

Hybrid-Business Strategies

CENTERBEAM CONSTRUCTION

Final Report – Fall 2021

DCP 4930:
 Economics of Sustainability in the Built Environment

STUDENT TEAMS

1. CENTERBEAM CONSTRUCTION

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1. CENTERBEAM CONSTRUCTION

Our team has focused on Centerbeam Construction to propose sustainable improvements to its business operations.

1.1 Introduction

Our team has focused on Centerbeam Construction to propose sustainable improvements to its primary services of home improvements like remodeling, additions, and historic revitalization. Centerbeam is vital to supporting Jacksonville's historic districts as the most prominent contractor involved in historic homes. Formally integrating sustainability into Centerbeam's business operations could pioneer a culture of sustainable development in Jacksonville.

The primary problems the firm and industry include:

- perception of high cost of sustainable home improvement
- complexity of historic renovations / revitalization
- gap between sustainable home improvement knowledge and capability

These problems leave room for opportunities to improve sustainable build practices, primarily through education. This report will explore opportunities to overcome these problems with proposals.

1.1.1 Perception of High Cost

A major issue that has impeded sustainable development and construction is the perceived cost disparity between traditional building and more advanced sustainable building. This stigma has permeated the industry and has created an artificial barrier for more sustainable building. The gap in cost differential in construction practices has been closed in the past decade or so with the advent of cutting-edge equipment, modified materials, and improved techniques/methods that are drastically more environmentally sound. These practices boost a building's overall sustainability. But a problem emerges with the outdated conception of high costs for a sustainable project; owners, buyers, and developers are concerned with minimizing construction costs. So when they are selecting contractors to build their properties, this pricing misconception guides their decisions. There are many factors that play into evaluating the true value of sustainable building such as quality across time. But as long as the enduring notion of it being too expensive exists, firms will have to navigate this challenge.

1.1.2 Complexity of Renovation / Revitalization

A key objective to development is to keep projects as quick, simple, and autonomous as possible so as to avoid the many problems that can arise with both pre-existing structures and the democratic process (Vogt & Weber, 2019). Historic restoration is often the exact opposite of these things. Historic sites are connected to many different stakeholders, including tangible, cultural, and financial parties. Developers are faced with uncertainty of completion when many "partners" are involved in the project and can often ruin an interest in the project. Ultimately, the physical, social, and financial health of a community are of utmost value to the people but historically, are not as important to developers (Sullivan & Ward). In order to improve the relation of developers and the community, all stakeholders must have more similar interests.

1.1.3 Sustainability Knowledge and Capability Gap

Home buyers and owners have been slowly becoming more concerned with the sustainability of their homes. According to a study conducted by the National Association of Realtors in 2020, "more than half [of Realtors] said their clients were interested in sustainability, and nearly a third reported they were involved in the buying or selling of a property with "green" or eco-friendly features in the last 12 months" (Bond, 2021). As consumer

awareness of the overall ideas of sustainability improves, the practical knowledge of how to implement sustainability to homes should follow. With an increased demand for sustainable homes and growing awareness about sustainability, there is a growing need for experts who can implement sustainable development at the residential level.

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1.2 Current Conditions

1.2.1 Vision & Mission Statement

Centerbeam does not specifically describe their values and culture on their website, but they suggest that their goals are to improve the longevity and sustainability of real estate, especially historic real estate.

1.2.2 Core Values

Centerbeam covers several sustainable development goals being that they improve and renovate underappreciated assets. Good Health and Well-Being is a major sustainable development goal that Centerbeam addresses, being that there are often harmful materials in old buildings that need to be replaced. Being that Centerbeam has been in business for nearly a century, they have likely been tasked with the removal of Lead, Asbestos, and Corrosive pipes. This can be a major issue in historic districts, where contractors are tasked with not only the renovation but preservation of design. Centerbeam also touches on sustainable development goal #12, responsible consumption and production. They advertise their ability to reduce energy bills with “greener ways of living”; these services will likely be in high demand in the foreseeable future as the government attempts to pass legislation akin to the Green New Deal. Being that Centerbeam offers structural repairs and bad wood replacement, they are a large proponent of sustainable development goal #9, Industry, Innovation, and Infrastructure. It is much more sustainable to repair sagging floors or rotting wood than to completely redevelop. Extending the life of a property is both sustainable and financially beneficial to property owners; expanding this sector of their business could be very profitable and improve relations with property owners. This topic is especially prevalent in the state of Florida, where hurricanes often cause structural damage to buildings. Aside from the reduced energy needs, most of their sustainability goals are long-term. It would be beneficial for Centerbeam to explain their short-term goals more so as to attract more local customers looking to reduce their property expenses. Centerbeam also touches on reduced inequalities by renovating garages into bedrooms & bathrooms. This can be very valuable and improve financial equality/work opportunity especially in places like the bay area, where housing is undersupplied and extremely expensive. It is also environmentally friendly by replacing the need/space for cars into more dense housing, leading to a more walkable community.



