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Practical Sustainability for Affordable Housing: A Culturally Grounded and Feasibility-Oriented Framework for the Mangrove Site in Little Tokyo

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PRACTICAL SUSTAINABILITY FOR AFFORDABLE HOUSING

A CULTURALLY GROUNDED AND FEASIBILITY-ORIENTED
FRAMEWORK FOR THE MANGROVE SITE
IN LITTLE TOKYO

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Disclaimer

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Executive Summary

The Mangrove site is a 4.1-acre city-owned parcel at 1st Street and Alameda Street in Little Tokyo, Los Angeles. Currently a surface parking lot, it is one of the last large publicly owned undeveloped sites in a neighborhood that has endured decades of displacement pressure and redevelopment conflict. This capstone, developed in partnership with the Little Tokyo Service Center (LTSC), asks a focused, practical question: How can the planning and development of the Mangrove site advance a feasible sustainability strategy that is grounded in Little Tokyo's cultural values while meeting environmental and resilience goals?

The research uses a practice-oriented, qualitative design: semi-structured interviews with LTSC staff and external experts (including Walker Wells, Ken Chawkins, and Mark Oberholzer of KTGy), a food waste survey of local businesses, comparative case studies (Sustainable Chinatown, ROW DTLA, and others), and secondary data on utility consumption, solar potential, and green infrastructure performance. The analysis does not treat affordability and culture as constraints on sustainability; instead, it treats them as constitutive criteria.

Key Findings

Affordability defines sustainability. For LTSC and its partners, the highest-value outcomes of any green strategy are lower utility bills for residents and reduced operating costs for the organization. A strategy that cannot be maintained or that creates unpredictable long-term costs is not sustainable in this context.

Low-maintenance, proven systems are strongly preferred. Solar panels, shade trees, bioswales, permeable surfaces, and basic food waste collection rose to the top because they offer meaningful environmental benefit with manageable operational risk. Battery storage, biodigesters, and community gardens are conditional: valuable only when specific funding, governance, or participation conditions are in place.

Solar is feasible but not automatic. Utility data from two LTSC-managed properties in Little Tokyo (112 Judge John Aiso St and 353 E 1st St) show combined common-area electricity use of roughly 980 kWh/month. A modest 50 kW rooftop system would produce about 80,000 kWh/year under L.A. conditions, enough to fully offset common-area costs. Viability still depends on roof condition, incentive access (LADWP Solar Rooftops Program, etc.), and early engagement with city offices.

Waste strategies should start simple. The food waste survey and interviews consistently favor composting over biodigestion for the near term. Biodigesters are rare, resource-intensive, and dependent on consistent resident behavior; basic food waste collection and community composting are more realistic first steps.

Cultural alignment is a practical filter. In Little Tokyo, values such as resource stewardship, mottainai (avoiding waste), community responsibility, and long-term thinking shape which strategies are accepted, used, and maintained. Sustainability that feels foreign or opaque tends to fail, regardless of technical merit.



District-scale sustainability is a phased aspiration. Shared composting networks, microgrids, and district energy infrastructure remain meaningful long-term goals. The most appropriate near-term role for Mangrove is as a sustainability anchor: build feasible site-scale systems first, and design them to be extensible later.

A Three-Tier Framework

Tier 1 – Immediate and most feasible

Solar panels (sized to offset common-area loads), shade trees and low-maintenance planting (including productive species like yuzu), bioswales, permeable surfaces, and basic food waste collection/composting. These strategies are affordable, operationally manageable, culturally legible, and directly applicable toward LEED certification.

Tier 2 – Conditional or pilot strategies

Solar battery storage, community gardens, and shared emergency resilience amenities (cooling, backup power). These are worth pursuing when specific enabling conditions exist (e.g., favorable incentive stacking, clear long-term stewardship for gardens, or documented resident demand). They should not be built into the base plan without those conditions confirmed.

Tier 3 – Long-term district-scale opportunities

District composting network, shared microgrid / energy infrastructure, and biodigestion. These connect Mangrove to the broader Sustainable Little Tokyo vision. The project should be designed to allow future plug-in, but these are not near-term implementation priorities.

Recommendations for LTSC and Future Partners

Treat sustainability as a design priority from the start. Roof structure, drainage layout, and waste access must be decided early; retrofitting is far more expensive.

Use the tiered framework in RFP and funding conversations. It communicates honest priorities, distinguishes near-term commitments from conditional aspirations, and strengthens grant applications (e.g., HUD Green and Resilient Retrofit Program, California Transformative Climate Communities).

Do the enabling work early. Roof condition assessment, LADWP engagement, and partnership development for district composting should run in parallel with design.

Stay honest about phasing. Mangrove does not need to solve every sustainability problem at once. It needs to begin in a way that is financially realistic, operationally durable, and culturally grounded.



Conclusion

For the Mangrove site, the right sustainability approach is not the most technologically ambitious. It is the one that lowers costs, fits the community, and can be maintained for decades. This report provides a framework for making those choices – for LTSC, future residents, and the neighborhood they will call home.



Introduction

Project Background

The Mangrove site is a 4.1-acre city-owned parcel at the intersection of 1st Street and Alameda Street in Little Tokyo, Los Angeles. It currently operates as a surface parking lot and stands as one of the last large publicly owned undeveloped parcels in the neighborhood. Given its scale, ownership status, and location within a historically significant urban district, how the site gets developed will carry real consequences for Little Tokyo's planning future.

This capstone project was developed in partnership with the Little Tokyo Service Center (LTSC), a nonprofit community development organization serving as the project client. The scope of work was formalized through a client-student agreement and frames the project as a planning and research effort aimed at informing the sustainability and resilience direction of future development at the site. More specifically, the project is meant to support LTSC and its City partners as they work through the site's forthcoming Request for Proposals (RFP) process and the broader planning decisions that will follow.

Problem Statement

The central challenge this project takes on is not whether sustainability belongs at the Mangrove site. Most stakeholders agree that it does. The harder question is how sustainability should be defined and applied within the real constraints of an affordable housing development on publicly owned land. The site is subject to City procurement procedures, located in a culturally significant neighborhood with active community institutions, and expected to meet climate and environmental goals. Taken together, these conditions make Mangrove a more complex planning problem than a conventional housing project.

Existing planning frameworks tend to treat environmental performance, cultural identity, affordability, and governance as related but separate concerns. As the literature review in this report discusses, there is still a meaningful gap in scholarship and practice when it comes to integrating these issues within the specific context of a city-owned site moving through an RFP and land disposition process. That gap matters here because Mangrove cannot be planned through technical design alone. It also has to work within a public land process and remain aligned with the long-term mission of a nonprofit developer operating under genuine fiscal and operational constraints.

In response to what the research kept showing, the scope of this study was narrowed over time. The project moved away from a broad inquiry into sustainability, resilience, and cultural identity in general, and toward a more focused question about which strategies are feasible, culturally grounded, and compatible with long-term affordable housing operations.

Research Question and Objectives

This report is organized around the following research question:



How can the planning and development of the Mangrove site advance a feasible sustainability strategy that is grounded in Little Tokyo's cultural values while meeting environmental and resilience goals?

The question keeps the cultural and environmental commitments of the original capstone framing while shifting more weight onto feasibility. That shift reflects where the methods, findings, and analysis actually landed — on priorities, constraints, and trade-offs rather than on what ideal design might look like under better conditions.

The report works toward four objectives.

The first is to identify sustainability strategies with genuine potential for an affordable housing development at Mangrove. Options including solar energy systems, composting and waste-based infrastructure, stormwater management, and site-level green infrastructure are evaluated through the lens of feasibility, maintenance demands, and appropriate scale rather than treated as equivalent alternatives.

The second is to examine how Little Tokyo's cultural values shape which sustainability strategies feel appropriate, legible, and meaningful to the community. Cultural continuity is treated here as a substantive planning consideration that affects program, design, and long-term stewardship, not as an aesthetic layer added after technical decisions are made.

The third is to evaluate the relationship between site-level strategies and broader district-scale possibilities. Earlier phases of the research considered systems that could extend beyond a single building, including shared waste processing, coordinated energy infrastructure, and expanded public-space programming. Case studies are used to assess which of these ideas might warrant further development and which are better understood as longer-term aspirations.

The fourth is to develop a practical planning framework that LTSC can use in future conversations about the site. The framework is intended to function as both a scholarly capstone and a client-facing planning document, consistent with the deliverables outlined in the client agreement.

Report Structure

Section 2 establishes the site and planning context, situating Mangrove within Little Tokyo's physical, cultural, and policy landscape. Section 3 presents the literature review, covering urban sustainability, climate resilience, affordable housing operations, cultural identity and placemaking, and governance, and ends with an account of the gap this project addresses.

Section 4 describes the research methods, including semi-structured interviews, comparative case studies, a food waste survey, and secondary data analysis, along with an explanation of how and why the research question evolved. Section 5 presents the core findings, organized around feasibility, long-term operations, cultural alignment, and the distinction between near-term and future-phase strategies. Section 6 analyzes what those findings mean for Mangrove and for practical sustainability in affordable housing more broadly.



Section 7 closes the report with recommendations and a proposed three-tier sustainability framework, identifying which strategies are most viable now, which require further study or partnership, and how LTSC can put this work to use in upcoming planning and development discussions.



Site and Planning Context

Little Tokyo as a Cultural and Community Context

Little Tokyo is one of the few remaining Japanese American urban cultural centers in the United States, and the Mangrove site sits at its heart. This matters for how any development proposal gets evaluated. Building on this site is not simply a question of land use efficiency or housing production. It also asks whether new development can sustain the cultural identity, collective memory, and daily community life that Little Tokyo's residents and institutions have worked to hold onto across generations.

