Westerly, RI

SUSTAINABLE NEIGHBORHOOD ASSESSMENT

May 5 - 7, 2014 | www.globalgreen.org/greencities

SUSTAINABLE NEIGHBORHOOD ASSESSMENT USING LEED-ND

Through the Sustainable Neighborhood Assessment Tool developed by Global Green USA, public officials and local government staff are using the LEED for Neighborhood Development (LEED-ND) rating system to determine ways for future development in their communities to achieve high levels of environmental, economic, and social sustainability. LEED-ND integrates the principles of smart growth, walkable urbanism and green building into the first national rating system for neighborhood design. In Westerly, Global Green used the tool as a means to evaluate existing conditions and plans for the Misquamicut Neighborhood, in order to identify opportunities to augment current revitalization efforts and develop recommendations to increase the neighborhood's overall level of sustainability.

ENVIRONMENTAL PROTECTION AGENCY

Technical Assistance provided by Global Green USA with the US Green Building Council to Westerly was made possible through funding from the US EPA's Office of Sustainable Communities Building Blocks for Sustainable Communities Grant Program.

CONTENTS

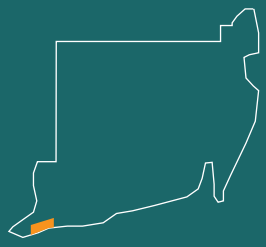
Assessment Process P.1
Neighborhood Background P.2
Recommendations
1. Living With Water P.5
2. Creating Enjoyable Streets P.7
3. Rebuilding & Relocating P.9
4. Increasing Economic Resiliency P.11
Sustainabilty Assessment & Checklist P.13

Misquamicut Neighborhood: Sustainable Neighborhood Assessment Boundary

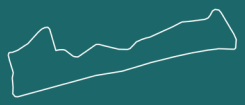
NEIGHBORHOOD LOCATION

RHODE ISLAND

LOCATION IN RHODE ISLAND



WASHINGTON COUNTY



MISQUAMICUT

SUSTAINABLE NEIGHBORHOOD ASSESSMENT PROCESS

The goal of the Sustainable Neighborhood Assessment process is to identify topical and physical focus areas where policy or planning changes will promote sustainable development. These changes, or interventions, will improve the neighborhood's day-to-day sustainability as well as increase its resiliency during future weather events. To define these focus areas, Global Green USA and its team members utilize the Sustainable Neighborhood Assessment Tool, which is based on the LEED for Neighborhood Development (ND) criteria and checklist.

The site visit to the Misquamicut Neighborhood is part of a special effort to respond to Hurricane Sandy affected communities – expanding the scope of the Sustainable Neighborhood Assessment to include resiliency. Resilient neighborhoods are better prepared to respond to and recover from extreme weather events associated with global climate change. The assessment provides insight on how neighborhoods can reduce impact risks, reduce negative environmental impacts post-extreme weather event, facilitate a swift recovery, and increase their adaptive capacity. These attributes are embedded within sustainable neighborhoods, establishing a balanced approach when planning for future generations.

Prior to visiting the assessment area, the team conducts a thorough baseline review of existing planning documents, code requirements, flood maps, and stakeholder priorities. An initial assessment is completed, with the credits in each of the three LEED-ND categories (Smart Location & Linkage (SLL), Neighborhood Pattern & Design (NPD), and Green Infrastructure & Building (GIB) marked on the preliminary checklist as "achieved," "unknown," or "not applicable." Each credit is further ranked for the degree that it correlates to regional or local policy priorities, regulatory support, technical feasibility, market support, and stakeholder input.

This initial assessment serves as the point of departure for the Global Green team's two-and-a-half-day site visit and evaluation. During the visit, the team walks each block of the target neighborhood, photographs examples of positive qualities and areas for improvement, and conducts a series of meetings with targeted stakeholders, city staff, and representatives of relevant public agencies. Throughout the process, the checklist is refined to incorporate the team's visual observations and contextual issues raised by stakeholders. The initial findings of the evaluation are grouped into broad categories that are presented and discussed at a community workshop. The dialogue and suggestions that emerge during the community workshop are incorporated into the final version of the checklist and this summary report of the assessment. The final augmented checklist for the Misquamicut Neighborhood can be found on pages 13-16.

The assessment process enables the team to identify a series of recommendations based on LEED-ND credits that are applicable to disaster risk reduction. Recommendations also cover policy, planning, and development changes that aim to realize a more resilient and sustainable future for Misquamicut. Some recommendations can be implemented fairly quickly, while others will require long-term collaboration among public agencies, local institutions, and private sector partners.

NEIGHBORHOOD BACKGROUND

The Neighborhood Assessment area in the Misquamicut Neighborhood is bound by the Atlantic Ocean to the Southeast, Shore Road to the Northwest, and extends east to west for the length of Atlantic Ave. Situated on a barrier island, the neighborhood is in one of the lowest lying areas within the Town of Westerly. It is situated within the FEMA 100-year floodplain and within the Winnapaug Salt Pond Watershed.