Centerbeam does not specify what their core values are, other than mentioning that their mission is to deliver quality products on time and within budget. Centerbeam does emphasize historic restoration, which alludes to preserving cultural significance but is unclear. Their lack of clarity and transparency on their core values could reduce the number of customers looking to implement green solutions on their property. Property owners looking for green solutions will likely choose the contractors who seem most passionate & thorough about sustainability being that it is an issue that mostly appeals to ethos. On the other hand, Centerbeam might turn off clients that are anti-sustainability which inherently is proactive if they are moving towards sustainability. Centerbeam is also likely missing out on business from property owners who are unaware of green solutions. Implementing some educational information regarding just how much energy bills could be reduced, might attract more clients, or possibly partnering with media sources that focus on ESG could increase their exposure.

1.2.3 Strategic Plan

Centerbeam Construction does not currently have a written strategy and or strategic plan to support its operation and mission towards sustainability. One could infer that there is an implicit strategy that drives their business line but there is no form of written strategy for the public to see. This could serve as an operational pitfall for Centerbeam as the absence of an official and rigid strategic plan could cultivate an undisciplined approach over time. Without a set of operational guidelines to hinge on, and to have as a constant reference, there will naturally be an inclination to deviate from plans that were not solidified or seriously established. Centerbeam has clearly been devoted to Green Building and other sustainable practices with their ability to safely renovate historic properties in quality fashion, but instituting a robust and sustainable written strategy for the company to utilize as a benchmark for operations and also to use for advertising would generate a more directed approach to sustainability overall.

1.2.4 Organization Structure

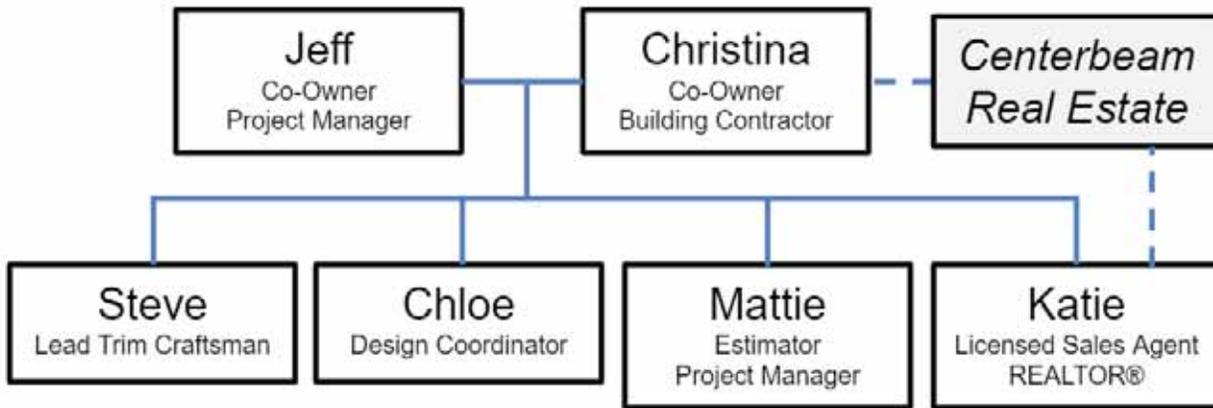
The organization's structure is composed of two general leaders and then an immediate team underneath them that all contribute equally to their own specialty. Currently, Centerbeam only has six employees to make up the structure. Due to the smaller nature of their operation, there is no need for the conventional hierarchical structure to establish a chain of command through various levels.

Centerbeam has two members who serve as team leaders. The first being their Project Manager - Jeff, who in this case, is also a Co-Owner of Centerbeam. The Project Manager's leadership role mainly revolves around the technical side of their projects. The Project Manager is mainly concerned with coordinating subcontractors, ensuring a quality build, and achieving the goal of a project while finishing on time and within the given budget. While overseeing all activity in the field, the Project Manager has the ability to direct other Centerbeam employees as they manage and accomplish their projects.

The second member at the helm for Centerbeam is their licensed building contractor and other Co-Owner, Christina. As the license holder for Centerbeam, she handles operations from the design phase all the way through construction completion. She is heavily involved in the permitting process and for anything pertaining to approval for construction of historic properties. She is also responsible for Centerbeam's business development efforts as they expand their footprint and reputation in the historic home preservation space.