The neighborhood has absorbed prolonged redevelopment pressure, including mid-century urban renewal policies that displaced residents and tore through its physical fabric. That history did not erase Little Tokyo. The neighborhood has kept its cultural continuity through community institutions, shared public spaces, and practices passed down over time. But history is present in how people read new proposals. For many stakeholders, a project at the Mangrove site is not a neutral infill opportunity. It is a test of whether large-scale development can happen in Little Tokyo without repeating what came before.

That history also changes what sustainability means in this context. Environmental strategies here are not judged only on energy savings or emissions performance. They are also weighed against whether they generate community utility, activate public space, and make sense within the neighborhood's cultural life. Green infrastructure cannot just function as a technical system. It has to be accepted, used, and maintained by the people who actually live and work on-site. Throughout this report, cultural grounding is treated as a planning requirement on equal footing with environmental and financial ones.

Planning and Development Context

The Mangrove site is a 4.1-acre city-owned parcel at the intersection of 1st Street and Alameda Street, currently a surface parking lot. As one of the last large publicly owned undeveloped parcels in Little Tokyo, what gets built there will carry weight well beyond the site itself.

Because the land is publicly owned, any development has to move through the City's Request for Proposals process. That shapes the project from the start. There is no open design slate here. Future proposals will need to navigate City procurement procedures, satisfy zoning and building code requirements, and meet the financial and programmatic conditions tied to affordable housing development. For LTSC, this means that sustainability ambitions have to be grounded in what is actually achievable within that process, not only what would be ideal in the abstract.

This institutional reality pushed the research in a particular direction. Early on, it became clear that a framework built primarily around technological innovation would not hold up in this context. The analysis shifted toward a model that weighs community-driven priorities, financial viability, and operational feasibility together. That shift is examined in more detail in the Methods section.



Sustainability Policy Context

Any future development at Mangrove will operate within a policy environment that sets clear baseline expectations. Los Angeles's Green Building Code, the LA Green New Deal, and Title 24 energy performance standards together establish a minimum threshold of environmental performance for large-scale projects, covering energy efficiency, water conservation, and building system performance. These are not optional considerations for LTSC and its development partners. They define the floor that any proposal has to meet before other sustainability goals come into play.

Beyond those baseline requirements, several additional programs are worth noting. The LADWP Solar Rooftops Program and the Cool Roofs Ordinance offer potential pathways for solar integration and heat adaptation at the site. This report treats them as relevant background rather than confirmed implementation tools, since their applicability will depend on roof conditions, feasibility assessments, and funding arrangements that go beyond the current scope of the study.

The LA River Revitalization Master Plan adds another layer of ecological context. The site sits within a few blocks of the Los Angeles River, which creates some potential connections to stormwater management, surface permeability, and green corridor thinking. This report takes river proximity into account as a contributing factor in site-level green infrastructure decisions, without treating it as a central organizing principle for the project.

Why Context Shapes the Analytical Framework

The cultural, institutional, and policy conditions described in this section set the terms for what sustainable development at Mangrove actually requires. Little Tokyo's history calls for development that responds to belonging, continuity, and community use. The public land and RFP process call for procedural compliance and demonstrated feasibility. The affordable housing mission calls for keeping long-term operating costs, maintenance demands, and resident utility burdens at the center of every decision.

Taken together, these conditions explain why this report evaluates sustainability strategies through priorities, constraints, and trade-offs rather than through a broad inventory of available options. The literature review that follows examines where existing scholarship supports this kind of integrated thinking and where it still falls short.



Literature Review

Urban Sustainability and Climate Resilience at the Site and Neighborhood Scale

Much of the scholarship on climate adaptation has focused on citywide targets and regional policy. But the effects that matter most to daily life tend to play out at the neighborhood and site scale, where design decisions shape what people actually experience. Little Tokyo fits this pattern. As a dense downtown district with limited tree canopy, largely impervious surfaces, high energy demand, and significant exposure to urban heat, it presents conditions that make climate resilience a functional design requirement rather than an aspirational one.

Olsen's (2015) study of urban design strategies for climate adaptation in Los Angeles offers a useful starting point. She identifies tree canopy expansion, high-albedo and reflective materials, permeable paving, and passive ventilation as site-level interventions with measurable effects on heat island reduction and pedestrian comfort. She also makes a point that carries weight for Mangrove: cooling design elements, when properly integrated into a site, tend to do more than reduce heat. They create space for community use, linking environmental performance to social life in ways that purely technical infrastructure cannot. For LTSC, this suggests that climate-adaptive design at the site does not have to be understood as a separate technical layer. It can serve as the physical foundation for shared outdoor life at the same time.

Schultz (2012) extends this line of thinking to the district scale through his work on EcoDistrict planning. Where Olsen focuses on individual sites, Schultz argues for understanding sustainability as a collective infrastructure network, one in which buildings, public spaces, and utility systems function as interdependent parts of a shared system for managing energy, water, and waste. The Mangrove site could eventually serve as a node in a broader ecological network connecting adjacent affordable housing developments, shared stormwater infrastructure, and district-scale renewable energy. Schultz is careful to note, though, that EcoDistricts depend on sustained institutional coordination among multiple partners and public agencies. That caveat is directly relevant here: whether any district-scale ambition at Mangrove is achievable will depend heavily on LTSC's capacity to build and maintain those relationships over time.

The *Green Values Strategy Guide* (Center for Neighborhood Technology, 2020) adds a practical layer to these frameworks by providing methods for translating environmental investments into quantifiable community co-benefits. Bioswales, rain gardens, permeable pavements, and shaded corridors are evaluated not only for ecological performance but for what they contribute to heat reduction, pedestrian comfort, energy savings, and community health. For LTSC, this kind of framing offers a concrete rationale for sustainability spending, one that can support RFP submissions and strengthen grant applications aligned with the City's Green New Deal priorities.

What runs through all three of these frameworks is a shared premise: environmental sustainability tends to last only when it is embedded in the social and cultural life of the communities it serves. Strategies work best when



they are legible, usable, and maintained by the people who live with them. That premise connects the climate resilience literature directly to the cultural and governance questions taken up in the sections that follow.

Affordable Housing, Energy Burden, and Long-Term Operations

A second strand of literature reframes sustainability not as a design aspiration but as a financial and operational necessity for affordable housing. Energy costs consume a disproportionate share of household income for low-income residents, making utility burden a direct affordability problem rather than a secondary environmental concern. Green design in affordable housing, this literature argues, has to be judged not only by how it performs environmentally but by whether it actually reduces long-term costs for residents and the organizations managing their homes.

Jeddi Yeganeh, McCoy, and Hankey (2019) show that green affordable housing, when well designed and properly supported through incentives, can lower both emissions and operating expenses over time. Passive cooling, enhanced insulation, and renewable energy integration contribute to housing stability in ways that go beyond meeting code requirements. For LTSC, the implication is practical: sustainability investments at Mangrove should be evaluated in part by whether they will reduce utility burden on future residents and keep long-term operational demands manageable for a nonprofit property manager.

Kim and Eisenlohr (2022) take this argument further through their case study of Rolland Curtis Gardens in South Los Angeles. Their analysis shows that long-term affordability and environmental performance depend not only on how a building is designed but on the governance structures that surround it. At Rolland Curtis Gardens, the community land trust model, which separates land ownership from housing management, gave residents ongoing participatory involvement in decisions about shared resources. A direct CLT model may not translate to Mangrove given its city-owned status and RFP framework, but the underlying point carries over: the governance arrangements around sustainability systems matter as much as the systems themselves. A green technology that demands specialized maintenance or generates unpredictable replacement costs can quietly erode the affordability it was supposed to support.

Taken together, this body of work makes a broader claim about what durable affordable housing requires. It is not only housing that scores well on energy metrics. It is housing that supports stable tenancy, shared community life, and long-term cultural belonging. That dimension of affordability links the operational literature to the cultural and placemaking concerns addressed in the next section, and it supports one of the central arguments of this report: that feasibility and affordability have to be treated as sustainability criteria in their own right when evaluating what makes sense for Mangrove.

Cultural Identity, Placemaking, and Culturally Grounded Sustainability

A third strand of literature, and the one most distinctive to this project, concerns the relationship between cultural identity and sustainability practice. Mainstream sustainability frameworks tend to treat culture as an aesthetic variable, something added to a project after the technical decisions have been made. The literature



reviewed here supports a different position, one in which cultural values function as substantive criteria that shape which strategies are appropriate, legible, and capable of earning genuine community investment.

Little Tokyo makes this argument concrete. As one of the few remaining Japanese American urban cultural centers in the United States, the neighborhood has held onto its identity through decades of displacement pressure, redevelopment conflict, and demographic change. The *Sustainable Little Tokyo Vision Plan* (Mithun & LTSC, 2013) captures the community's effort to articulate a development vision in which cultural continuity and ecological care reinforce rather than compete with each other. The Vision Plan calls for development that expresses Japanese American values through built form and programming: craftsmanship, simplicity, attentiveness to nature, shared public life, and the careful stewardship of resources.

These values have direct implications for which sustainability strategies make sense at Mangrove. The Japanese concept of *mottainai*, a cultural orientation toward resource respect and the avoidance of waste, offers one example. A composting or food waste reduction program designed with this value in mind is not simply a technical efficiency measure. It is a form of community practice that fits naturally within existing cultural norms. Shared courtyards, edible landscapes, and visible environmental systems can work in similar ways, serving simultaneously as ecological infrastructure and as settings for the community events, collective maintenance, and intergenerational exchange that keep cultural life going. The San Francisco Planning Department's *Strategies for a Sustainable Chinatown* (2023) offers a comparable example from a heritage district facing development pressures not unlike those in Little Tokyo.

One interpretive caution deserves mention. This report does not argue that cultural values map automatically onto specific design solutions, or that Japanese aesthetic references should be applied as surface branding. The more careful claim is that cultural grounding shapes which sustainability systems feel appropriate, practical, and worth maintaining to the people who will live with them. Systems that align with existing values and daily practices tend to get used and kept up. Systems that do not tend to fall into disuse regardless of their environmental logic. That distinction, between culture as a genuine planning filter and culture as decorative overlay, runs through the analytical framework developed later in the report.