Misquamicut is largely, a seasonally occupied beachside community. In the Town of Westerly as a whole, seasonal housing comprises about 13 percent of housing units, a majority of them in Misquamicut which contains a mix of beach cottages, hotels, and seasonal beach-oriented businesses.

The salt ponds of Rhode Island act as flood storage during rain events, and are home to a unique estuarine ecosystem. Land surrounding the ponds lies at a low elevation, and also experiences frequent flooding.

Barrier Islands play a major role in mitigating ocean swells and other storm events for the water systems on the mainland. Without Barrier Islands, the salt ponds could not exist and would be destroyed by daily ocean waves and tides as well as ocean storm events. In turn, flooding events in Misquamicut would be pronounced.

The State of Rhode Island Division of Parks and Recreation notes: "Although there are still private beach houses and local commercial services on this ocean strand, on three occasions in the 20th century, Misquamicut's slate was wiped clean by hurricanes. In 1938, 1944, and 1954, just about every structure along the beach was flattened, washed out to sea, or damaged to the point of being uninhabitable. Following the last big storm in that trifecta, Governor Dennis Roberts moved to have the state condemn a mile-long stretch of beach to create Misquamicut State Beach."

Small-scale flooding often occurs near the pond and along Atlantic Ave. during instances of light to heavy rain. Though extreme storm surges are a regularly occurring reality of coastal Rhode Island, Hurricane Sandy delivered a prolonged blow to the Town of Westerly with high water levels, due to sea level rise and three high-tide cycles. Misquamicut was of the hardest-hit of coastal communities impacted by the storm. The dune system that had been in place since the 1950s was destroyed, depositing four to six feet of sand over 1.5 miles of Atlantic Ave., the main arterial road which functions as the area's evacuation route.

Property damage affected both dwellings that were built to FEMA standards and those that were not. Those that were not to FEMA standards were often dislodged from their foundations, experienced structural failures, or were filled with 4 to 5 feet of sand. 20 to 30 On-Site Wastewater Treatment Systems (OWTS), or septic tanks, were dislodged or relocated by the storm surge, resulting in raw sewage polluting the flooded areas and the Salt Pond. Many businesses were completely destroyed or experienced significant structural damage.

ENGAGED CITIZENS

NATURAL BEAUTY

THRIVING SUMMER TOURISM

NEIGHBORHOOD CHARACHTER

BACKGROUND

Looking forward, the Town of Westerly hopes that when businesses rebuild they will follow the example of the iconic Andrea Hotel. The hotel was demolished and is being reconstructed in phases to FEMA standards. The Town is encouraging residential property owners to elevate their structures to the Base Flood Elevation (BFE) plus 3' of freeboard to increase storm protection and capitalize on reduced flood insurance premiums.

The Town of Westerly has submitted a grant application, which they anticipate will receive approval in 2014, to upgrade the Town's Stormwater Pump Station. The proposal includes providing adequate protection for a 1-in-50-year return storm frequency. Upgrading to the 1-in-100-year return storm event was determined to not be financially practical as it would require a complete reconstruction of the station.

Misquamicut was without grid-based electrical power for approximately 2-3 weeks. A trailer-mounted generator, which was mobilized and placed on higher ground several days prior to the flood event, was the only means of power to run the pump station and commence de-watering operations in the neighborhood.

The Town of Westerly is in the process of contracting with the National Resources Conservation Service for the design, engineering, and permitting to dredge the Winnapaug Pond in order to try and restore its flood storage capacity. Additionally, Westerly was approved for a Department of the Interior Fish and Wildlife grant for the same services to use sand removed from the pond to bolster the drowning marshes. They hope to have the project fully designed over the next 2 years, and seek funding for implementation.

The most significant challenge facing the implementation of these recommendations and the long term sustainability of Misquamicut is the reality of rising sea levels and increased occurrences of catastrophic storm events.

Ignoring the natural processes of barrier islands and salt ponds will not change Misquamicut's role as a barrier island. Frequent storms, surge flooding, overwash, and pooling water are normal, natural processes that are to be expected. As the frequency of these events increases, the Town, residents, and business owners alike must adapt and make strategic infrastructure investments to contribute to its long-term sustainability.

The recommendations presented over the following pages were developed through careful study of regional and local planning documents, city staff and stakeholder interviews, and thorough on-the-ground analysis of community characteristics. Stakeholders interviewed were all asked to consider what Misquamicut would look like in 50 years. Each of the resulting recommendations have been produced with specific attention given to long-term sustainability and resilience and have been informed by best practices as identified by LEED-ND.

RECOMMENDATIONS

The recommendations presented over the following pages were developed through careful study of regional and local planning documents, city staff and stakeholder interviews and thorough on-the-ground analysis of community characteristics. Each of the resulting recommendations have been produced with specific attention given to long-term sustainability and resilience, and have been informed by best practices as identified by LEED-ND.

