Success in Building a Geothermal Business

The things we’ve learned along the way

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Introduction

• Iowa State University Mechanical Engineering
• MEP Consulting (HVAC with some geothermal design)
• Moved to Colorado and our company was born in 2005
• Have been designing and installing geothermal along the Front Range of Colorado from Colorado Springs to Fort Collins
Keys to Success

- Efficiency & Processes
- High Caliber Employees
- Quality Designs
- Exceptional Service
- Learn From Your Mistakes
- Align Yourself With Great Partners
Employees

- Quality people – similar to other industries
- Training and certifications
- Team - putting the right people in the right places
Efficiency and Processes

• Loop/grout pipe installation – custom pusher
• Grouting with sand – 12,000 lb hopper
• Smallest – most powerful equipment for residential installations
  • 120 hp skid steer on drill
  • Largest mini excavator
• Learning what equipment works best thru renting and leasing before buying
• Prep for jobs – prefab headering manifolds – minimizing time on site
Quality Designs

- Working with good partners – HVAC/geo/distributors/manufacturers
- IGSHPA design manual details – loop field sizing and headering
Quality Installation

• Basics – follow IGSHPA guidelines
• Loop lengths +/- 10% of each other
• Grouting – complete from bottom to top of bore
• Follow grout manufacturers guidelines for mixing
Learning from mistakes

• Example – headering
  • 5 – 1” loops on 1.25” mains into house
  • 10 – 1” loops on 2” mains into house
    • In both cases, this made purging difficult. Both could have been eliminated with current IGSHP Design manual available.

• Bidding
  • Solid bids – this works if you know soil conditions and are well prepared
    • Residential bids for tonnage, not footage
Partnerships

• HVAC industry
  • A good geothermal contractor is an addition to the HVAC contractors' services
  • By providing loop field, headering, piping, and purge of system, you are not taking work, but allowing a good HVAC contractor to install a geo system.

• Builders
  • Providing quality geothermal systems for builders to set themselves apart from others
    • Lowry jobs for Latsis homes
Factors We Considered......

Geographical Location

- Typical installation lot size
- Typical drilling conditions

Equipment Considerations

- Best size to address most projects
- Larger rigs can reduce labor but accessibility limited to larger sites
- Smaller equipment can increase manual labor but opens up more potential projects
Get Educated: IGSHPA TRAINING

• Accredited Installer (AI)
• Certified GeoExchange Designer (CGD)
• Certified Geothermal Inspector (CGI)
• Certified Residential Geothermal Designer (CRD)
• Train-the-Trainer Course
• Introduction to Geothermal Systems Technology

IGSHPA has access to the most current advancements in the geothermal industry. This connection positions IGSHPA as the ideal conduit between the latest technology and the people who benefit from these developments.
IGSHPA RESOURCES

- IGSHPA Manuals
- Residential and Light Commercial Design and Installation Manual (#21025)
- Slinky Installation Guide
- Design and Installation Standards
- Soil and Rock Classification Field Manual
- Grouting for Vertical GHP Systems
- Closed Loop Ground Source Heat Pump Systems (The ‘original’ installation guide)
- Understanding Geothermal Exchange Heating & Cooling
Geothermal paths for projects

If you’re a water well driller - who brings you jobs?

Project Drivers
- Homeowners
- Builders
- HVAC Contractors
Project Path

• Manual J heat load calculation
• Heat pump selection (work in conjunction with HVAC/plumbing contractor/builder/homeowner)
• Loop Field Sizing and layout
• Scheduling and coordinating installation as required for job
Installing Geothermal: The Opportunities are There

More people are asking about geothermal

Federal, State, Local Tax Credits
Utility Rebates
Municipality Codes- Meeting Energy Efficiency Ratings
How Do Customers Find You?

Word of Mouth
- Quality installations, exceptional service
- Great Partners
- Customer Reviews

Website
- Educate them on projects, videos, pictures, blogs
- We get lots of comments on how comprehensive and educational our site is

Social Media
- Let your customers know you are out there – Facebook, LinkedIn, Instagram, Twitter, YouTube, etc.
- Consider hiring a marketing professional to help you

Annual Conference, December 14-16, 2021 – Nashville, TN
Projects

• Residential
• Retrofits
• New construction

• Commercial
  • Schools
  • Warehouse/manufacturing facilities
  • Office/shop – PVREA
  • Apartment complex
Questions?

Thank You!