Both leadership capacities guide Centerbeam's support team as they take on new projects and navigate the niche world of historic property renovation and preservation. Ensuring that other team members are fluent in building codes, are knowledgeable in the bidding process, and are continually bolstering Centerbeam's image are essential responsibilities for these leaders.

Organization Structure



1.3 Proposed Improvements

1.3.1 Vision & Mission

1.3.1.1 Vision

Defining a vision can support company operations to guide business decisions and operations. The following statement is the proposed vision for Centerbeam Construction:

<i>Vision</i>
<i>Building a better Jacksonville by increasing the quality of homes in the city. Homes will be restored instead of demolished with minimal environmental impact and contribute to the wellbeing of the residents. Homes in Jacksonville will become increasingly valuable and increase the sense of pride of residents and the community as a whole. Historic homes will be an integral part of neighborhoods now and long into the future.</i>

This vision focuses on Jacksonville specifically, as Centerbeam’s scale is best suited to serve the Jacksonville market. Focusing on all of northeast Florida may be too ambitious at this time. But the scope can be broader than a single neighborhood since Centerbeam has shown success in many different neighborhoods around the city.

The vision addresses increasing value, representing financial growth and personal and societal values. These aspects of value benefit residents and the community.

Minimizing the environmental impact of homes contributes towards the idea of sustainable development, which Centerbeam Construction has direct impact on in the city of Jacksonville.

Finally, understanding the value of historic homes to neighborhoods is an important pillar of Centerbeam’s priorities along with those of the community. Remembering our past and maintaining the character of the city is a clear role Centerbeam can play in the industry.

1.3.1.2 Mission

The mission statement succinctly captures the overall goals of the vision with action-oriented language to demonstrate how Centerbeam will achieve it:

<i>Mission</i>
<i>Increasing the quality of life of clients and the community through sustainable home improvements and historic restoration.</i>

This statement reflects increasing value to clients and the community through the lens of quality of life and wellbeing. And the method of achieving a high quality of life is sustainable development, which Centerbeam is perfectly positioned to deliver through improving homes with skills like design, estimating, project management, contracting, and customer service.

1.3.2 Core Values

The following four core values are derived from the overall vision and mission:

Proposed Core Values			
Value	History	Economy	Sustainability
			
Provide value to client and community People-focused	Honoring history of homes and neighborhoods	Less is more Delivering on budget	Minimize environmental impacts Long-lasting improvements

Value

Value centers on the people that Centerbeam serves: clients and the community. Customized, high-quality service to the client is extremely important. This means building a relationship with the client, creating valuable work, and minimizing disruption and drama during the construction process. And the work that Centerbeam completes should always be net-positive for the community, through paid or volunteer work.

History

Since historical renovations are a key service offering for Centerbeam, history serves as an important value. Any improvements should honor the history of the home and the neighborhood, meeting any official regulatory requirements. Work should pay homage to the architects who originally designed the homes.

Economy

When it comes to economic considerations, less is more. Home improvements should prioritize minimizing cost by strategies like reducing material usage, time spent to complete work, and overall energy and water usage. Delivering on budget is a key part of following through on Centerbeam’s commitment to economy.

Sustainability

While sustainability is a broad definition, this core value focuses on environmental sustainability. The primary goals of this core value are reducing the impact on the environment and ensuring that improvements are long-lasting. Centerbeam is equipped to minimize waste during construction, use sustainably sourced building materials, and increase energy and water efficiency of homes. Retrofitting older buildings instead of demolishing them is the firm’s best way to promote sustainability. And making sure that improvements lengthen the useful life of homes can further promote this value.

1.3.3 Strategic Plan

The Strategic Plan will quantify the proposed core values so that Centerbeam can ensure it is living out its principles through direct action. The following table will illustrate how the Strategic Plan will be rolled out:

Strategic Plan Roll-Out	
Year	Task
2022	<ul style="list-style-type: none">○ Begin implementing Strategic Plan Metrics / Measures○ Collect data on metrics / measures
2023	<ul style="list-style-type: none">○ Publish 2022 Sustainability Report
2024	<ul style="list-style-type: none">○ Publish 2023 Sustainability Report○ Earn 1 Green Building Certification
2025	<ul style="list-style-type: none">○ Publish 2024 Sustainability Report
2026	<ul style="list-style-type: none">○ Publish 2025 Sustainability Report○ Re-evaluate Strategic Plan

The timeline presents four major components:

1.3.3.1 Implement Strategic Plan Measures / Metrics

This collection of metrics and measures, found below, would monitor key performance indicators to quantify success when it comes to achieving the company’s mission and vision:

table included on the following page

Primary & Secondary Measures / Metrics

		Measure / Metric	Unit	Goal	Desired Trend
Primary	Quantitative	Value of Work Completed	\$	↑	↑
		On-Time Delivery	% of projects w/in +/- 15% of the schedule	100%	↑
		Home Life Expectancy	years	TBD	↑
		Healthy Projects	% of projects where health precautions (like removing mold, lead, absestos) were taken	100%	↑
		Increase Home Value	\$	↑	↑
		Actual Project Cost vs Budget	% of projects w/in +/- 15% of budget	100%	↑
		Water Usage	gallons/SF	↓	↓
		Energy Usage	kWh/SF	↓	↓
		Recycling Materials	% volume / weight / length of material salvaged & reused compared to usage	TBD	↑
		Material Salvaged/Saved	volume / weight / length of material saved vs. traditional design	TBD	↑
		Waste Created	volume / weight / length of material sent to landfill	TBD	↓
		Meet Historic Requirements	% of projects meeting requirements	100%	↑
		Workplace Injuries	# incidents	0	↓
		Time Off	days of PTO taken	TBD	→
	Workload on Employees	average hours worked per person	TBD	→	
	Qualitative	Customized / Personalized Service	% (survey)	90%	↑
		Alignment with Original Design	% of projects aligning with original design	100%	↑
Employee Satisfaction		% (survey)	95%	↑	
Secondary	Quantitative	Carbon Footprint of Materials	tons of GHG's	TBD	↓
		JSEB's Subcontracted	% of work subcontracted work completed by JSEB	15%	→
		Green / Sustainably Sourced Materials	% volume / weight / length of material salvaged compared to usage	TBD	↑
		Community Service	hours completed	↑	↑
	Qualitative	Collaboration with Historical Organizations	binary yes/no	yes	→
		Customer Satisfaction	% (survey)	95%	↑
		Increase Quality of Life	% (survey)	90%	↑
		Minimize Drama / Disruptions	% (survey)	95%	↑

Metrics are divided into different categories. Quantitative measures/metrics have clear numeric values that can be measured. Qualitative measures/metrics are generally more subjective, although reporting them is often done with percentages or binary yes/no alignment. Primary and secondary services are related to Centerbeam's ability to control them. Primary services are internal while secondary services are external. External are typically dependent on stakeholders, vendors, clients, etc.

The goals and desired trends demonstrate the value to be strived for, and whether that value should be increased, decreased, or stay the same over time. Some values are set while others are yet to be determined until more data is collected and Centerbeam is further consulted. The sustainability report should clearly demonstrate if each measure/metric is trending in the desired direction or not.

Once the final measures/metrics are decided on, a numbering or lettering system should be used to keep them organized throughout the reporting and tracking process.

1.3.3.1.1 Primary Services

Quantitative:

- **Value of Work Completed** is a good metric for productivity. Productivity in relation to size and consumption is important to find a company's net impact on a community.
- **On Time Delivery** displays the accuracy of Centerbeam's estimates and gives insight on their credibility and transparency.
- **Home Life Expectancy** would be a great metric for tangible value added and usefulness of resources use.
- **Healthy Projects** could exhibit Centerbeam as a company that prioritizes homes built for people and not for value.
- **Increased Home Value** demonstrates how much Centerbeam adds back to both the culture and equity in communities.
- **Actual Project Cost vs Budget** would demonstrate Centerbeam's honesty and accuracy regarding their contracts.
- **Water Usage** is a vital environmental and often social issue which can also be used to compare to competitors.
- **Energy Usage** is a vital environmental issue and can be used to compare Centerbeam to other contractors.
- **Recycling Materials** exhibits how much Centerbeam goes out of their way to practice sustainability in their operations.
- **Materials Salvaged** displays Centerbeam's dedication to reducing waste and utilization of customer's capital.
- **Waste Created** is a crucial metric for sustainability and encapsulates Centerbeam's environmental sustainability.
- **Meeting Historic Requirements** not only shows Centerbeam's proficiency as a Historic housing contractor but also displays their dedication to maintaining culture.
- **Workplace Injuries** need to be tracked by a company to manage and maximize safety. Unsafe work environments can result in largely inefficient supply chains and are likely the most important sustainability metric for small companies.
- **Paid Time Off** - Often, workers are granted +/-20 PTO days but are discouraged from taking their full PTO. This is dishonest regarding employment contracts and can harm someone's personal relationships and work-life balance.
- **Workload on Employees** is an important metric to find out how much employees end up making per hour. Often offices will hire people on a yearly salary for full time work and change needed hours from 40 to 60+ hours a week. This can result in high paying jobs paying uncompetitive true hourly rates.