Governance, Feasibility, and the Institutional Context of Public Land

A fourth strand of literature addresses the governance and feasibility conditions that determine what is actually achievable at Mangrove. Much of the scholarship on urban sustainability and cultural placemaking was developed with projects that have considerable design autonomy in mind. The Mangrove site operates under a different set of conditions, those specific to city-owned land moving through a public RFP and land disposition process.

The Los Angeles Green Building Code, the LA Green New Deal, and Title 24 energy performance standards establish the regulatory baseline for any large-scale development in the city. These are not optional frameworks. They represent the minimum performance threshold any future proposal for the Mangrove site will have to meet. Additional programs, including the LADWP Solar Rooftops Program and the Cool Roofs Ordinance, offer further pathways for renewable energy integration and heat adaptation, though their applicability will depend on site-specific assessments and funding arrangements. California SB 79 (2025), which enables higher residential



density near transit when linked to affordability and sustainability commitments, adds another potential lever given the site's proximity to Metro rail.

Funding alignment is equally important. Federal and state programs such as HUD's Green and Resilient Retrofit Program and California's Transformative Climate Communities initiative create financial incentives for developments that link environmental performance with equity outcomes. For LTSC, these programs represent real funding possibilities, but they also require that the project's sustainability strategy be coherent and well-documented enough to satisfy grant reporting and compliance requirements.

What this governance literature reinforces, across all of its different pieces, is that sustainability at Mangrove is as much an institutional question as a design one. It requires navigating procurement procedures, meeting regulatory requirements, accessing layered funding, and sustaining the organizational capacity of a nonprofit developer over the long term.

The Gap This Project Addresses

Each of the four strands reviewed here contributes something useful. Climate adaptation scholarship clarifies what site-scale and neighborhood-scale design can accomplish. Green affordable housing research connects environmental performance to financial and operational realities. Cultural placemaking literature shows why identity and belonging belong in sustainability conversations. Governance and policy analysis establishes the institutional terrain within which any proposal must work.

What the existing literature rarely does is hold all of these concerns together in a single case. Environmental performance, cultural vitality, operational feasibility, and governance capacity tend to be treated as parallel topics, related in principle but examined separately. Very few studies look at how these factors interact when they all have to be addressed at once, within one site, by one organization working under genuine fiscal and procedural constraints.

That is the space this project occupies. The Mangrove case is not a study of urban sustainability in general, nor a study of Little Tokyo's history in isolation. It is an attempt to work through what happens when environmental goals, cultural values, affordability requirements, and public land governance all land on the same parcel at the same time, and to ask what a planning framework has to look like if it is going to take all of them seriously.



Methods

Research Design

This project uses a practice-oriented research design that combines qualitative inquiry with targeted feasibility review. The goal is not to produce a final architectural design or engineering proposal. It is to identify which sustainability strategies are most appropriate for the Mangrove site given the conditions of affordable housing development, community priorities, and a forthcoming public land disposition process. From early on, it became clear that a technology-driven planning model would not serve this purpose well. The research oriented instead toward a framework built around community priorities, financial viability, and operational feasibility.

That orientation also reflects the project's applied purpose. The client-student agreement frames this capstone as a tool to support LTSC and future City discussions, not only as an academic exercise. The research was therefore built to do two things at once: develop a conceptual framework grounded in literature, policy, and cultural context, and test whether proposed strategies hold up under likely development, maintenance, and governance conditions. Most planning work happens in the space between pure description and pure technical analysis, and this project tries to occupy that space honestly.

The project draws on four main sources of evidence: semi-structured interviews, a food waste survey, secondary datasets and technical references, and comparative case studies. These were not run as separate exercises. They were used together to work toward a shared question: which sustainability strategies appear environmentally meaningful, culturally grounded, and operationally feasible for a future affordable housing development at Mangrove.

Scope Adjustment and Research Refinement

The research question changed over the course of the project, and that change is worth explaining. The original framing asked broadly how the Mangrove site could integrate sustainability, resilience, and cultural identity within Los Angeles's land-use and policy context. That framing was useful for mapping the terrain, but it turned out to be too wide to support the kind of focused, actionable analysis this report needed to produce.

The revised question asks how the planning and development of the Mangrove site can advance a feasible sustainability strategy grounded in Little Tokyo's cultural values while meeting environmental and resilience goals. The cultural and environmental commitments of the original framing are still there, but they now sit within an explicit focus on feasibility and long-term operations. This is not a narrowing of ambition. Sustainability recommendations that cannot be tested against real constraints are not particularly useful, and the scope adjustment was a way of making the research more honest about what it could actually deliver.



The adjustment also changed how each method was used. Interviews shifted from generating an open-ended list of sustainability themes to validating priorities, surfacing constraints, and examining trade-offs. The food waste survey moved away from building a case for any particular technology toward testing whether waste-based strategies deserved further consideration at realistic scales. Case studies were no longer approached as models to replicate but as sources of governance and implementation principles. Taken together, these changes brought the research closer to the kinds of decisions LTSC and future development partners will actually face.

Semi-Structured Interviews

Semi-structured interviews were the primary qualitative method for this project. Participants came from three groups: LTSC staff involved in housing operations, sustainability planning, asset management, or community engagement; external experts with relevant technical or policy knowledge; and practitioners connected to comparable case study projects. Selection focused on people with firsthand knowledge of the Mangrove site or closely related development decisions, reached through the client relationship and targeted professional outreach.

The interview design was built around real development constraints rather than general sustainability preferences. Conversations covered three main areas: which strategies appear realistically feasible given site conditions and organizational capacity; which proposals face significant barriers related to cost, maintenance complexity, or community acceptance; and how organizations like LTSC handle situations where cultural mission and technical system requirements pull in different directions. The goal was a grounded reality check on the strategic options under consideration, not a broad survey of sustainability opinion.

Participant Selection

Participants were selected for depth and relevance rather than breadth. The focus was on people whose roles gave them direct exposure to the planning, financial, or operational side of affordable housing sustainability in comparable contexts. Where possible, the selection included a range of institutional perspectives, covering community development, technical consulting, and public agency experience, to make sure the interview data reflected the full range of constraints relevant to Mangrove.

Interview Themes

Questions were organized around three areas: sustainability priorities and how they fit with LTSC's organizational mission and community values; feasibility constraints including capital cost, maintenance burden, technical complexity, and staff capacity; and trade-offs across energy, water, waste, and green infrastructure. Questions were open-ended but designed to push participants toward concrete assessments rather than general observations.

Coding and Thematic Analysis

Interview data were analyzed through thematic coding organized around cultural values and mission alignment, feasibility constraints, and system-level priorities across energy, water, and waste. Rather than treating each



interviewee's perspective as a separate data point, the analysis looked for patterns of convergence and tension across participants. The aim was to move from raw qualitative content toward defensible strategy prioritization, translating what stakeholders said into planning guidance that could actually be used.

Food Waste Survey and Waste Feasibility Input

A food waste survey of local businesses in the Little Tokyo area was conducted in partnership with LTSC. It collected data on waste type, generation frequency, and willingness to participate in shared collection or processing arrangements. Open-ended responses added context on attitudes toward centralized waste infrastructure and likely sources of resistance.

The survey had a deliberately limited role in the research. It was not designed to make the case for any specific technology. Instead, it served three narrower purposes: testing whether waste volumes from participating businesses were large enough to support a shared processing system; determining whether a meaningful participation base exists for district-level waste infrastructure; and establishing whether waste-based strategies warranted further feasibility work. These are the kinds of questions that often go unasked in sustainability planning, where strategies get discussed at a conceptual level long before anyone checks whether the feedstock volumes or participation rates are actually there. Running even a preliminary survey added some empirical discipline to a part of the analysis that could easily have stayed speculative.

Secondary Data and Technical Context

Secondary datasets and technical references were used to check whether proposed sustainability systems are reasonably sized for the Mangrove site. Sources included average water and electricity consumption figures from comparable residential and commercial contexts, city-level indicators covering urban heat island data, solar potential estimates, and water stress, and regulatory and program documentation from the City of Los Angeles and LADWP.

The purpose was not to build an engineering model. It was more targeted than that: comparing likely site-level capacity and demand, estimating the potential for load reduction or renewable contribution, and ruling out options whose scale or operational complexity made them unrealistic for this context. In practice, electricity data informed solar offset estimates, waste volume data tested the plausibility of district-scale processing, and green infrastructure references supported preliminary assessments of canopy coverage and cooling potential. These inputs function as rough but credible checks on the scale and burden of candidate strategies, providing some empirical grounding for the prioritization claims made later in the report.

Comparative Case Studies

Comparative case studies were used to draw out transferable governance and implementation lessons from projects facing conditions similar to those at Mangrove. The cases examined include the Sustainable Little Tokyo Vision, ROW DTLA, the San Francisco Planning Department's Sustainable Chinatown framework, and several affordable housing developments with integrated sustainability components. Selection followed from a principle



established in the literature review: in culturally significant urban districts, sustainability tends to depend less on which technologies get selected and more on governance structure, community framing, and whether environmental systems become genuinely embedded in everyday life.

The analysis looked at three things across cases: governance structure and institutional arrangements; approach to cultural integration and community ownership; and how projects have managed long-term operations as funding, staffing, and community needs have shifted over time. Sustainable Chinatown shows how environmental planning can connect to cultural continuity and community ownership in a heritage district under gentrification pressure. ROW DTLA offers lessons on phasing, financial realism, and operational governance in a complex mixed-use context. None of these cases is treated as a template. Each operates under its own ownership, financing, and community conditions. They are used as reference points that help clarify what planning and governance arrangements are most likely to make sustainability last at a site like Mangrove.

