

# Paladino<sup>•••</sup>

## Master Planning

How to maximize success on master plans by integrating sustainability and third-party certification



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# Executive Summary

## Introduction

A master plan is an investment in the future. A master plan used to serve as the ‘blueprint’ for a project, outlining the boundaries, roads, and buildings. Title blocks neatly identified elements like ‘movie theatre’ and ‘parking garage’ and sweeping roads would connect the project to the external world.

It doesn’t work like that anymore.

Everything the A/E/C industry believed about master planning is turning out to be wrong. Cars aren’t the preferred mode of travel anymore; movies aren’t watched in theaters; classes aren’t confined to neighborhood schools.

When everything about how we live is changing, predicting the future is a tall order. But future-proofing master plans is achievable.

The secret to future-proofing a master plan is to focus on values that endure and the human systems that sustain them.

Master plans must align the community, nurture the ecology, and provides returns on investments of time and money.

We’re not simply building monuments with a master plan, we are envisioning experiences. Blueprints are great for managing a build-out, but people want a story that they can be a part of.

The ‘story’ is the new ‘blue-print’.

Don’t ask what can be built, ask why we build. Why does this project exist? What purpose does it serve for its creators and users? What

values should drive decisions? Can we reduce environmental impact and improve human wellness? How can we sustain this experience over time?

The answers to these questions will define the project’s purpose. The purpose will be the through-line in the master plan’s story. The right story can transform opponents to backers. When municipalities are beneficiaries, they become enablers.

Further, when the purpose of a development is clear to all stakeholders, the variety of design solutions available to ‘write’ that story increases exponentially. Design innovation is no longer constrained by the blueprint because it is unfettered by the story.

In the end, all meaningful human endeavors must lead to a result. The purpose of a strong master plan vision is to deliver a tangible experience in the future. It must guide the ecosystem to enduring and desired outcomes.

Technology will keep changing and will continue to disrupt the way we live and work. While we may not be able to predict the next innovation, we know that the fundamentals of placemaking and the intangibles that make great neighborhoods thrive for generations.

In this e-book, we will explore how infusing sustainability into the master planning process helps to create a story that ensures maximum and enduring value to all.



# The Process

Incorporating sustainability in master planning

Master plans are long-term ventures, and sustainability – which literally means the ability to endure – connects the current situation to the future vision.

Sustainability brings its greatest value, is the least expensive, and makes its most powerful link between the story of the development and the values of the development's stakeholders when it is treated as a value. Further, sustainability, resilience, and wellness strategies make the developer's promises into tangible features of the built environment.

Master planners have the advantage of time, and the opportunity to consider factors like environmental performance, community involvement, and social engagement before running up against budget, schedule, and purchasing decisions.

## Creating the Story

There are three important steps to create the through-line of the master plan's sustainability story.

### Step 1: A vividly imagined purpose

To maximize success and produce a master plan that is a useful and enduring reference, it is essential to include a common vision for sustainability, resilience, and human wellness. That common vision is the glue that holds the master plan together over the development

horizon. Over the course of a project's development, a complex group of actors - developers, planners, architects, engineers, ecologists, users - will enter and exit the process. The common vision is presented as the project purpose.

The purpose should present a vivid picture of the experience that will be created in the future. There are three stages to develop a project purpose.

The first stage is a competitive scan of other projects that reflect similar relevant values and outcomes to your master plan. Learn about precedent projects to understand what has been accomplished already. Use preference exercises to establish the dimensions of your master plan purpose. The preference exercises can also reveal the biases that exist within the core planning team.

The development business is notoriously resistant to new ways of thinking. In the absence of a sharp vision for the future, every actor will default to what they have done in the past. The second stage builds on the first stage by applying an objective analysis to the owner's stated project objectives to create measurable success criteria, in business terms.

We use a simple framework called PLUS to parse success criteria into discrete value chains. Learn more about PLUS in this white paper.