Qualitative:

- **Customized / Personalized Service** would demonstrate Centerbeam's strength in collaboration and recognizing the voice of their customers.
- **Alignment with Original Design** could be a good metric for quality of historic repairs.
- **Employee Satisfaction** could stem from evaluation reports and would improve transparency for customers.

1.3.3.1.2 Secondary Services

Quantitative:

- **Carbon Footprint of Materials Sourced** is one of the most important metrics in real estate & construction. 8% of all carbon is released from concrete production. Steering away from concrete and towards sustainable wood sources will likely be Centerbeam's greatest contribution to environmental sustainability. These early investments into sustainable wood sources increase the social acceptance and viability for the supply chain; therefore, Centerbeam has partnered with The Jacksonville Young Life team to "Build Up" others; they could volunteer with other like-minded organizations such as Habitat for Humanity. Being that they are in very similar fields, Centerbeam could donate recycled materials to Habitat for Humanity, volunteer in times of crisis, or offer more affordable rates for those in need.
- **JSEB's (Jacksonville Small & Emerging Business) Subcontracted** can display Centerbeam as a vital part of the middle class and local tax revenue.
- **Green Materials Sourced** is vital to Centerbeam's life cycle analysis.
- **Community Service** could show how much Centerbeam gives back to their communities outside of seeking a profit.

Qualitative:

- **Collaboration with Historical Organizations** would be a great metric to show historic initiative in Jacksonville. This could also be a great opportunity
- **Customer Satisfaction** could stem from evaluation reports and would improve transparency for customers.
- **Increased Quality of Life** is an important metric to show the value of Centerbeam's work to their customers. This could be a part of customer satisfaction but is important on its own.
- **Minimized Drama / Disruptions** displays Centerbeam's ability to work with others in creating partnerships to meet SDGs.

1.3.3.1.3 Alignment with Pre-existing Standards and Proposed Core Values

Each measure or metric aligns with pre-existing standards like the United Nations Sustainable Development Goals (UN SDG's), International Organization for Standardization (ISO) standards, Global Reporting Initiative (GRI) standards, and Leadership in Energy and Environmental Design (LEED) standards. Additionally, they each align with one or two of the new proposed core values. This alignment is demonstrated in the following table:

table included on the following page

Measure / Metric Correlation & Alignment			
Measure / Metric	SDG Correlation	GRI / ISO / LEED Correlation	Core Value Alignment
Value of Work Completed	SDG 9 & 11	ISO 9000	
On-Time Delivery	SDG 8	ISO 9000	
JSEB's Subcontracted	SDG 10 & 17	ISO 26000	
Customized / Personalized Service	SDG 17	ISO 26000	
Customer Satisfaction	SDG 17	GRI 418 ISO 26000	
Increase Quality of Life	SDG 3 & 4	ISO 26000	
Minimize Drama / Disruptions	SDG 12 & 17	ISO 26000	
Employee Satisfaction	SDG 8	ISO 26000	
Time Off	SDG 8	ISO 26000	
Workload on Employees	SDG 8	GRI 403	
Workplace Injuries	SDG 8	GRI 403	
Community Service	SDG 16	GRI 413	
Home Life Expectancy	SDG 10, 11, 12	LEED (Sustainable Sites)	 
Healthy Projects	SDG 9	LEED (Innovation & Design)	 
Increase Home Value	SDG 8	GRI 201	 
Actual Project Cost vs Budget	SDG 8	GRI 201 ISO 9000	
Water Usage	SDG 6 & 11	GRI 306, 303 LEED (Water Efficiency)	 
Energy Usage	SDG 7 & 11	GRI 302 ISO 50001	 
Recycling Materials	SDG 12 & 15	GRI 306 ISO 14000	 
Material Salvaged/Saved	SDG 10 - 12	GRI 306 ISO 14000	 
Waste Created	SDG 13	GRI 305 ISO 14000	
Green / Sustainably Sourced Materials	SDG 12 & 15	GRI 204, 301	
Carbon Footprint of Materials	SDG 7 & 12	GRI 204, 301	
Meet Historic Requirements	SDG 4 & 11	LEED (Awareness & Education)	
Alignment with Original Design	SDG 4 & 11	LEED (Innovation & Design)	
Collaboration with Historical Organizations	SDG 17	GRI 413	