Analytical Framework

The report uses an integrated analytical framework to evaluate candidate strategies across several dimensions at once. Environmental performance, cost, and cultural fit are all considered, but no single criterion drives the assessment on its own. The framework applies a triple lens covering financial feasibility across the project lifecycle, measurable environmental performance relative to site conditions, and cultural and operational acceptability within the specific context of Little Tokyo and nonprofit affordable housing.

In practice, each strategy gets evaluated against four questions. Can it meaningfully reduce environmental burden or improve resilience at Mangrove? Can it be implemented and sustained within the financial and operational constraints of affordable housing development, including maintenance, staff capacity, and replacement costs over time? Does it fit Little Tokyo's cultural values and community practices well enough to support acceptance, everyday use, and long-term stewardship? And does it remain viable within the procedural logic of city-owned land development and a nonprofit management structure?

The underlying premise is that feasibility is not a constraint imposed on sustainability goals from outside. It is part of what sustainability means. A strategy that cannot be maintained, funded, or accepted by the community it is supposed to serve has not produced a sustainable outcome, whatever its technical specifications say. That premise runs through the findings and recommendations that follow.

Limitations

A few limitations are worth being clear about. This study is not a final site design, engineering assessment, or financial pro forma. It identifies and compares strategies across defined criteria but does not resolve the detailed technical and design questions that belong to later phases of the development process. Some policy and program references may also need verification before they can be treated as confirmed implementation pathways for a future project at Mangrove.

The research relies on targeted interviews and early survey data rather than large-sample quantitative methods. The findings are applied planning evidence, developed rigorously within their scope, but they are not meant to



support statistical generalization. Some strategies explored in earlier phases of the project remain more conceptual than others, and the scope adjustment described in Section 4.2 is a direct response to that: it reorients the analysis around near-term feasibility and maintains a clear distinction between what is actionable now and what belongs to a later phase.

None of this diminishes what the report sets out to do. It is designed to support strategy prioritization, planning discussion, and development framing for the Mangrove site, not to replace the architectural, engineering, and financial work that will need to follow.



Findings

Sustainability Is Defined First Through Affordability and Operations

The most consistent finding across this project is that sustainability in affordable housing gets evaluated first through affordability and long-term operational stability. A clear priority order came through in interviews and stakeholder synthesis. Reducing utility costs for residents, like electricity, gas, and water, was identified as the highest-value outcome. Reducing LTSC's own operating expenditures came next. Reliability and safety mattered too, but they came up in connection with cost predictability rather than as separate goals. That ordering reflects something real about how nonprofit affordable housing works: long-term operational sustainability and financial viability are the same problem.

The pattern held across multiple sources. Conversations with LTSC, Walker Wells, and KTGy all pointed in the same direction: sustainability strategies need to reduce long-term operating costs and stay manageable within the staffing and budget constraints of affordable housing operations. Environmental performance has become more of a baseline expectation in policy and funding contexts, but meeting environmental targets still has to be compatible with operational affordability. What the evidence shows is not a tension between sustainability and affordability as competing priorities. It shows that in this context, affordability is part of how sustainability gets defined.

That finding shaped how the rest of the analysis was structured. Affordability, reliability, low maintenance burden, and long-term operational stability recur across interview data and synthesis work as the primary criteria through which candidate strategies get evaluated. They are not background conditions. They are the filter.

Proven, Low-Maintenance Systems Are Preferred Over Complex Technologies

Stakeholders consistently favored simpler and more field-tested systems over technically complex alternatives. This is not a lack of sustainability ambition. It reflects a reasonable judgment that the value of advanced technologies tends to get offset by capital costs, maintenance demands, and performance uncertainty. This judgement matters particularly in affordable housing, where operational margins are thin and property management teams do not typically have deep technical expertise on staff.

LTSC staff described this concern directly. Solar battery storage, backup generators, and similar advanced systems were characterized as expensive, technically demanding, and hard to manage reliably over the life of a building. The worry was not just upfront cost but the ongoing burden these systems create for property management year after year. Other interviewees reinforced the same pattern. Solar panels came up as mature and widely deployed; battery storage as significantly more expensive and operationally demanding. Composting



was described as more practical and common than biodigestion. First costs were consistently named as a primary decision factor, and simple landscape strategies were preferred over systems that generate ongoing maintenance obligations.

What these judgments add up to is a useful distinction between two categories of strategy: those that are mature, low-maintenance, and operationally proven in comparable contexts, and those that are more conditional — potentially worth pursuing, but only when specific funding, technical, or participation conditions are in place. That distinction runs directly into the tiered framework in the recommendations section.

Solar Appears Feasible but Depends on Conditions

Solar energy came up across interviews as one of the more promising near-term strategies for Mangrove, but the evidence frames it carefully rather than as a straightforward recommendation. LTSC expressed real interest, citing potential energy savings and available subsidy programs. At the same time, the interviews described several conditions that have to be met before solar can be treated as a reliable planning assumption. Subsidy programs may cover panel installation without covering necessary prerequisites like roof replacement. Rooftop space is constrained by mechanical equipment and other technical requirements.

Utility consumption data from two LTSC-managed properties in the Little Tokyo area, 112 Judge John Aiso Street and 353 East 1st Street, provides a preliminary reference point for estimating solar offset potential at a comparable future development. Common-area electricity meters across the two buildings show a combined average of approximately 980 kWh per month, or roughly 11,800 kWh per year. Even a modest rooftop solar system in the range of 50 kilowatts would produce an estimated 80,000 kWh annually under local solar conditions, far exceeding the common-area load observed at existing LTSC properties. This suggests that solar panels at Mangrove could realistically offset common-area electricity costs in full, directly reducing LTSC's operating burden. Two caveats apply: the data covers common-area meters only and does not reflect whole-building consumption, and Mangrove's actual load will depend on building size, program mix, and mechanical system design. These figures should therefore be understood as directional evidence rather than design specifications.

Across interviewees, solar panels were consistently placed among the more feasible strategies under consideration, but no one treated them as a guaranteed solution. A financial and technical expert flagged additional enabling conditions: stacked financing, off-site funding sources, incentive programs, and early relationship-building with LADWP and relevant city offices. Practical site questions including roof condition, available roof area, and any restrictions specific to the downtown context, were also identified as factors that will materially affect what is actually achievable.

The utility data points toward a specific design principle worth carrying into future development discussions. Common-area offset should be treated as the financial foundation of any solar strategy at Mangrove, not its ceiling. The savings from covering common-area demand accrue entirely to LTSC and can be reinvested in property maintenance or broader community improvements — a direct and administratively clean benefit for a nonprofit operator. Distributing solar benefits to individual units is a separate and more complicated proposition: the per-unit savings would be modest, and doing it equitably requires metering systems, billing



coordination, and utility agreements whose administrative costs may outweigh the financial return. A larger system is still worth pursuing if roof conditions allow, since any generation beyond common-area needs can flow back to the grid through net metering or support future expanded use. But sizing the initial case for solar around common-area loads gives LTSC the clearest and most defensible financial argument for the investment. A roof condition assessment conducted early in the development process, combined with proactive engagement with LADWP's Solar Rooftops Program, would help determine what system size is achievable before larger design commitments are made.

Solar sits in an intermediate position as a result. It is not speculative the way less-tested systems are. But it also cannot be assumed. Its viability depends on a combination of technical suitability, incentive access, and funding strategy that will need project-specific assessment in the next phase of work.

Composting and Food Waste Strategies Are More Realistic Than Biodigesters in the Near Term

The waste-related research points in a clear direction: near-term waste strategies work best when they are simple, behaviorally manageable, and grounded in demonstrated participation. The food waste survey conducted as part of this project was designed to test the scale and feasibility of waste-based systems rather than to advocate for any particular technology. Waste infrastructure was treated as something that has to be earned through demonstrated feedstock volumes and actual participation, not assumed because the concept sounds promising.

Interview findings supported that cautious framing. LTSC expressed interest in food waste diversion and in connecting Mangrove to broader composting efforts in Little Tokyo, while also expressing measured skepticism about systems that have not been widely tested in similar housing contexts. Expert interviewees described composting as more common and operationally proven than biodigestion. Biodigesters were characterized as rare, resource-intensive, and highly dependent on consistent resident behavior and management capacity. That distinction matters in practice: composting can be implemented incrementally and adjusted over time, while a biodigester represents a larger upfront commitment with less room for error.

The evidence supports starting with food waste collection and basic composting infrastructure, building participation and operational capacity from there, and treating biodigestion as a possible long-term direction rather than an early priority. That progression fits what the survey and interviews showed, and it fits the broader lesson from the case studies: sustainable systems tend to last when they are phased into everyday community life gradually, not when they are deployed all at once.

Green Infrastructure Is Most Promising When Low-Maintenance and Multi-Use

Green infrastructure findings followed a consistent pattern: strategies that deliver multiple environmental and social benefits without creating heavy maintenance demands are the most viable. LTSC staff articulated this



directly. Practically functional and culturally aligned landscape design was preferred over ornamental approaches. Fruit-bearing trees were specifically favored over ornamental plantings because they provide food, community value, and cultural meaning while staying manageable over the long term. Yuzu came up as a species that is both low-maintenance and culturally resonant in a Little Tokyo context. Concerns were also raised about ornamental gardens that may look appealing but require more care than affordable housing operations can reliably sustain.

Other interviewees reinforced the same picture. Tree canopy expansion and permeable surfaces were identified as capable of delivering meaningful heat reduction and stormwater benefits with relatively low operational risk. Community gardens were acknowledged as potentially valuable but described as more dependent on long-term stewardship arrangements and sustained resident participation than other landscape options. The question that emerges from the evidence is not which green infrastructure is valuable and which is not. It is which strategies hold up across varying operational conditions and which require heavy ongoing investment to function at all.

Bioswales, shade trees, and permeable surfaces fall into the stronger near-term category: their environmental contributions are meaningful, their maintenance demands are predictable, and they benefit residents and visitors without requiring active participation to work. Community gardens are more conditional. They are worth considering, but only where governance arrangements and stewardship capacity are genuinely in place.