# The Process

Incorporating sustainability in master planning

The final stage is to produce a project brief in a story format. The context and scans form the foundation of the story; the client goals and aspirations are expressed as values that stand upon the foundation; and the success criteria are appended as the happy outcomes of the story. The brief empowers the evolving team to improve upon custom and practice by linking purpose to design - and design to results - into a cohesive master plan. It also provides a powerful message to new team members as they are onboarded to the effort.

A sustainability vision for a master plan can create a compelling story for stakeholders including city groups, code enforcers, financiers, tenants, and the public. Further, sustainable placemaking investments can drive market awareness and buzz, creating leasing momentum and fueling the next phase of development.

## Step 2: Engage on Values

The stakeholder values were established in Step 1, and now the point is to align design creativity and integration to the stated values.

For example, a higher education client was adding a new building to a 1970s brutalist concrete campus. At the visioning session she explained how tired she was dealing with leaks and fighting the weather. “I want to celebrate rain!” she declared.

That vivid picture of a celebration of rain led to a cascade of ideas: harvest rain off the roof to flush the toilets, to irrigate landscaping, and to create a rain-garden classroom outdoors.

So the pillar that engaged our client’s values was “Celebrate Rain”. Once the team was engaged with the vision, the creativity came naturally. The campus is in a rainy climate; students need classrooms; and the school’s environmental curriculum reflected the concept. Bonus: outdoor classrooms are cheaper to build.

We never would have achieved the concept of a rain-garden classroom if we were using blueprints to drive the process – values led to story; story led to experience; experience led to story; story led to enduring value.

## Optimize for Value

Recall that the pillar ‘celebrate rain’ set the vision in our example.

In the evaluation phase, the success criterion was defined as zero storm-water output, which can be measured. So the design solution was that 100% of the roof water would be redirected to low flow toilets and the rain gardens.

A key strategy used to evaluate competing methods is through a total cost of ownership analysis.



# The Process

Incorporating sustainability in master planning

We examined other paths including chiller water recovery and reduced roof areas. Each potential solution had associated costs for construction and savings over time. But the total cost of ownership was higher than the rain-garden concept so they were eliminated.

Investing in master plan-scale sustainable features can create a highly competitive proforma platform for vertical development, making the project more attractive to the market. As construction costs rise, the site features and shared infrastructure are an investment that pays dividends as the vertical development comes online.

## Iterate

When incorporating sustainability into the master plan vision, it is critical to refine the expectations for performance and settle on units of measure. The core team should continually ask these questions, refining their understanding of assumptions.

- How many amenities like retail, healthcare, and childcare services are enough?
- How many residents are expected to use the sidewalks, bike paths, and car shares?
- What is the EUI of a top quartile similar project?
- How much open space produces the clean air we need?

The long-term nature of master planned developments means that the story must stand the test of time, and the master plan must keep the core team rallied around a consistent set of values and ideas.

## Step 3: Validate

The last step in the story is to validate the results. Whether economic, social, or environmental in nature, validating results early and often is an essential step to measure the success criteria.

Again, a master plan is an investment in the future. While the story aligns purpose, methods, and results, there are other master criteria that will undoubtedly change over time. The trick is to bracket all assumptions and continually confirm if the project remains inside the acceptable zone of performance.

Many owners measure long-term progress of their success criteria already, so they have the internal capacity and capability to manage sustainability success criteria directly.

Continuous performance monitoring allows annual investments in performance to be carefully integrated, and examining year-over-year results yields clues on where value is being created.

# The Process

Incorporating sustainability in master planning

In some cases, the ongoing success criteria are reported externally at the corporate level through CSR and annual reporting. Energy, water, and carbon use per square foot or per capita are common. Publicly traded companies may even have an accounting firm validate the data and collection methods, to ensure that investors have accurate information.

## Third-party certification

Back-checking the master plan through certification is a powerful way to formalize project aspirations and set the development up for long-term success.

Third-party certification is viewed by external partners as a validation of the project's integrity. Funding partners, regulators, and buyers have assurance that pre-set success criteria have been achieved.