1.3.3.1.4 Metric / Measure Reporting

Additional staff are not proposed to be hired to implement this strategy because of the size of the firm. Instead, specific metrics and measures will be divided among the team in order to assign responsibility according to the following table:

table included on the following page

Measure / Metric Reporting Responsibilities

Measure / Metric	Jeff	Christina	Steve	Chloe	Mattie	Katie
	Co-Owner, Project Manager	Co-Owner, Building Contractor	Lead Trim Craftsman	Design Coordinator	Estimator, Project Manager	Licensed Sales Agent, REALTOR
Water Usage	X					
Energy Usage	X					
Waste Created	X					
Time Off	X					
Workload on Employees	X					
Value of Work Completed		X				
On-Time Delivery		X				
JSEB's Subcontracted		X				
Actual Project Cost vs Budget		X				
Community Service		X				
Healthy Projects			X			
Recycling Materials			X			
Material Salvaged/Saved			X			
Green / Sustainably Sourced Materials			X			
Meet Historic Requirements				X		
Alignment with Original Design				X		
Collaboration with Historical Organizations				X		
Home Life Expectancy					X	
Increase Home Value					X	
Carbon Footprint of Materials					X	
Workplace Injuries					X	
Customized / Personalized Service						X
Customer Satisfaction						X
Increase Quality of Life						X
Minimize Drama / Disruptions						X
Employee Satisfaction						X

The responsibility assignment is tentative and subject to change. It is based on a loose understanding of company structure and responsibilities. Further consideration should be given to this in the future.

After each year of collecting data on the metrics and measures, the team should document it in a Sustainability Report. This can easily be accomplished by filling out the Sustainability Scorecard, illustrated in the following table:

table included on the following page

Sustainability Scorecard

		Measure / Metric	Unit	Current Metric	Past Metric	Goal	Trend
Primary	Quantitative	Value of Work Completed	\$			↑	
		On-Time Delivery	% of projects w/in +/- 15% of the schedule			100%	
		Home Life Expectancy	years			TBD	
		Healthy Projects	% of projects where health precautions (like removing mold, lead, asbestos) were taken			100%	
		Increase Home Value	\$			↑	
		Actual Project Cost vs Budget	% of projects w/in +/- 15% of budget			100%	
		Water Usage	gallons/SF			↓	
		Energy Usage	kWh/SF			↓	
		Recycling Materials	% volume / weight / length of material salvaged & reused compared to usage			TBD	
		Material Salvaged/Saved	volume / weight / length of material saved vs. traditional design			TBD	
		Waste Created	volume / weight / length of material sent to landfill			TBD	
		Meet Historic Requirements	% of projects meeting requirements			100%	
		Workplace Injuries	# incidents			0	
		Time Off	days of PTO taken			TBD	
	Workload on Employees	average hours worked per person			TBD		
Qualitative	Customized / Personalized Service	% (survey)			90%		
	Alignment with Original Design	% of projects aligning with original design			100%		
	Employee Satisfaction	% (survey)			95%		
Secondary	Quantitative	Carbon Footprint of Materials	tons of GHG's			TBD	
		JSEB's Subcontracted	% of work subcontracted work completed by JSEB			15%	
		Green / Sustainably Sourced Materials	% volume / weight / length of material salvaged compared to usage			TBD	
		Community Service	hours completed			↑	
	Qualitative	Collaboration with Historical Organizations	binary yes/no			yes	
		Customer Satisfaction	% (survey)			95%	
		Increase Quality of Life	% (survey)			90%	
	Minimize Drama / Disruptions	% (survey)			95%		

Documenting data on the Sustainability Scorecard would allow Centerbeam to monitor progress and set clear goals on how to improve the firm. The Scorecard would be included in the Sustainability Report which could also include additional information, narratives about initiatives undertaken during the year, and any additional content to give context to Centerbeam's sustainability operations. The Report could be published publicly to demonstrate how Centerbeam is backing up its sustainability goals with monitoring and action. Part of the purpose of this report could be to transparently document business operations, particularly areas relating to environmental and social factors. Centerbeam already does a great job at documenting and advertising its process, but they could add quantitative data to stand out compared to other contractors.

Many of these metrics are project-specific, so the data for each project should be collected within two weeks of completion of the project. Then, at the end of each year, the data from all the projects can be collected into one overall measure or metric for each category. Data that may be more challenging to collect is survey data from the homeowners. An initial survey should be sent to the customer immediately after completion of the project, and a follow-up survey will be sent to the customer 3 months after completion of the project. Katie is tentatively responsible for the surveys but whoever the point-person is on each of the projects would be responsible for advertising and following up on the survey.

