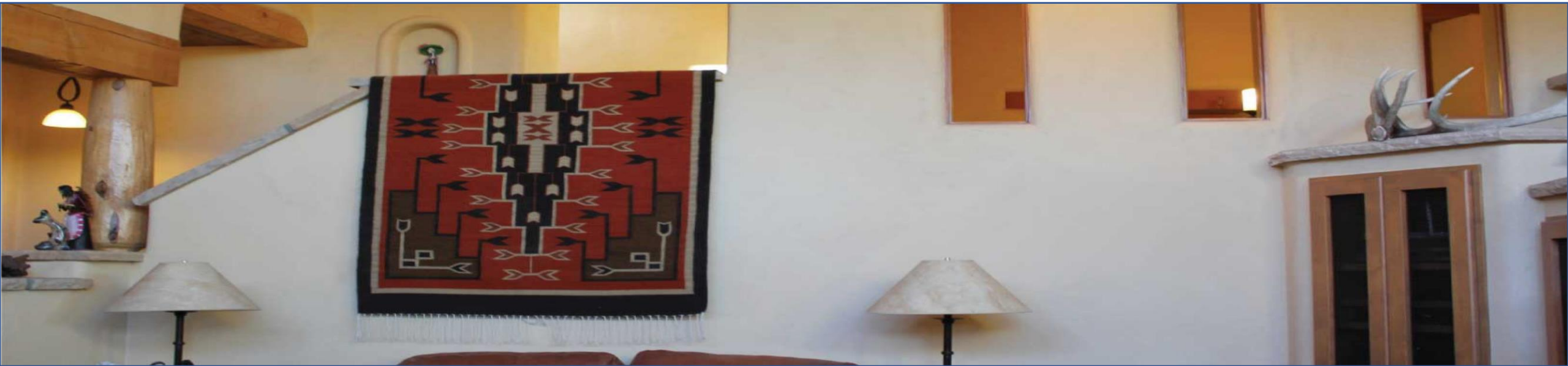
Acoustics

Results of acoustical tests from University of Oklahoma show an 8 dBA difference between a earthen masonry wall and a wood-framed wall.
Rule of thumb where every 10 dBA relates to a doubling or halving the comparatively measured sound source. The earthen masonry walls provide almost twice the sound loss when compared to the wood-framed wall.



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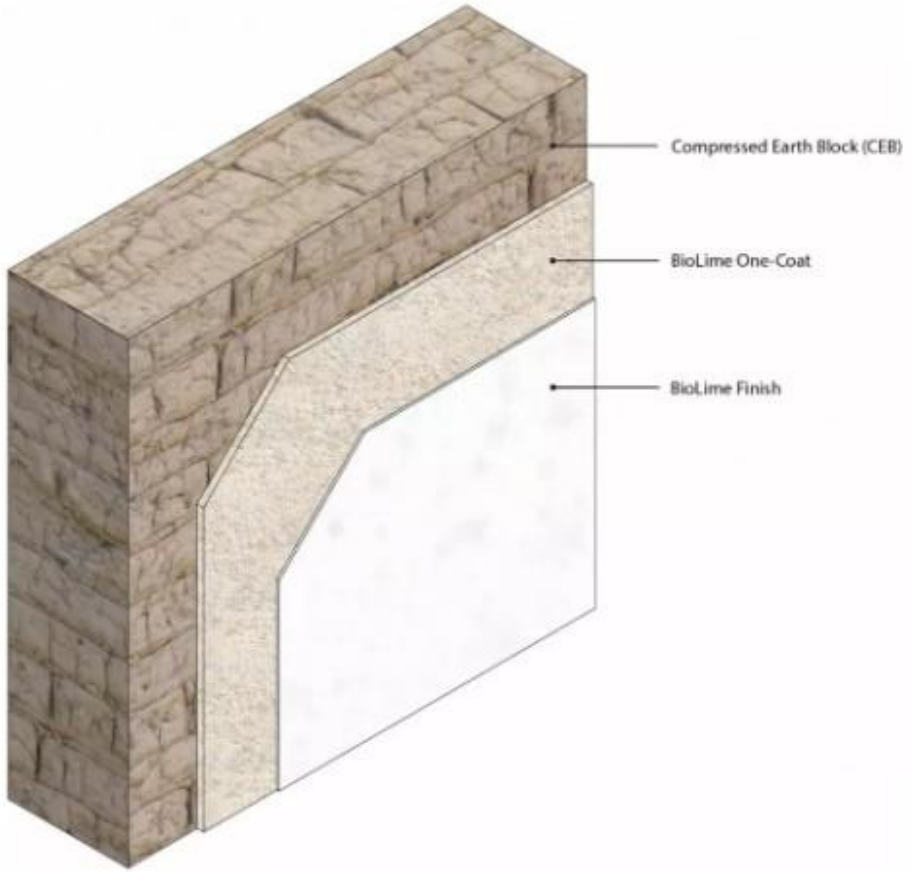
Maintenance