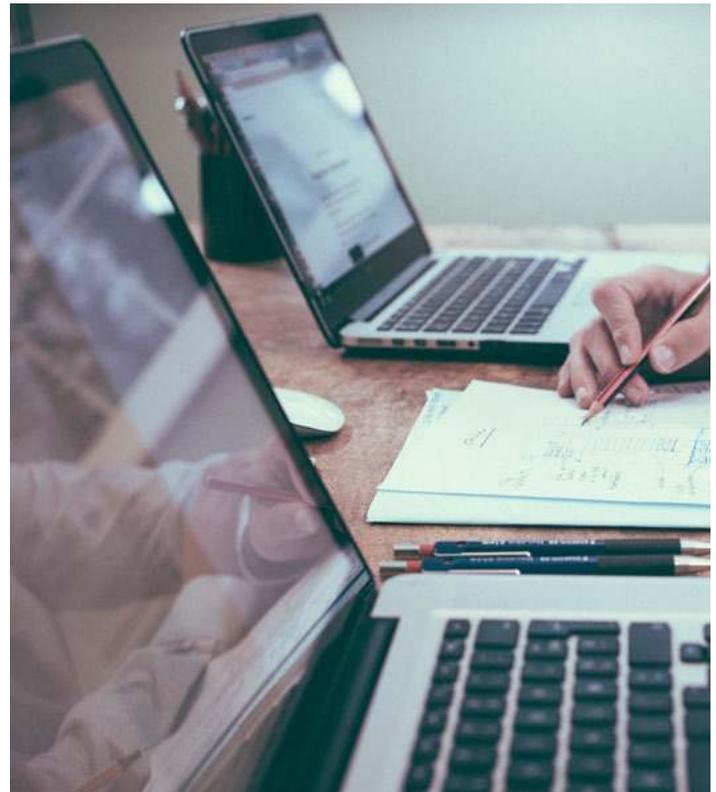
For some organizations, the long-term systems may not be in place to ensure that sustainability features and experiences endure. This is where third-party certification takes on particularly critical importance.

In addition to creating internal proof points and integrity, third-party validation of master plans can capture rebates or financing that offset first-cost investments.

## Value Creation

The various methods of validation focus on discrete elements of the master plan. The common theme is validation of value-creation and ensuring that the value strategies are persistent and resilient in the future.

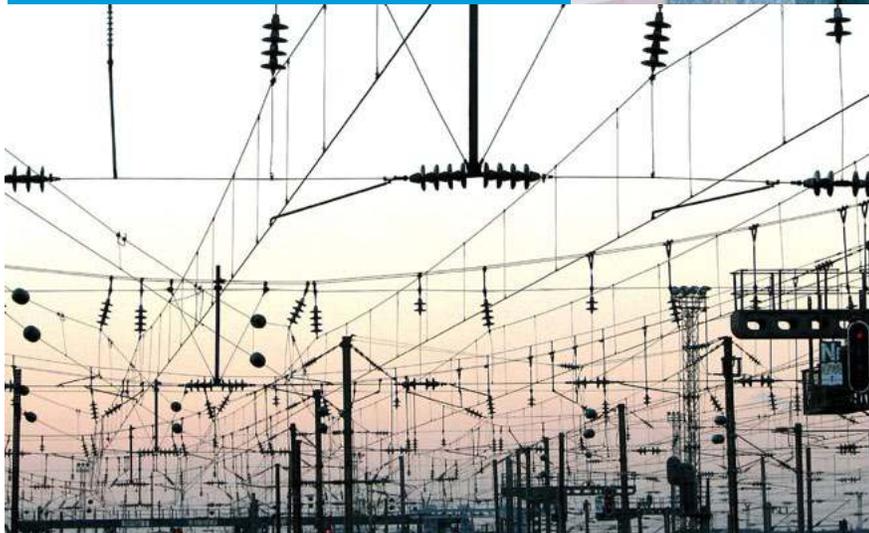
How does the team select the right third-party rating system to best support the project story?