Cultural Alignment Functions as a Practical Filter, Not Only a Symbolic Frame

One of the more significant findings is that cultural alignment shapes which strategies get adopted and maintained over time, not just which ones feel symbolically appropriate. Treating culture as a design overlay leads to different choices than treating it as a criterion that affects whether systems genuinely fit the community they are meant to serve.

Several values came up consistently across interviews and the earlier literature: resource stewardship, community responsibility, long-term thinking, cleanliness, and a preference for practical rather than performative sustainability. These were not invoked as abstract ideas. They showed up as concrete planning implications. Composting as an expression of resource respect. Durable and proven systems as expressions of long-term thinking. Meaningful public space as an expression of community care. The concept of *mottainai*, a Japanese cultural orientation toward avoiding waste and treating resources with care, came up repeatedly as a framework that could give cultural weight to waste reduction strategies without requiring them to be justified on technical grounds alone.

The finding is not that cultural values determine specific design solutions. The more careful point is that strategies aligning with existing community values and everyday practices tend to gain acceptance, get maintained, and become genuinely embedded in community life. Systems that are technically invisible, hard to understand, or require behaviors that feel foreign to existing norms face higher adoption risk regardless of how well they perform on paper. That pattern informs how the analysis section evaluates which strategies are most likely to last.



District-Scale Sustainability Is Aspirationally Relevant but Requires Phased Realism

District-scale sustainability remains a meaningful aspiration for the Mangrove site, but the evidence supports a phased approach rather than full district infrastructure from the start. The case studies made this clear. Sustainable Chinatown shows how environmental planning can connect to cultural identity and community ownership in a heritage district. ROW DTLA shows how phasing, operational realism, and management planning determine whether sustainability commitments actually hold up over time. In neither case did technical ambition at launch explain long-term performance. Governance, sequencing, and integration into everyday life did.

The same tension came through in interviews. LTSC expressed genuine interest in expanding the Sustainable Little Tokyo initiative through shared composting or other district-scale infrastructure. Expert interviewees acknowledged the appeal of district systems including shared microgrids, coordinated water management, and integrated public resources. But those same interviewees were clear that most sustainability outcomes are still achieved at the building scale, and that district-level coordination requires institutional relationships, governance capacity, and funding arrangements that a single new development project cannot create on its own.

The evidence points toward a specific role for Mangrove: a district sustainability anchor that demonstrates near-term feasibility at the building and site scale while building the physical and institutional conditions that could support broader district coordination later. That is a more bounded role than treating the project as a complete district system from day one, but it is also a more honest and more durable one.



Analysis

From Technology-Driven Sustainability to Community-Driven Feasibility

What the findings of this project push toward is a different way of framing sustainability for the Mangrove site. Early-stage planning work often treats a longer list of green systems as evidence of greater ambition. The evidence here does not support that logic. The strongest patterns across interviews, stakeholder synthesis, and case study analysis point toward a feasibility-first model in which the value of any strategy is determined by whether it can stay functional, affordable, and maintained under the real conditions of nonprofit affordable housing development.

This is more than a narrowing of scope. It reflects a substantive conclusion about what sustainability means in this setting. Long-term maintenance demands, replacement cycles, staff capacity, resident behavior, and utility costs are not external constraints on sustainability goals. They are part of what sustainability means here. A system that performs well at installation but generates unpredictable costs, demands specialized maintenance expertise, or gradually falls out of use has not produced a sustainable outcome regardless of what its technical specifications say.

For Mangrove, this means the project is better understood as a search for the most durable alignment between environmental goals and affordable housing realities than as a search for the most innovative environmental package. The literature reviewed in Section 3 argues that meaningful climate adaptation and sustainable redevelopment only last when they are grounded in governance capacity, community meaning, and long-term affordability. The findings give that argument a specific shape: at Mangrove, durability is the primary sustainability criterion.

Affordability Must Be Treated as a Sustainability Metric

The findings make a strong case that affordability should not be positioned as a constraint on sustainability goals. It should be treated as a sustainability metric in its own right. In conversations with stakeholders, reducing resident utility bills and lowering LTSC's long-term operating costs were not described as side benefits of environmental performance. They were the primary reasons a sustainability strategy would matter at all. A green intervention that fails to deliver on those outcomes, or that introduces new cost burdens, would not be considered sustainable by the people who have to live with and manage it.

There is a tendency in sustainability planning to treat environmental performance and financial outcomes as parallel concerns that need to be balanced against each other. The evidence here supports a different position. In affordable housing, they are the same concern. A strategy that reduces emissions but creates unstable operating costs, deferred maintenance liabilities, or long-term replacement risk works against the housing mission it is supposed to support. Choosing a simpler and lower-cost strategy that also performs adequately on environmental metrics is not a compromise in that situation. It is the more sustainable choice.



The same logic applies to how resilience gets defined. Planning discussions about resilience tend to emphasize emergency preparedness, backup infrastructure, and response to climate shocks. Those dimensions matter at Mangrove. But everyday economic stability deserves equal weight. A resident with lower and more predictable utility bills is more resilient in a real sense, more able to absorb financial shocks, maintain housing stability, and stay in the neighborhood over time. An organization whose systems are manageable and whose replacement costs are predictable is more resilient as an institution. A sustainability framework for Mangrove that does not account for these forms of resilience is missing something important.

The utility data from existing LTSC properties points to a related but more specific finding: utility governance structures and billing systems shape sustainability feasibility in ways that technology performance alone cannot address. LADWP's tier-based pricing, incentive eligibility conditions, and the administrative complexity of tenant-level metering all affect whether electrification strategies remain financially manageable over time. For Mangrove, this means that early coordination with LADWP and relevant city offices is not a later implementation step, but a planning precondition.

Operational Durability Matters More Than Design Ambition

Across the findings, simpler and more operationally proven strategies consistently offered stronger overall value than more technically ambitious alternatives. The reason is not that ambition is wrong but that more complex systems carry a higher burden of proof in affordable housing contexts. Battery storage, biodigesters, and similar advanced systems may offer real environmental or resilience benefits. They also introduce higher capital costs, greater maintenance complexity, and more performance uncertainty over time. In a setting where operating margins are narrow, technical staff capacity is limited, and long-term financial stability is a core organizational concern, those trade-offs are not minor.

This helps explain why solar panels, shade trees, bioswales, permeable surfaces, and basic composting rose to the top of the strategy hierarchy across multiple findings, while batteries, biodigesters, and community gardens stayed conditional. The distinction is partly technical, but it is also a judgment about operational risk. Mature, low-maintenance strategies with predictable cost profiles fit the near-term context at Mangrove. More complex strategies may become viable when specific conditions are in place, including favorable incentive structures, demonstrated feedstock volumes, or established governance arrangements. Until those conditions exist, the more complex options carry more risk than value.

The case study analysis points in the same direction. What determined long-term sustainability performance at both Sustainable Chinatown and ROW DTLA was not the sophistication of initial design. It was how strategies were framed, phased, and maintained over time. The capacity to sustain a strategy through management transitions, budget cycles, and changing organizational conditions may ultimately matter more at Mangrove than what gets installed on day one.

Cultural Values Function as a Substantive Filter



The findings support a stronger claim than the usual acknowledgment that culture matters in community development. In the Little Tokyo context, cultural values function as an active and practical filter that shapes which sustainability strategies are appropriate, accepted, and capable of lasting. This is different from saying that design should reflect cultural identity. It means that cultural grounding affects operational viability. Systems that feel foreign, opaque, or disconnected from existing community practices face higher adoption risk and are more likely to fall into disuse over time.

The values that came up most consistently across the project were resource stewardship, community responsibility, long-term thinking, and a preference for practical rather than performative sustainability. The *mottainai* orientation toward minimizing waste and treating resources with care appeared repeatedly. These are not abstract principles. They carry concrete planning implications. A composting system designed with *mottainai* in mind is not only a waste management tool. It is a practice that fits existing cultural norms. Shade trees and productive landscapes can function as ecological infrastructure and as settings for the shared community life that keeps cultural continuity alive. A technically sophisticated system that demands unfamiliar behaviors, generates visible maintenance failures, or is only legible to specialists can undermine community confidence in sustainability as a whole, regardless of how well it performs on environmental metrics.

Cultural grounding cannot be achieved through aesthetic branding or the application of cultural motifs to green infrastructure. It requires that strategies be selected, designed, and governed in ways that reflect how the community actually lives and what it values. The practical difference between a culturally grounded strategy and a culturally decorated one is that the former tends to get used, maintained, and owned by the community over time. That difference should shape both strategy selection and stewardship design at Mangrove.

Mangrove Is Most Valuable as a Phased Sustainability Platform

What the findings point toward is a planning model for Mangrove that sits between the most ambitious district-scale vision and a narrowly building-level intervention: a phased sustainability platform. The research consistently affirms the value of broader Sustainable Little Tokyo goals, including composting networks, shared resilience infrastructure, and district resource coordination. It also consistently shows that most sustainability outcomes are achieved at the building scale and that operational and governance capacity are the factors that determine long-term performance. A phased platform is a way of holding both of those realities at once.

In the near term, this means prioritizing strategies that are technically mature, operationally manageable, and financially defensible. In the longer term, the site should be designed to grow: to serve as an anchor for district composting, shared resilience infrastructure, and coordinated sustainability programming as institutional relationships, funding conditions, and organizational capacity develop. The evidence does not support launching a complete district system from day one. It does support beginning the work now in ways that keep broader integration possible over time.

This model also serves the practical planning purposes of this report. LTSC and future development partners will need a framework that can adapt to changing funding conditions, RFP requirements, building constraints, and partnership opportunities. A phased approach keeps long-term ambition alive without the risk of over-



committing in the near term, a risk that is particularly consequential in a nonprofit affordable housing context where resources are finite and credibility depends on delivering what has been promised.