The more continuous metrics related to labor and productivity should be evaluated on a quarterly basis by the project managers (March, June, September, December):

- Value of Work Completed
- One-Time Delivery
- JSEB's Subcontracted
- Actual Project Cost vs Budget
- Time Off
- Workload on Employees
- Workplace Injuries

All scores will be accumulated in December. Scores will be averaged or summed for each measure/metric to create an annual score. The first year will serve as the baseline, and the goal is to improve in every area where possible.

For the survey data, names of survey participants will only be available to the Centerbeam staff so that the staff can address any negative feedback. However, the identities of survey participants will not be released to the public. Personal statements from extended response survey questions may be published with permission from survey participants.

The final annual Sustainability Report would be composed in January using the data from the previous year. The report should be posted to the website in addition to being emailed to previous customers, contractors, and anyone signed up for marketing emails.

1.3.3.2 Sustainable Management Metrics

When evaluating Centerbeam Construction's current structure and management system, and how these both influence the company's overall operation, it becomes clear that there is room for improvement. ISO standards are often utilized as consulting tools to help set benchmarks to integrate new company culture, systems, and even personnel to expedite the transition to a company's management reflecting more sustainable governance and operations.

For Centerbeam, ISO standard 9000 would be an incredibly beneficial tool in revamping the organization's sustainable management practice. Centerbeam will not be undergoing any substantial restructuring in terms of

personnel and staffing, so their approach needs to be centered around optimizing their current team and bolstering their sustainable management efforts through Quality Management Principles (QMPs). There are several QMPs that ISO 9000 hinges on, each laying out a path for various actions to promote improvement company-wide.

Below is a synopsis of the seven QMPs found in ISO 9000 that would be most applicable to Centerbeam to transition more towards sustainable management:

1. **Customer Focus** - Sustained success is achieved when an organization attracts and retains the confidence of customers and other interested parties. Every aspect of customer interaction provides an opportunity to create more value for the customer. Understanding current and future needs of customers and other interested parties contributes to sustained success of the organization.
2. **Leadership** - Creation of unity of purpose and direction and engagement of people enable an organization to align its strategies, policies, processes, and resources to achieve its objectives.
3. **Engagement of People** - To manage an organization effectively and efficiently, it is important to involve all people at all levels and to respect them as individuals. Recognition, empowerment, and enhancement of competence facilitate the engagement of people in achieving the organization's quality objectives
4. **Process Approach** - The quality management system consists of interrelated processes. Understanding how results are produced by this system enables an organization to optimize the system and its performance.
5. **Improvement** - Improvement is essential for an organization to maintain current levels of performance, to react to changes in its internal and external conditions and to create new opportunities.
6. **Evidence-based Decision Making** - Decision making can be a complex process, and it always involves some uncertainty. It often involves multiple types and sources of inputs, as well as their interpretation, which can be subjective. It is important to understand cause-and-effect relationships and potential unintended consequences. Facts, evidence and data analysis lead to greater objectivity and confidence in decision making.
7. **Relationship Management** - Interested parties influence the performance of an organization. Sustained success is more likely to be achieved when the organization manages relationships with all of its interested parties to optimize their impact on its performance. Relationship management with its supplier and partner networks is of particular importance.

Outside of these QMPs, social responsibility at the internal level needs to be a focal point as well as the sustainable management practice is modified. There needs to be some form of feedback and job satisfaction indicators that assess what employees expect from their company. Factors that promote internal social responsibility include but are not limited to ensuring equal personal development opportunities, safety and well-being in the workplace, work-life balance, and general empowerment throughout the organization. Implementing action that encompasses these social responsibility goals will propel Centerbeam in the direction of achieving a more sound and robust sustainable management system.

As outlined in ISO 9000 #3, engaging people is a critical part of the strategic plan process. Prior to Covid, when Centerbeam was fully operational, they helped raise \$72,000 for The Jacksonville Young Life Team to ensure better futures for those in need. To take this one step further, Centerbeam could start donating recycled materials from any deconstruction projects, or partner with Habitat for Humanity to gather volunteers to improve people's homes and quality of life. Being active in the historic community is likely crucial to Centerbeam's historic remodeling work. To do this, they could attend historic district events, promote education content about the historic district within the community, and possibly work with city officials to influence the zoning of surrounding neighborhoods.

1.3.3.3 Earn 1 Green Building Certification

There are multiple options to choose from when it comes to becoming a Green Certified builder:

- The Green Advantage Certified Practitioner (GACP)
- The Green Advantage Certified Associate (GACA)
- National Association of the Remodeling Industry (NARI) Certification
- United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) Professional Credentials
 - LEED Green Associate
 - LEED AP Building Design + Construction

Each of these certifications represents that a builder / contractor is knowledgeable of and implements sustainable building practices in their work. While it does cost money to participate in these programs, it could be a great tool to not only market Centerbeam as a bona fide green builder but also as a way to continually learn and grow with the green building market. This component of the Strategic Plan is delayed in order to plan who in the company should pursue certification and choose which certification to pursue.