# Third-party Certifications

for Master Plans

*Using a framework based on a third-party certification - and certifying the Master Plan - is a smart way to incorporate sustainability into the development.*



*The most common pitfall comes if the developer chooses a rating system that doesn't match their values and business needs.*

# Third-party Certifications

for Master Plans

The choice of a third-party rating system is highly dependent on the vision or story for the project, and how it is expected to create value for the stakeholder eco-system.

Also, the rating system will be of keen interest to the project's community stakeholders, and the wrong choice can create significant challenges in the court of public opinion.

Success also hinges on achieving alignment between the corporate culture of the master plan sponsor and the philosophy of the rating system organization. All rating systems are biased towards particular value chains, so it is critical that the rating system align with the project vision.

Here are the more common ways that certified master plan can create value for the project owner:

- Satisfy investor sustainability expectations
- Reduce risk in the entitlement process
- Improve loan rates and financing terms
- Set a market standard for the community
- Highlight ecology & economy dependency
- Response strategy to social challenges

A strong story, vetted with a core group of project leaders, makes selection of the proper rating system easy to execute.

The certification process reinforces the sustainability story over the long-term even as the stakeholders, design, technology, and community feedback change. The certifying body becomes an invested ally ensuring that the sustainable site benefits envisioned for the project are brought to fruition.

## Launching a Program

Once the third-party certification framework is chosen, the master planner can incorporate the rating system requirements into the master planning sustainability guidelines.

This leverages the intellectual rigor and independent effort of the rating system into the project. Basic research, refinement of performance criteria, and professional development costs are externalized.

Embedding rating system criteria informs long-term decision-making and value creation, keeping the results in harmony with the values of the founding stakeholders.

# Third-party Certifications

for Master Plans

LEED Neighborhood Development (LEED ND)	Living Community Challenge (LCC)	Salmon Safe	WELL Communities
Growth and efficiency value chains	Impact and social resiliency value chains	Impact and growth value chains	Health and wellness value chains
Encourages smart growth and new urbanism best practices.	Broadens community health for every element of life.	Transforms land management practices so indicator fish species can thrive.	Optimizes environments for human health and wellness.
<ul style="list-style-type: none"> <li>• Reduce vehicle miles travelled</li> <li>• Cluster jobs and services in walkable transit zones</li> <li>• Increase green building and infrastructure</li> <li>• Lower energy and water use intensity</li> <li>• Protect habitat, wetlands, water bodies, and prime agricultural lands</li> </ul>	<ul style="list-style-type: none"> <li>• Nurturing and generous places that promote healthy lifestyles for everyone</li> <li>• Net Positive water and energy</li> <li>• Designed using multipurpose elements.</li> <li>• Regenerative spaces for people and natural ecosystems.</li> <li>• Walkable, bike-able, affordable public transportation.</li> </ul>	<ul style="list-style-type: none"> <li>• Commit to equity, resilience and climate protection at the heart of every decision</li> <li>• Form collaborative governance</li> <li>• Create an implementation roadmap to guide projects and programs</li> <li>• Track and measure impact over time</li> </ul>	<ul style="list-style-type: none"> <li>• Sets minimum human performance criteria based on research</li> <li>• Links mind, body and spirit to the built environment</li> <li>• Covers air, water, nutrition, light, fitness, comfort and mind.</li> <li>• Incorporates features specific to urban-scale</li> <li>• Activates social interaction at the community level</li> </ul>



# Better Decisions

With Third-Party Certification

With the vision outlined in the brief and a validation strategy in place, the project is primed for implementation.

There is a saying that every battle plan is perfect until first contact with the enemy. In the case of a master plan, the enemy is the pro forma of the next development cycle.

## Creativity and Tenacity

Staying true to the master plan and the sustainability brief requires creativity and tenacity. The creativity is necessary to extract the rating system best practices that align to the vision. The tenacity is needed to align the development team around an integrated design, especially when that design does not neatly fit into the selected rating system.