Synthesis: Strategic Prioritization as the Project's Core Contribution

The analyses across this chapter converge on one argument. The central contribution of this project is not a new technology or a complete sustainability system design. It is a framework for strategic prioritization, one that translates broad sustainability goals into choices calibrated to the specific conditions of a nonprofit affordable housing development on city-owned land in a culturally significant urban district.

This is where the project addresses the gap identified in the literature review. Existing scholarship tends to treat climate adaptation, affordability, cultural identity, and governance as parallel analytical domains. The Mangrove case brings them into direct contact, requiring that they be assessed together as an interdependent system that collectively determines what is feasible, appropriate, and durable. The result is an approach to sustainability evaluation that is more grounded and more operationally realistic than frameworks that focus on any one of these dimensions alone.

The central argument of the report follows from this. For Mangrove, sustainability should not be defined in opposition to affordability, cultural continuity, or operational manageability. It should be defined through them. A sustainability strategy that cannot be afforded, maintained, or genuinely owned by the community it serves is not sustainable in any meaningful sense. A framework that treats affordability, culture, and operational capacity as constraints rather than criteria will consistently point toward the wrong choices. The recommendations that follow are built on that foundation.



Recommendations and Proposed Framework

Framework Overview

The findings and analysis in this report support a three-tier phased sustainability framework for the Mangrove site. Three principles run through it, drawn from what came up consistently across interviews, case studies, and stakeholder synthesis. Sustainability strategies should support affordability and reduce long-term operating burden for residents and for LTSC as the managing organization. They should remain operationally manageable within the staffing, financial, and governance constraints of nonprofit affordable housing. And they should align with Little Tokyo's cultural and community context in ways that support genuine acceptance, long-term stewardship, and everyday use rather than environmental compliance alone.

The framework does not assume that all strategies should be implemented at once or at the same level of commitment. Some options are more feasible under current conditions; others depend on future funding arrangements, stronger institutional partnerships, or more detailed technical work before they can be treated as reliable planning assumptions. A tiered structure is more useful here than a single comprehensive package because it lets LTSC and future development partners move forward on well-grounded near-term strategies while staying open to more ambitious district-scale systems as conditions change.

Tier 1 covers immediate and most feasible strategies. Tier 2 covers conditional strategies that may add value when specific enabling conditions are in place. Tier 3 identifies long-term district-scale opportunities that remain meaningful aspirations but are not ready for near-term implementation. The structure follows directly from the report's central argument: sustainability at Mangrove should be defined through affordability, operational durability, and cultural fit rather than through maximum technical ambition.

Tier 1: Immediate and Most Feasible Strategies

Tier 1 covers strategies that offer the strongest balance of environmental benefit, practical community value, and manageable long-term performance under the conditions of a nonprofit affordable housing development.

Solar energy systems should be treated as a high priority, contingent on a site-specific assessment of roof conditions, available roof area, and funding pathways. Solar panels are mature in technology, widely deployed in comparable housing contexts, and based on existing LTSC utility data, capable of fully offsetting common-area electricity costs at a realistic system size. Viability still depends on roof structural condition, competition for roof space from mechanical systems, and access to incentive programs. Those conditions require early assessment rather than assumptions. This framing, common-area offset as the primary solar goal, reflects a broader principle: sustainability recommendations for nonprofit affordable housing should be sized and governed around what the operating organization can actually manage, not around what maximizes environmental performance on paper.

Shade trees and low-maintenance landscape strategies should be prioritized as foundational site-scale interventions. Stakeholders consistently favored trees and simple planting designs over more intensive



horticultural programs, and that preference reflects a combination of environmental performance, low operational risk, and cultural resonance. Shade trees reduce urban heat island effects, improve pedestrian comfort, and provide lasting ecological value without creating the maintenance demands that come with more complex planting systems. The preference for productive species like citrus or yuzu, which came up in interviews, illustrates how landscape strategy can serve environmental, practical, and cultural purposes at the same time: food, shade, and visible community value within a single coherent approach.

Bioswales and permeable surfaces should be incorporated as core green infrastructure components at the site scale. These systems address stormwater management and surface heat reduction through well-established approaches that are relatively straightforward to maintain and compatible with a range of site configurations. They also improve the pedestrian experience of the site in ways that are visible and legible to residents and neighbors without requiring active community participation to function. The evidence from the literature review and stakeholder interviews places bioswales and permeable surfaces consistently among the strongest near-term options for Mangrove.

Food waste collection and basic composting should be treated as the most appropriate near-term waste strategy. The findings do not support moving directly to biodigestion infrastructure, but they do support early investment in food waste collection and, where a manageable operating structure can be established, community composting. This approach is lower-cost, easier to scale over time, and more consistent with the project's emphasis on systems that are behaviorally realistic and operationally simple. It also connects to the cultural value of resource stewardship that came through across the research, framing waste reduction as community practice rather than environmental program.

Taken together, Tier 1 strategies share a defining quality: meaningful environmental benefit combined with financial defensibility, operational manageability, and cultural fit within the specific conditions of the Mangrove site. They should form the core of any sustainability package considered in future RFP or development planning discussions.

Tier 2: Conditional or Pilot Strategies

Tier 2 covers strategies with genuine potential value for Mangrove but whose viability depends on enabling conditions that cannot currently be assumed. These are not recommended as baseline near-term elements. They should be approached as conditional investments or carefully scoped pilots, considered seriously when the right institutional, financial, or operational conditions are in place, but not built into planning commitments before those conditions are confirmed.

Solar battery storage belongs here. Battery systems may improve site resilience and support emergency power functions in ways that would benefit residents, particularly seniors and households with medical needs. The findings also consistently describe battery storage as significantly more expensive and operationally demanding than panel-only solar, with higher long-term maintenance requirements and greater sensitivity to code and placement constraints. Battery storage should be considered as a conditional resilience upgrade when favorable incentive stacking, confirmed technical compatibility, and demonstrated management capacity make it viable, not as a default part of the solar strategy.



Community gardens call for a similarly conditional assessment. The findings do not rule them out. Gardens can contribute to food access, resident wellbeing, and cultural programming in real ways. What the evidence shows is that they carry higher operational risk than other landscape strategies: they can become expensive to maintain, fall into disuse when stewardship arrangements are unclear, and depend on sustained resident participation that other site-scale interventions do not require. A community garden at Mangrove would make sense only where a clear long-term stewardship model, resident participation structure, and maintenance support arrangement are established from the start. Without those, simpler landscape strategies are more likely to deliver durable value.

Targeted resilience amenities, such as shared emergency cooling or small-scale community care infrastructure, may also serve a useful conditional role. These features align with the project's concern for community wellbeing and emergency preparedness and may be particularly relevant given the site's potential to serve seniors and vulnerable residents. Their value is in targeted community benefit rather than overall building sustainability performance, and they should be scoped accordingly.

Tier 2 strategies should stay visible in planning discussions without being treated as requirements. A phased framework is designed to accommodate exactly this kind of conditional presence: these strategies can be revisited, piloted at limited scope, or brought into later phases as institutional and financial conditions develop.

Tier 3: Long-Term District-Scale Opportunities

Tier 3 identifies strategies that remain meaningful to the broader sustainability vision for Little Tokyo but are best understood as long-term opportunities rather than near-term project requirements. They are not dismissed here. They are the aspirations that give the Mangrove project its larger planning significance. But the findings do not support treating them as immediate implementation priorities, and presenting them as such would risk over-committing the project in ways that could undermine near-term credibility and financial stability.

A district composting network is the most immediately plausible Tier 3 opportunity. There is genuine stakeholder interest in expanding food waste diversion across the Little Tokyo neighborhood, and district composting fits well with both the cultural value of resource stewardship and the broader Sustainable Little Tokyo initiative. Getting there would require partnerships, governance arrangements, and operational coordination well beyond what a single site can establish on its own. The most appropriate near-term role for Mangrove is to build its own composting infrastructure in a way that is designed to be extensible, creating the physical and institutional conditions that could eventually support district connectivity without requiring that connectivity to be in place at the start.

Expanded shared resilience infrastructure, including microgrids, coordinated energy resources, and neighborhood-scale emergency systems, represents a longer-term possibility that depends on institutional relationships and funding arrangements not yet in place. The ROW DTLA case study illustrates how shared infrastructure can grow from a single anchor site over time through phased development. Mangrove is well-positioned for that anchor role, not by launching district systems in its first phase, but by being designed in ways that leave room for future coordination as the Sustainable Little Tokyo network develops.



Biodigestion infrastructure should remain in Tier 3 for the foreseeable future. The project never fully ruled out biodigesters as a long-term direction, and the food waste survey was partly designed to test whether district-level waste volumes and participation rates might eventually support one. The current evidence consistently positions biodigestion as more resource-intensive, operationally demanding, and participation-dependent than near-term site conditions can support. It may become more viable as district composting matures, institutional partnerships develop, and operational capacity grows. For now, it belongs in the category of future options to revisit rather than commitments to make.

Tier 3 recommendations serve a specific function in this framework. They keep long-term ambition present and institutionally legible without letting it distort near-term decisions. Holding these aspirations in a clearly labeled future tier is itself a planning contribution: it tells LTSC, future development partners, and community stakeholders that the project is designed with a longer horizon in mind, even as it makes responsible near-term choices.

Funding and Institutional Strategy

Sustainability strategy and funding strategy need to develop in parallel. A technically well-reasoned sustainability proposal without a credible funding and institutional pathway does not get built. In nonprofit affordable housing, where capital is constrained and organizational capacity is finite, that gap between strategy and implementation is a real and recurring problem.

Several practical implications follow from the findings. Solar feasibility depends not only on roof condition and energy demand but on access to incentives, the ability to stack multiple funding sources, and proactive engagement with LADWP programs and relevant city offices. Roof condition assessment is not just a technical prerequisite for solar installation. It is an enabling condition that should be addressed early in the development process so that solar remains a live option when decisions are being made. For composting and district-scale strategies, funding will depend on partnership development with local institutions, businesses, and neighborhood organizations. Those relationships take time to build and should be initiated well before formal development commitments are made.