Exterior Plaster can last indefinitely when applied properly

BioLime is a highly durable, light density stucco system that is a direct-apply two-layer application for earthen masonry architecture. This next generation lime plaster / lime stucco system offers earthen masonry a superior alternative to cement stucco and synthetic stucco.

For more information please visit
www.biolime.com



Colorado Earth Services

Design

- Full Architectural and Engineering Design
- Mechanical Design to determine best heating and cooling systems
- Thermal Performance Review to determine best window types, R-value assignment, orientation
- Pre-Construction Services help with site development, review of reports for value engineering of foundation and grading plans, cost estimating

Colorado Earth Services

Block Services

6”x12” blocks with varying height between 2” and 5”. Typical height is 3.5”
Average compressive strength: 1200 psi

Mortar materials can also be provided upon request

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Colorado Earth Services

Construction Support

- General Contracting
- Masonry Wall Support
- On-Site and Off-Site Consultation and Training

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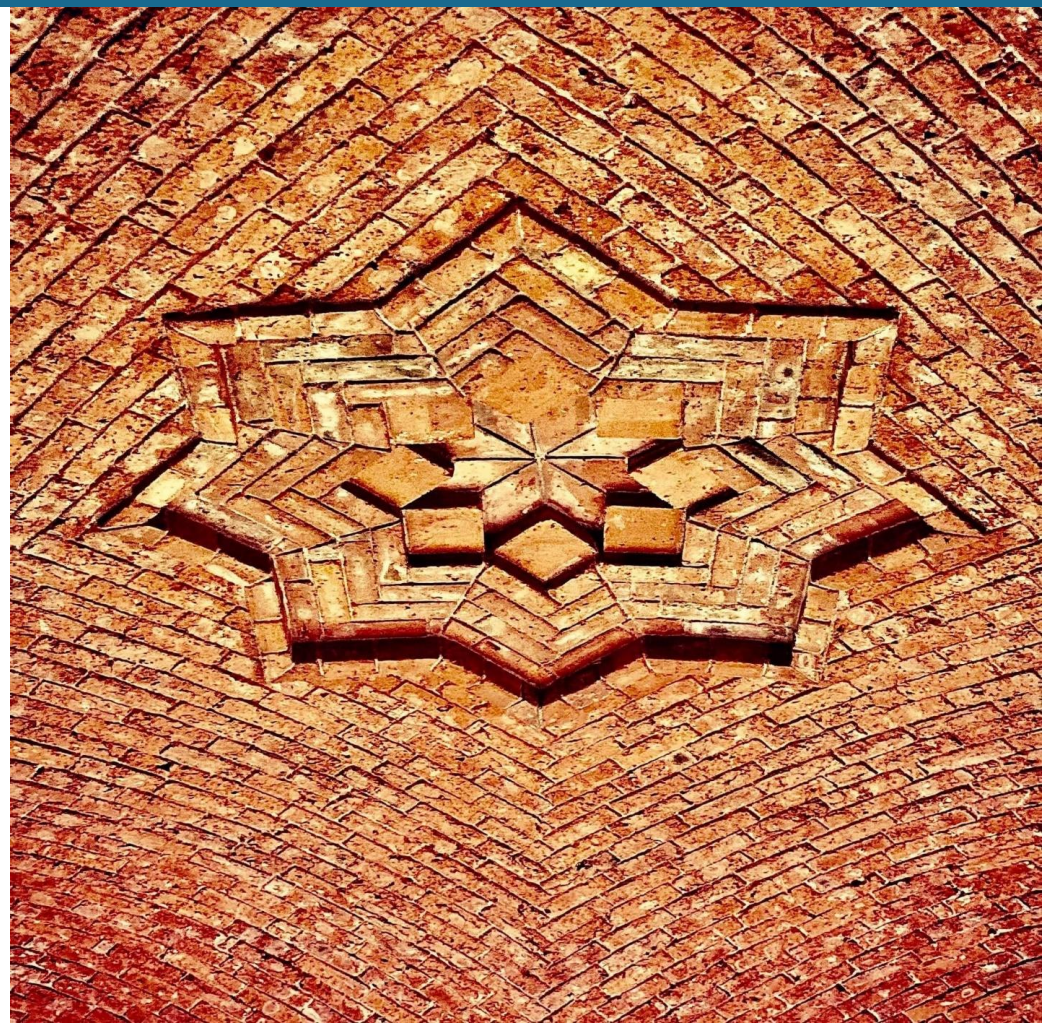
Colorado Earth Services