This is where an experienced sustainability consultant creates enduring value – The right sustainability consultant will guide the developer and integrated design team through the certification process, and help to develop content that is effective for the pre-lease, approval, pricing, and delivery packages.

The scope of work for the sustainability consultant should be outcome-based. The rating system will create more than enough activity for the extended development team. Outcome-based scopes of work eliminate overlap with rating system requirements and prevent sub-par submission content while maintaining pace with the

development schedule. A sample scope of work can be found on page 17.

Clarity of vision improves early design decisions and paves the way for cohesive long-term decisions. Cohesive decision-making keeps the design teams focused on perfecting the aesthetic and the placemaking for their parcel.

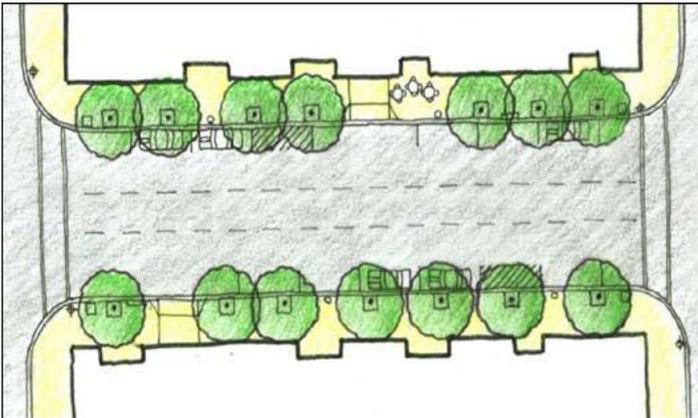
Here are three simple rules to improve decision-making over the life of the master plan.

1. The owner is the sole party accountable and responsible for any decision to change the project vision or the results expected.
2. The design team is accountable and responsible for solutions that adhere to the owner's vision and achieve the results.
3. All debate should focus on the efficacy of the solutions being proposed to satisfy the project vision and desired results.

If a proposal cannot satisfy the owner's vision and desired results there are only two options - the design team must go back to the drawing board or the owner must adjust their requirements for the vision and results.

# Better Decisions

With Third-Party Certification



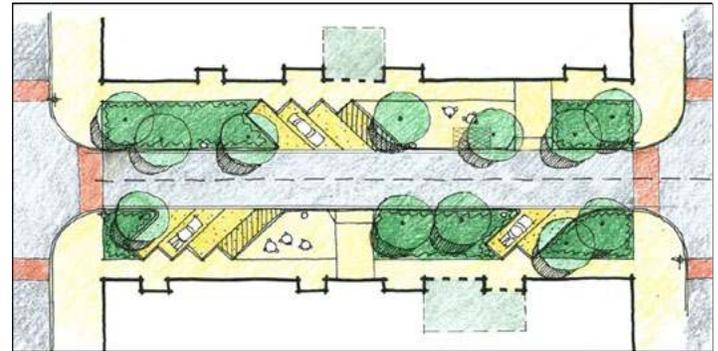
Suppose the developer of 10-acre parcel has a vision of the retail district as ‘a pedestrian sanctuary in an urban center’.

After confirming the vision and setting a site development budget, the team takes the second step and develops measurable success criteria. They review sustainable certifications and local goals for public and green spaces to develop performance targets:

1. Fifty percent of all walkways are shaded from sun and rain to create respite experiences in 3 seasons.
2. Five pocket parks are to be linked by the walkways to create ‘neighborhoods’ that highlight food retail.
3. Achieve LEED ND certification so pad site developers can be included in the effort through LEED certified vertical development.

With these performance targets in-hand, evaluating the options presented by the design team is easier, and decisions are cohesive with the master plan.

In the Engage on Values phase, the design team concludes that an active street with multiple cross connections is a priority.



The option on the left is a standard streetscape that maximizes street parking and car travel. The tree-lined street offers shade, and any seating would be adjacent to parked cars which will discourage interactions and limit comfort. This option is a typical yield-plan solution. The high number of on-street parking stalls is inconsistent with the vision, regardless of its cost. It does not pass the decision support structure.