LTSC and future development partners should approach funding as a layered strategy rather than a single-source problem. Federal programs like HUD's Green and Resilient Retrofit Program, state initiatives like the Transformative Climate Communities program, local incentive structures, and utility-based programs offer distinct and potentially complementary pathways. Figuring out which combination is most accessible for Mangrove, and what sustainability commitments each program requires, is a planning task in its own right. It should run alongside site and program development rather than follow it.

Many sustainability strategies fail not because the concept is wrong but because the implementation support was never in place. For LTSC, the next steps after this report should include not only design and feasibility work but relationship-building, incentive assessment, and organizational preparation. These are less visible than design decisions, but they are equally consequential for whether anything actually gets built and maintained.



How LTSC Can Use This Framework

This framework is a planning and strategy tool, not a final design specification. It is meant to support the decisions that LTSC and its partners will face across multiple phases of the Mangrove development process, from early RFP discussions through design development and into operations planning.

In the near term, the framework gives LTSC a way to articulate a sustainability position in RFP and development conversations that is grounded, credible, and honest about what is achievable in the first phase. A tiered structure communicates something more useful than a comprehensive list of green features: it shows which priorities are real commitments, offers a realistic account of what phase one can deliver, and gives a clear rationale for why certain strategies are deferred rather than abandoned. That kind of honesty tends to be more persuasive to development partners, city agencies, and funders than a sustainability vision that cannot be matched to available resources.

The framework can also strengthen LTSC's grant and funding narratives. Demonstrating that sustainability has been evaluated through affordability, long-term operations, cultural fit, and institutional feasibility rather than technical performance metrics alone positions Mangrove as a model of community-driven, financially responsible sustainable development. That framing aligns with the priorities of several relevant federal and state funding programs and may improve competitiveness in grant processes where equity and community accountability carry weight alongside environmental outcomes.

The three-tier structure also provides a working vocabulary for ongoing community and stakeholder engagement. It gives residents, partner organizations, and city representatives a way to discuss sustainability trade-offs in terms that are accessible and honest about uncertainty: what is moving forward, what needs more work, and what the neighborhood is still working toward. That kind of shared language supports the trust-building and community ownership that the findings consistently identify as essential to outcomes that actually last.



Conclusion

Main Argument

This report started with a question about how the Mangrove site could advance a sustainability strategy grounded in Little Tokyo's cultural values while meeting environmental and resilience goals. As the project developed, that question got sharper. The central challenge was never whether to pursue sustainability. It was which strategies could realistically function within the conditions of an affordable housing development shaped by public land process, nonprofit organizational capacity, long-term operational constraints, and community meaning.

The findings point in a consistent direction. Sustainability at Mangrove holds up best when it supports affordability, operational reliability, and manageable long-term performance. The evidence across interviews, case studies, and stakeholder synthesis did not support organizing around maximum technical ambition. It supported organizing around practical fit. Solar panels, shade trees, bioswales, permeable surfaces, and basic food waste strategies came out as the strongest near-term candidates because they offer meaningful environmental benefit with lower operational risk, predictable maintenance demands, and genuine alignment with the financial realities of nonprofit affordable housing. More complex systems, battery storage, biodigesters, intensive garden programs, may carry value under specific conditions, but the evidence consistently treats them as conditional rather than foundational.

The research also shows that cultural grounding is not a secondary consideration in this context. In Little Tokyo, cultural values actively shape which strategies feel appropriate, useful, and worth sustaining. Culture works here not as visual theming but as a planning filter: strategies that reflect resource stewardship, long-term thinking, community responsibility, and everyday practical usefulness fit the site's context more naturally than systems that are technically sophisticated but culturally distant or hard to explain. That connection between environmental planning and the lived social context of the neighborhood is one of the defining features of what meaningful sustainability looks like in Little Tokyo.

Mangrove also should not be understood as a site that has to resolve district-scale sustainability in a single development phase. The broader vision of Sustainable Little Tokyo, including district composting networks, shared resilience infrastructure, and neighborhood-scale resource coordination, remains a worthwhile long-term direction. But the evidence supports a phased approach. The most appropriate near-term role for Mangrove is as a sustainability anchor that starts with feasible building- and site-scale strategies, builds sound operational and governance foundations, and creates the institutional conditions for broader district integration over time.

The central contribution of this report is a framework for strategic prioritization. Bringing together literature, interviews, case study analysis, survey input, and technical context, it sorts candidate strategies into categories of near-term feasibility, conditional potential, and longer-term aspiration. Translating broad sustainability goals into choices that fit real affordable housing development conditions is the work this project set out to do, and the most practically useful thing it can offer LTSC and future development partners.



Contribution to Planning Practice

Beyond its immediate client-facing purpose, this report makes several contributions to planning practice and scholarship.

The first is methodological. By treating affordability, operational durability, and cultural grounding as constitutive dimensions of sustainability rather than constraints on it, the project develops an evaluative framework that is more contextually honest than approaches built primarily around technical performance metrics. Sustainability defined through community conditions rather than against them may offer a transferable model for other nonprofit-led affordable housing projects navigating similar tensions between environmental ambition and operational realism.

The second is substantive. The Mangrove case shows how public-land redevelopment in a culturally significant urban district can integrate environmental goals, cultural identity, and housing affordability within a coherent planning framework, without requiring any of these dimensions to be subordinated to the others. This kind of integration is precisely what the literature review identified as underrepresented in existing scholarship. Most research addresses climate adaptation, affordability, cultural continuity, and governance as parallel concerns rather than as an interdependent system operating on a single site. Mangrove offers a case where that interdependence can be examined concretely.

The third is practical. The three-tier framework developed here is designed to be legible and usable beyond this site. Other community development organizations working on city-owned parcels in heritage districts, facing similar pressures around cultural preservation, affordability requirements, public process, and sustainability mandates, may find the framework's organizing logic applicable to their own contexts. The report aspires to function not only as a capstone deliverable but as a modest contribution to practice-oriented sustainability planning for equitable urban redevelopment.

Final Reflection

The Mangrove site is more than a 4.1-acre parking lot waiting to be developed. It is one of the last large city-owned parcels in a neighborhood that has spent generations holding its ground against external development pressure while trying to remain itself: culturally continuous, community-anchored, and resilient in ways that go well beyond building performance metrics. How it gets developed will matter not only to the people who eventually live there but to the broader question of whether urban sustainability can be pursued in ways that strengthen rather than erode the communities it claims to serve.

This project has argued that the answer is yes, but only under specific conditions. Sustainability at Mangrove has to be practical enough to be maintained, affordable enough to reduce rather than add to resident burden, culturally grounded enough to earn genuine community ownership, and institutionally realistic enough to survive the long arc of nonprofit development and property management. These are not small requirements. They call for a different kind of planning discipline than the kind that produces compelling sustainability visions



on paper, one willing to say that simpler is sometimes better, that phasing is not a failure of ambition, and that a strategy no one can maintain is not a sustainable strategy.

If the Mangrove project can hold these commitments together, building from what is feasible now, designing for what may be possible later, and staying honest about the difference, it has the potential to be something more than a single development project. It can be a demonstration that climate, culture, and affordability are not competing values to be traded off against one another, but complementary parts of what it means to build well in a place that deserves to endure.



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For more information and detailed examples of APA rules as applied to authors, articles, books and electronic sources, consult a resource like Zotero.

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Appendix A. Interview List

Interviewee: Walker Wells

Organization: Raimi / UCLA professor

Topic: Sustainability Strategies in Affordable Housing and District-Scale Sustainability

Research Context: Mangrove Affordable Housing Project, Little Tokyo

Guide:

1. Affordable Housing + Sustainability
 - a. What sustainability strategies are most popular among affordable housing in Los Angeles?
 - b. What sustainability technology is “safe enough” to implement in projects serving very low-income residents? Installing, incentives, maintaining, life cycles, pay back...
 - c. What are common sustainability features that failed due to cost, maintenance, or funding structure?
2. All-Electric Buildings & Utility Constraints
 - a. In fully electric affordable housing buildings, tier-based electricity pricing can increase operating costs. Are there design, policy, or financing strategies that can mitigate this risk?
 - b. Are solar batteries viable for nonprofit affordable housing? With concerns about cost, reliability, and maintenance.
3. District-Scale Sustainability (Sustainable Little Tokyo)
 - a. Beyond individual buildings, what does district-scale sustainability realistically look like in a neighborhood like Little Tokyo?
 - b. If a site like Mangrove wanted to serve for a broader “Sustainable Little Tokyo,” what kind of strategies would you prioritize first?
4. Composting & Low-Cost Resilience
 - a. Are there any other low-cost green strategies that are often overlooked but provide meaningful resilience benefits?
5. Green Infrastructure & Social Context
 - a. In areas adjacent to vulnerable populations, how do you design green infrastructure so it is durable and safe, rather than easily damaged or under-maintained?
6. Future / Ideal / Experimental (Visionary but Realistic)
 - a. In the next 10–20 years, what emerging sustainability technologies or district systems do you think could become realistic for affordable housing developments?
7. What do people misunderstand most about sustainable affordable housing?

Interviewee: Ken Chawkins

Organization: JCI Worldwide

Topic: Utility

Guide:



(Note: This interview was conducted as an informal consultation. Questions were not prepared in advance but centered on the following themes.)