1.3.3.4 Re-evaluate Strategic Plan

After five years, it would be worthwhile to re-evaluate the Strategic Plan and ask critical questions like:

- Has the Strategic Plan been successful for the company?
- Has the company improved its metrics and measures according to set goals?
- Are there additional metrics and measures that should be added?
- Are there metrics and measures that should be eliminated because they were too difficult to measure or failed to properly quantify success?
- Are the responsibilities for tracking sustainability enough to where it would be worthwhile to hire a new employee or hire a third-party to manage?

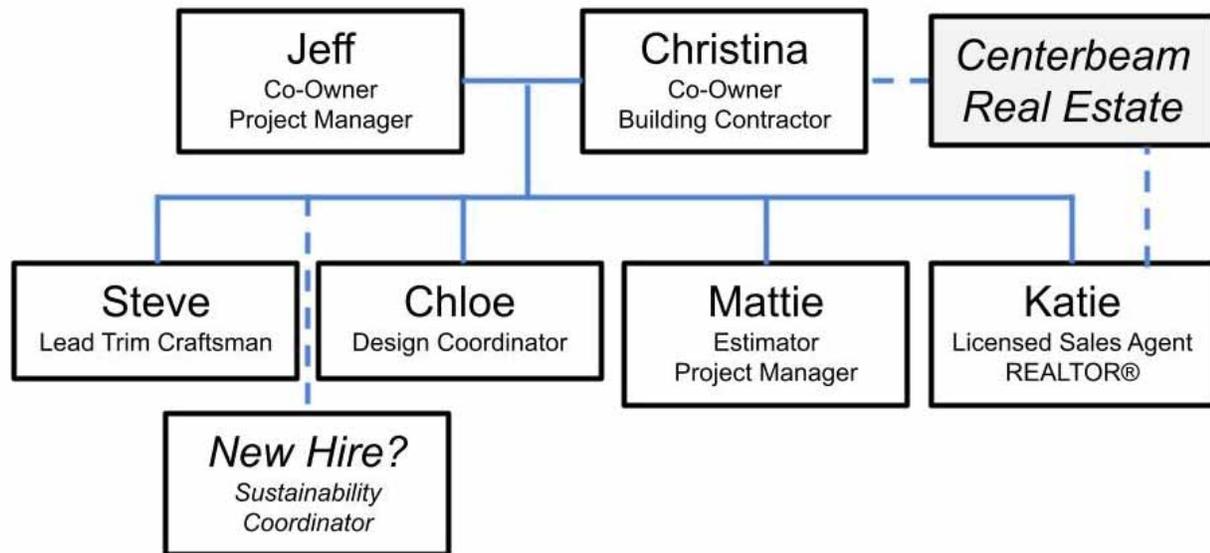
Many of the proposed measures and metrics focus on primary services which are within Centerbeam's sphere of influence at this stage. After five years, the firm may be in a better position to implement more secondary services which would require more measures and metrics to ensure sustainability.

After this process, a new Strategic Plan could be implemented to best meet the needs of Centerbeam at that time.

1.3.4 Organization Structure

The proposed organization structure does not change very much, if at all. No restructuring is required for the implementation of the Strategic Plan since the organization is relatively flat and the additional responsibilities could be divided among existing staff. There is an opportunity to have a new staff hired after re-evaluating the Strategic Plan five years after implementation. That new hire would be responsible for tracking sustainability metrics and measures. If they were to be a full-time staff position, they would require more work like marketing, sales, estimating, product sourcing, or other related roles to sustainability.

Proposed Organization Structure



1.4 Conclusion

Sustainability, and the broad range of components that define it, is a practice. It is something that has to be at the forefront of every organization's operation if they have goals of improving their overall impact on society and the planet. As awareness around sustainability steadily builds and communities and governments gradually implement more regulation to encourage it, organizations of any size should strive to adapt and modify their existing strategies and structures to ones that promote sustainability and make it a priority.

The proposals set forth in this report aim to provide a framework for Centerbeam Construction to do just that. These recommendations are generated from extensive research and the latest sustainability techniques and standards in the industry. Implementing the proposed strategic plan with the supporting quantitative and qualitative metrics will serve as the foundation for Centerbeam as they fulfill their vision of building a better Jacksonville and setting the standard for historic home preservation. With the new organizational approach and Centerbeam's commitment to their values, this company should be a model of sustainability for years to come.

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