The option on the right offers significantly more shade cover per retailer, and the pocket parks can be ‘owned’ by a storefront. The angled parking makes the pocket parks roomier so that tables with seating can be added, offering shoppers a place to sit and interact comfortably.

The narrow street provides a stronger visual connection and empowers pedestrian crossing, which makes the second options more walkable. The limited lanes slow traffic and make it a safer place to walk. The larger pad footprint increases rentable area and improves the pro forma.

Based on the vision and required outcomes, the option on the right is the most cohesive with the master plan. The sustainable design goals make it easy to select the right street design, and ensure that the master plan can satisfy the community’s needs.

# Project Showcase



Here are examples of projects that used sustainability and third-party certifications in the master plan to achieve heightened results.



# THE YARDS WASHINGTON, DC

WELL Communities Pilot

Luxury development

Vibrant, connected  
community



The Yards is an urban development that will add 5.5 million square feet of space across 24 buildings, including: 2,700 residential units; up to 300,000 square feet of retail space; and 1.8 million square feet of office space.

The development vision offers future residents true luxury living: a blend of residential development with working spaces, waterfront parks, cultural offerings, and more than a dozen dining experiences, all leading to a vibrant, connected community.

The Yards is located in a walkable urban center, near the Metrorail's Greenline, and surrounded by the Anacostia waterfront, historic Navy Yards, and Nationals Park.

Paladino is working with the design team to establish the sustainability story for project's master plan and meet sustainability goals set by Forest City Real Estate Trust.

Sustainability is a unique foundation for this dynamic mixed-use neighborhood, creating an authentic place that Metro DC NGOs and advocacy groups can call home.

Paladino is driving projects to attract marquee tenants, green economy retailers, and ecology-minded visitors.

Values are represented by a walkable urban grid, block and stack configurations for super green floorplates, and a district-wide attitude of infrastructure as-amenity and nature-as infrastructure.

The WELL Communities certification aligns to human wellness at an urban scale. The result will be a walkable, workable urban village that creates a healthy ecosystem and community.

# PIKE AND ROSE ROCKVILLE, MD

LEED ND

Highly curated

Experiential sustainability

Place making



The Pike and Rose project is a 3.4 million square foot transit-oriented, mixed-use development in Rockville, MD. Pike and Rose consists of 450,000 square feet of ground floor retail, more than one million square feet of office space, 1,500 residential units, and 250,000 square feet of hotel space on a 24-acre site that is walking distance to the Washington Metropolitan Area Transit Authority's Red line.

The project vision is a premier destination for shopping, dining, living, and working in a transit- oriented district.

Developed by Federal Realty Investment Trust and selected by the Washington Business Journal as Best Real Estate Deal in 2014, the client's values are front and center. A bank of solar panels, which is Maryland's largest retail garage-top canopy, showcases green building to visitors.

A 17,000 sf rooftop farm provides fresh produce to neighborhood restaurants and residents who can sign-up for a farm membership to receive fresh weekly produce.

Pike and Rose replaced 23 acres of asphalt with 21,000 cubic feet of green roof space and on-street bio-retention,

capable of treating 100% of storm water. Outdated low-rise retail was replaced by LEED Silver certified mid-rise buildings.

LEED ND provides a common language focused on sustainability for all downstream agreements and fit-outs. The through-line brings each building, curated retailer, and visitor into a common Pike and Rose experience of environment and community.

Paladino is also the commissioning authority, and oversees commissioning of HVAC, plumbing, lighting, and lighting controls.

# EXPEDIA CAMPUS SEATTLE, WA

LEED NC  
Salmon Safe  
WELL

Cognitive function

Flexibility & Collaboration

Learn and Test culture



The HQ project includes the conversion and expansion of an existing office campus on 40 acres of waterfront property.

The conversion transforms a former bio-medical facility into more than 800,000 sf of collaborative office space; and the addition contributes 200,000 sf of executive space.