Specialty Mason Services For Domes and Vaults

Design and Construction
Low Fired Brick Acquisition



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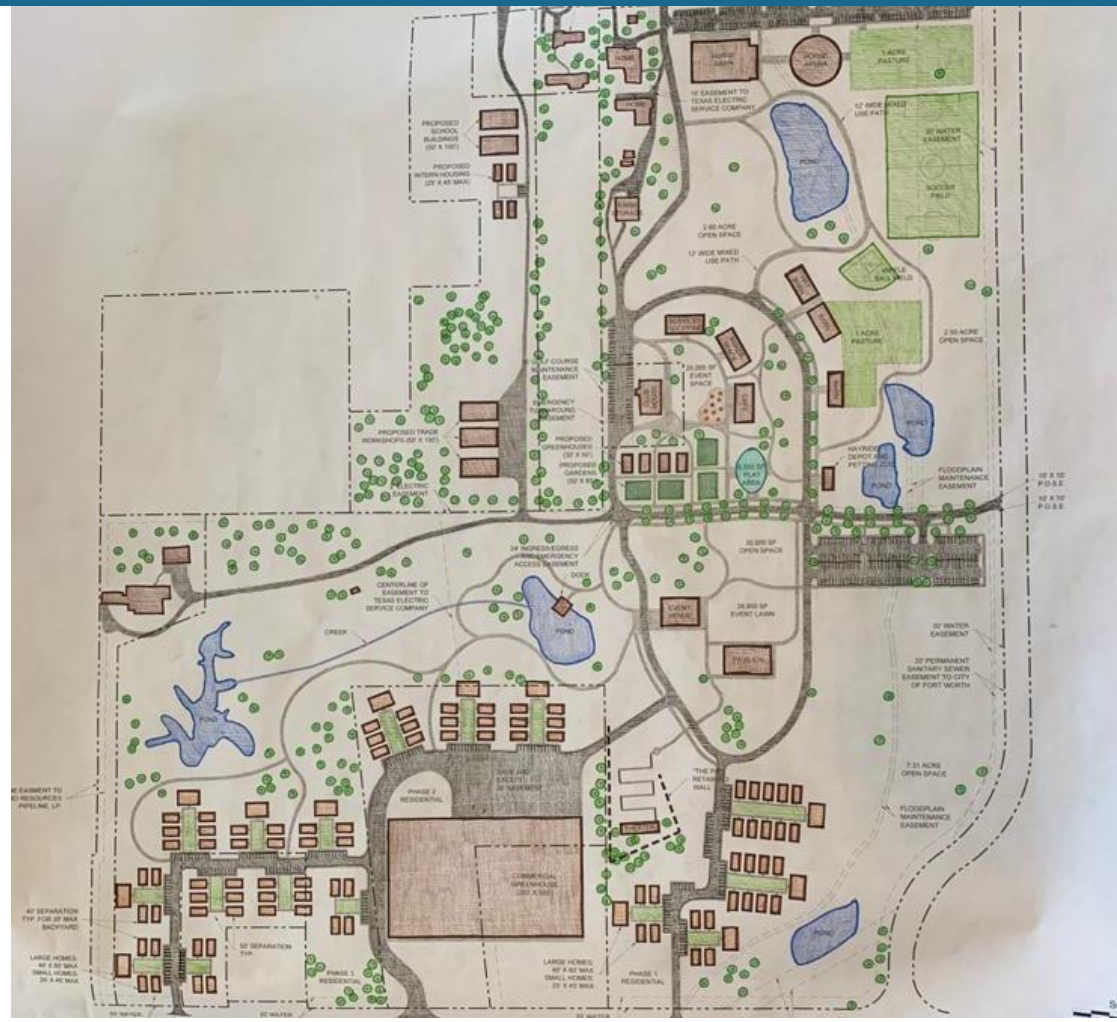
Developments & Communities

- Sustainable communities are the future
- Incorporate modern features while borrowing from building techniques and practices from the past
- Consider food production and renewable energy components to create holistic implementation



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Thank You

Together we are pioneers
in the building industry