1. Financing structures for solar in affordable housing, including incentive stacking and off-site funding opportunities
2. Site-level conditions affecting solar feasibility, including roof size, roof condition, and any restrictions specific to a downtown context
3. Strategies for navigating utility relationships, particularly with LADWP and relevant city council offices
4. Considerations for all-electric affordable housing buildings and how to offset associated cost increases
5. How to assess whether solar investment makes financial sense given project, client, and funding constraints

Interviewees: Mark Oberholzer

Organization: KTGy

Roles: Principal

Topic: Sustainability Decision-Making in

Context: Mangrove Project Research – Little Tokyo

Guide:

1. When the project was first being planned, how were sustainability priorities determined? In another way, how did the team decide which strategies to include at first?
2. How did you evaluate whether installing solar panels or other sustainable strategies would make financial sense for an affordable housing project?
Were there any particular funding sources or incentives that made the system more viable?
3. Were there sustainability features that were originally considered but ultimately not implemented? Why?
In particular, for strategies such as solar photovoltaic panels, solar battery storage systems, biodigesters, organic composting systems, and green infrastructure (permeable pavements).
4. What were the biggest challenges during the implementation of sustainability strategies?
5. After the building opened, how have the sustainability systems performed in practice?
Have there been unexpected maintenance issues, cost savings, or operational lessons?
6. Based on your experience, what sustainability strategies tend to work best for affordable housing developments in Los Angeles? How do you view the prospects for applying newer technologies like solar panels and biogas digesters in affordable housing in Los Angeles?
7. For a new affordable housing project, like the Mangrove site in Little Tokyo, wanted to integrate sustainability while remaining financially realistic, what would you prioritize first?
8. Is there anything about sustainable affordable housing that people often misunderstand?



Appendix B. Food Waste Survey

What type of business do you operate?	Approximately how much food waste does your business generate per day? (If unsure, please provide your best estimate. Please exclude large shells (e.g., oyster, clam) and hard pits or husks.)	How do you currently dispose of food waste?	Would you be interested in participating in a local program that turns food waste into energy or compost (for example, a biodigester)?
Restaurant	25-50 lbs	Regular trash / landfill	Yes
Restaurant	Less than 25 lbs	Regular trash / landfill	Maybe / Need more information
Restaurant	Less than 25 lbs	Regular trash / landfill	Maybe / Need more information
Restaurant	25-50 lbs	Regular trash / landfill	Maybe / Need more information
bar	Less than 25 lbs	Private waste collection service	Maybe / Need more information
Restaurant	Less than 25 lbs	Regular trash / landfill	Maybe / Need more information
Restaurant	less than 10%	Regular trash / landfill	Maybe / Need more information



Appendix C. Sustainability Menu



A strategy overview organizing ten sustainability approaches for the Mangrove site

Appendix D. Strategy Evaluation Matrix

Mangrove Site, Little Tokyo — evaluated across six criteria based on interviews, case studies, and secondary data

Scoring: ●●● High / Strong ●●○ Medium / Moderate ●○○ Low / Limited

Note: Upfront cost and maintenance burden are rated inversely — lower is better. LEED credit relevance assessed against LEED v4 BD+C categories.

Strategy	Environmental benefit	Upfront cost	Maintenance burden	Cultural fit	Near-term feasibility	LEED credit relevance
TIER 1 — IMMEDIATE PRIORITIES						
Solar panels	●●●	Medium	●●○	●●○	●●●	Yes
Shade trees / yuzu planting	●●●	Low	●●●	●●●	●●●	Yes
Bioswales	●●●	Low	●●●	●●○	●●●	Yes
Permeable surfaces	●●○	Low	●●●	●●○	●●●	Yes
Food waste collection	●●○	Low	●●●	●●●	●●●	Partial
Basic composting	●●○	Low	●●○	●●●	●●●	Partial
TIER 2 — CONDITIONAL STRATEGIES						
Solar battery storage	●●○	High	●○○	●○○	●●○	Partial
Community garden	●●○	Medium	●○○	●●●	●●○	Partial
Shared emergency resilience amenities	●○○	Medium	●●○	●●●	●●○	No
TIER 3 — LONG-TERM DISTRICT-SCALE OPPORTUNITIES						
District composting network	●●●	High	●○○	●●●	●○○	Partial
Shared microgrid / energy infrastructure	●●●	High	●○○	●●○	●○○	Yes
Biodigester	●●●	High	●○○	●●○	●○○	Partial
NOT RECOMMENDED AT THIS TIME						

Strategy	Environmental benefit	Upfront cost	Maintenance burden	Cultural fit	Near-term feasibility	LEED credit relevance
Greywater recycling	●●○	High	●○○	●○○	●○○	Partial
Extensive green roof	●●○	High	●○○	●○○	●○○	Yes
Rainwater harvesting cistern	●●○	High	●○○	●○○	●○○	Partial

Ratings reflect qualitative synthesis across semi-structured interviews, comparative case studies, secondary data, and the project's analytical framework. Scores represent relative assessments for this specific site context and should not be treated as absolute benchmarks.

Appendix E. Utility Bill

Account Number	Title	Address	Building	Company	Category	Meter (kWh)	Money	Time
658 061 0000	LTSC COMMUNITY DEVELOPMENT CORPORATION,	112 JUDGE JOHN AISO ST APT 109, LOS ANGELES, CA 90012	1	LADWP	Electric Charges	876.00	\$239.04	6/28/25 - 8/27/25
658 061 0000	LTSC COMMUNITY DEVELOPMENT CORPORATION,	112 JUDGE JOHN AISO ST APT 109, LOS ANGELES, CA 90012	1	LADWP	Electric Charges	912.00	\$250.55	8/27/25 - 10/29/25
658 061 0000	LTSC COMMUNITY DEVELOPMENT CORPORATION,	112 JUDGE JOHN AISO ST APT 109, LOS ANGELES, CA 90012	1	LADWP	Electric Charges	634.00	\$176.87	10/29/25 - 1/3/26
658 061 0000	LTSC COMMUNITY DEVELOPMENT CORPORATION,	112 JUDGE JOHN AISO ST APT 109, LOS ANGELES, CA 90012	1	LADWP	Electric Charges	550.00	\$155.11	1/3/26 - 3/3/26
658 061 0000	LTSC COMMUNITY DEVELOPMENT CORPORATION,	112 JUDGE JOHN AISO ST APT 109, LOS ANGELES, CA 90012	1	LADWP	Electric Charges	786.00	\$217.68	3/3/26 - 4/29/26
758 061 0000	LTSC COMMUNITY DEVELOPMENT CORPORATION,	112 JUDGE JOHN AISO ST APT 114, LOS	1	LADWP	Electric Charges	399.00	113.19	10/29/25 - 1/3/26

	T CORPORATIO N,	ANGELES, CA 90012						
758 061 0000	LTSC COMMUNITY DEVELOPMEN T CORPORATIO N,	112 JUDGE JOHN AISO ST APT 114, LOS ANGELES, CA 90012	1	LADWP	Electric Charges	183.00	\$56.88	8/27/25 - 10/29/25
758 061 0000	LTSC COMMUNITY DEVELOPMEN T CORPORATIO N,	112 JUDGE JOHN AISO ST APT 114, LOS ANGELES, CA 90012	1	LADWP	Electric Charges	199.00	\$60.19	3/3/26 - 4/29/26
758 061 0000	LTSC COMMUNITY DEVELOPMEN T CORPORATIO N,	112 JUDGE JOHN AISO ST APT 114, LOS ANGELES, CA 90012	1	LADWP	Electric Charges	447.00	\$126.98	1/3/26 - 3/3/26
696 671 0000	CONSOLIDATE D BILL	112 JUDGE JOHN AISO ST (APT 319)	1	LADWP	Electric Charges	4,300.00	\$1,133.1 6	12/2/25 - 1/5/26
696 671 0000	CONSOLIDATE D BILL	112 JUDGE JOHN AISO ST (APT 319)	1	LADWP	Electric Charges		\$83.54	10/29/25 - 12/2/25
696 671 0000	CONSOLIDATE D BILL	112 JUDGE JOHN AISO ST (APT 319)	1	LADWP	Electric Charges	4,360.00	\$1,136.2 3	4/1/26 - 4/29/26
696 671 0000	CONSOLIDATE D BILL	112 JUDGE JOHN AISO ST (APT 319)	1	LADWP	Electric Charges	4,077.00	\$1,089.8 2	1/30/26 - 3/3/26
696 671 0000	CONSOLIDATE D BILL	112 JUDGE JOHN AISO ST (APT 319)	1	LADWP	Electric Charges	4,623.00	\$1,030.2 3	11/27/24 - 12/30/24
696 671 0000	CONSOLIDATE D BILL	112 JUDGE JOHN AISO ST	1	LADWP	Electric Charges	58.00	\$101.90	1/5/26 - 1/30/26

		(APT 319)						
253 220 0000	LTSC COMMUNITY DEVELOPME NT CORPORATIO N C/O FAR EAS,	353 E 1ST ST, LOS ANGELES, CA 90012	2	LADWP	Electric Charges	589.00	\$214.00	10/27/25 - 11/26/25
253 220 0000	LTSC COMMUNITY DEVELOPME NT CORPORATIO N C/O FAR EAS,	353 E 1ST ST, LOS ANGELES, CA 90012	2	LADWP	Electric Charges	492.00	\$190.34	11/26/25 - 12/30/25
253 220 0000	LTSC COMMUNITY DEVELOPME NT CORPORATIO N C/O FAR EAS,	353 E 1ST ST, LOS ANGELES, CA 90012	2	LADWP	Electric Charges	405.00	\$169.84	12/30/25 - 1/29/26
253 220 0000	LTSC COMMUNITY DEVELOPME NT CORPORATIO N C/O FAR EAS,	353 E 1ST ST, LOS ANGELES, CA 90012	2	LADWP	Electric Charges	350.00	\$156.38	1/29/26 - 2/27/26
253 220 0000	LTSC COMMUNITY DEVELOPME NT CORPORATIO N C/O FAR EAS,	353 E 1ST ST, LOS ANGELES, CA 90012	2	LADWP	Electric Charges	591.00	\$215.60	2/27/26 - 3/30/26

253 220 0000	LTSC COMMUNITY DEVELOPMEN T CORPORATIO N C/O FAR EAS,	353 E 1ST ST, LOS ANGELES, CA 90012	2	LADWP	Electric Charges	467.00	\$183.12	3/30/26 - 4/28/26
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