This project vision is an investment in people. It is a campus tailored to Expedia, set in a landscape unique to Seattle and the tech world. The HQ is a platform to stand on as Expedia transforms the travel industry.

The values are based on core tenets: Staff harness a passion for travel through a test-and-learn culture, driven by cognitive function, curiosity, and delight; with a program optimized for flexibility and collaboration.

The entry emulates a forest, incorporating native plant and tree species. Employees and visitors see a sculptural landform that sweeps into a flowing water feature, and are greeted by panoramic views of the Puget Sound just beyond the terraced Great Lawn, which is large enough to host a full-scale soccer match. Adjacent to the Great Lawn is a pebble and dune landscape that mimics the

native shoreline typology that once skirted the waterfront campus. Spaces scale from intimate flowering courtyards to a vegetated amphitheater large enough to host the entire Expedia team.

The validation strategy reflects the project complexity. Salmon Safe aligns with an upland project location and the owner's commitment to impact reduction. LEED NC was selected for the vertical development to align to industry practice. Selected aspects of the WELL standard were adopted to align with Expedia's human performance goals across its diverse workforce.



# Conclusion

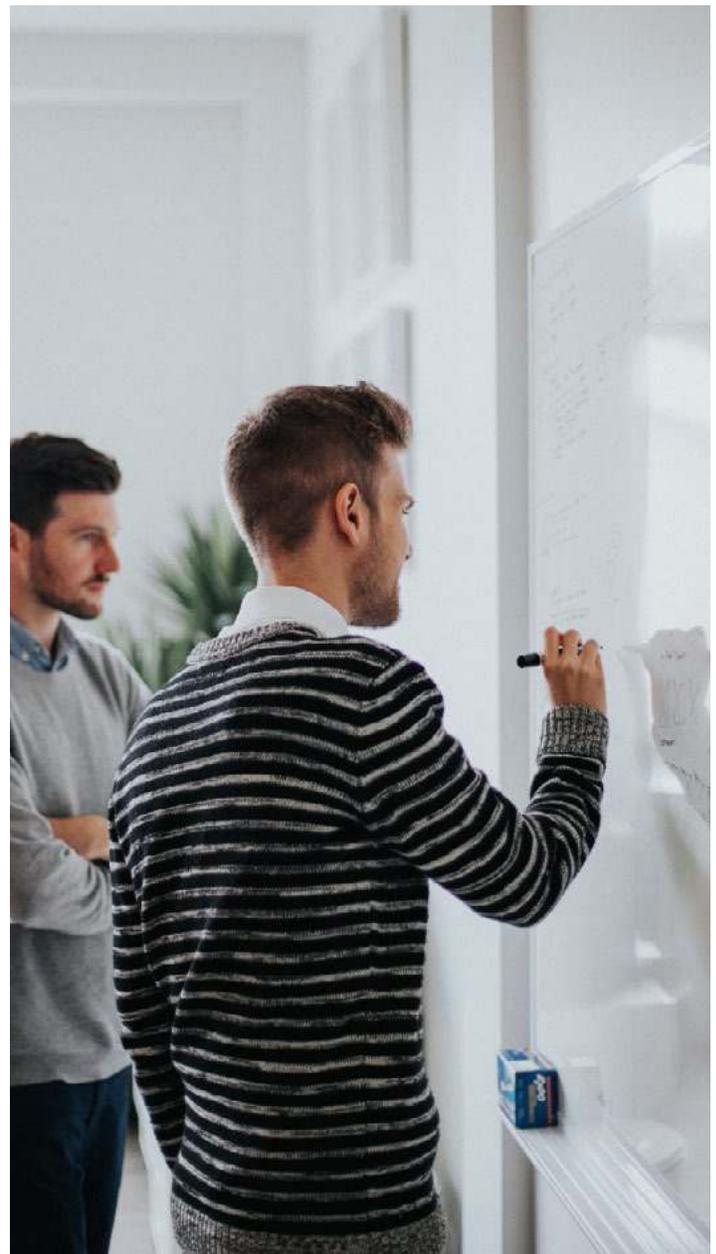
Verifying Sustainability Success

Master plans are only as good as their vision. A master plan describes the preferred future of a community, and it is the embodiment of the values of that community. If a city envisions its future as an industrial hub, then it's establishing its values around industry and growth. If a healthcare company envisions its future as a destination for personalized medicine, then it's establishing its values around health, wellness, and technology. This is why each master plan is so unique.

Your trusted team of experts must produce enduring and sustainable options that link to the project vision with solutions that are based on the goals of the community and that can hold the intersection of business, design, and the environment over time. Master plans grounded in values and delivered through an explicit decision support structure have the highest probability of delivering results and realizing returns on the master plan investment.

The right certification strategy provides validation and proof of concept to the developer, which in turn supports an authentic story and positive community engagement. And it has the critical benefit of bolstering decision-making throughout the master planning effort and vertical development.

Setting the vision with sustainability values in mind, creating enduring guidelines, and back-checking master planning outcomes through third-party validation is a recipe for master planning success.



# Sample

## Scope of Work

One challenge faced by developers and master planners is that there is no industry-standard scope of work for sustainability consultants. This is the minimum scope for a sustainability consultant on a typical master planning project.

### Task 1: Sustainability Strategy

The consultant will establish the sustainability vision for the project. Deliverables include:

- Market scan – establishes baseline expectations for the project; identifies competitors and potential team members
- Eco-charrette - working with the project stakeholders to determine the vision for the project. A half or full day session that focuses on the ideal results of the master plan and puts language to goals
- Project brief – assembles vision, core tenets and validation expectations into a cohesive story – the core concepts that will drive sustainability decisions

### Task 2: Concept Development

The consultant works with the design team to produce design concepts, the guiding narrative, and measurable outcomes of the sustainability program. Deliverables include:

- Concept look book – precedent and analysis demonstrate the engagement with values that can create value for the targeted stakeholders; a kit of parts that the vision, and can achieve certification goals
- Project requirement matrix – set of defined performance criteria; the must-haves in a format legible to all stakeholders

### Task 3: Certification Management

The consultant is responsible for the selection and implementation of the master plan validation strategy. Deliverables include:

- Rating system selection – comparative alignment of sustainability, wellness, and resiliency frames to value creation strategy
- Gap analysis - identifies performance and content gaps to achievement of certification
- Documentation - collect and prepare documentation required by selected program
- Submittal - use the tools and processes required by certifier request the certification

### Task 4: Performance Criteria

The consultant will provide a clear outline of build-out validation that is required of various design teams as they develop the parcels within the master plan. Deliverables include:

- Performance criteria - create a simple set of future requirements that can be provided to new team members as the design of parcels and phasing advances.
- Testing and verification – a field plan for active testing and verification of all critical systems delivering ongoing performance and results

# Learn More:

## About Paladino and Company

With offices in Seattle, Austin, and Washington DC, Paladino and Company is a green building consulting firm that operates at the intersection of business, design, and sustainability. This is achieved through rigorous analysis and abundance thinking as a driving force for change.

We help organizations to improve the design and operations of their buildings to minimize costs, increase profitability, and enhance employee satisfaction by operating under a three-part framework:

- Abundance drives us to identify resources that are readily at hand, and to employ them to the best possible effect.
- Attitude: Our team has the experience and instincts to create change, bring people into the journey, and challenge conventional thinking.
- Analytic rigor that delivers an industry-leading program of exemplary quality by raising the bar, in an implementable and cost effective manner.

With more than 2,000 green projects internationally, including more than 745 LEED certified buildings, Paladino serves architects, developers, and owners in industries including commercial real estate, higher education, hospitality, industrial, multifamily, and mixed-use.

Contact us to make a difference in your business, buildings, and people through your real estate.

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Download our white paper about value-based sustainability  
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# Paladino<sup>•••</sup>

## Do something amazing!