Four thematic areas were identified for intervention and transformative change. Through the implementation of the recommendations made in the following pages, Westerly's Misquamicut Neighborhood can shift towards a more sustainable and adaptive neighborhood, better equipped to handle future major storm events. The first recommendation, Living with Water, recognizes that in addition to being built in a low-lying area with very little permeable surfaces and a high water table, models demonstrate that over the next 100 years, extreme weather events and storm flooding will become far more frequent. All of the recommendations accept this eventuality and help position the neighborhood to adapt to, and rebound from, the consequences of major storm events

Recommendation 1: Living with Water
Recommendation 2: Creating Enjoyable Streets
Recommendation 3: Rebuilding & Relocating
Recommendation 4: Increasing Economic Resiliency

LIVING WITH WATER

Misquamicut's location on a barrier island in the low-lying Winnapaug Pond watershed, coupled with predicted sea level rise and an increase in the storms that inundate the coast makes it imperative that Misquamicut develop a strategy to adapt to these changing conditions.

While the beach has captivated tourists for years, and will for years to come, efforts to restore the pond to be a healthy, vital, and sustainable ecosystem could ultimately be what allows Misquamicut to maintain its status as a destination. A restored pond will be better able to withstand storm surges and have an increased capacity to hold water from coastal flooding.

The following recommendations are structured around LEED-ND prerequisites and credits that speak to a neighborhood's relationship with water. Restoration of Habitat or Wetlands and Water Bodies is recommended under LEED-ND Smart Location & Linkage (SLL), Credit 8. Floodplain avoidance (SLL, Prerequisite 5), minimized site disturbance (Green Infrastructure & Buildings (GIB), Credit 7), effective rainwater management (GIB, Credit 8), and effective wastewater management (GIB, Credit 14) are characteristics of a neighborhood developed sustainably.

Though it is a prerequisite of LEED-ND to locate development in an area served by existing wastewater infrastructure, we do not recommend that hook-ups to municipal sewers be installed in Misquamicut, as the return on investment isn't justified in a 50 year outlook. We recommend upgrading current On-Site Wastewater Treatment Systems (OWTS) to guarantee no leaching occurs, and to ensure that the systems will not be dislodged in the event of another storm.

Just North of Misquamicut's beaches, over Atlantic Ave., Winnapaug Pond acts as the ecological center of the neighborhood, host to unique ecosystems only found in Rhode Island.

RESPONSIBLE DEPARTMENTS

Code Enforcement
Public Works
Engineering
Planning + Zoning
Conservation Commission
Recreation
Water + Sewer

1 LIVING WITH WATER

Action Items:

1. **Development:** The greatest threat to Winnapaug Pond is unplanned development within its watershed. The Town of Westerly should implement minimum buffers surrounding the pond and encourage development away from the pond through a Transfer of Development Rights Ordinance.
2. **Permeability:** Impervious surfaces increase the amount and rate of surface water runoff, leading to erosion of tributary banks, degradation of habitat, and increase sediment loads in ponds, and can accumulate large amounts of pollutants that are then "flushed" into the pond during storms. The Town of Westerly should develop and implement standards that establish a maximum allowable ratio of impervious surfaces on a property. Parking lots and driveways are the areas that present the greatest opportunity to reduce impervious surfaces, by replacing them with permeable materials.
3. **Education:** Ecotourism, focusing on Winnapaug Pond and its ecological role, is a way to build environmental awareness among tourists and residents in the Misquamicut neighborhood. Ecotourism offers tourists insight into the impact of human beings on the environment, and fosters a greater appreciation of our natural habitats. It involves travel to natural destinations, with the local flora, fauna, land, and water formations being the main attractions. The benefits of Ecotourism include minimized impact on the environment, direct financial benefits for conservation, financial benefits and empowerment for local people, conservation of biological diversity through ecosystem protection, and minimization of tourists' own environmental impact. Residents of the Misquamicut neighborhood as well as those visiting for a short time can learn about the realities of living on a barrier island, how over-development degrades the functions of the natural ecosystem, and how restoration efforts are benefitting the neighborhood. Misquamicut can advertise ecotourism through the state and local tourism boards.

Full stormwater inlet after minimal rainfall

Pooling of water on impervious roadway

CREATING ENJOYABLE STREETS

Recommendation 2

LEED-ND identifies safe, appealing, and comfortable street environments that encourage daily physical activity and avoid pedestrian and bicycle injuries as a key component of sustainable neighborhoods. There are many factors that go into making a street environment work.

Misquamicut's strengths in this respect are that most of the dwelling units are within walking distance of either the beach or Winnapaug Pond. Upgrading the uses and activities at the Pond, such as a walk/bike trail, or low-impact water sports like kayaking, would provide an "active use" space within walking distance year-round.

Though the majority of the Misquamicut population is within walking distance of family entertainment, restaurants, recreation, parks, and housing, these uses are often closed part of the year.Other year-round uses such as a grocery store, hardware store, pharmacy, bank, salon, medical clinic, or post office are well beyond walking distance.

Support has already been expressed from community members for a walking/biking trail development on the southern edge of Winnapaug Pond. We recommend that Westerly works with property owners around the pond to secure a right of way for such a trail. While initial recommendations are for a wooden boardwalk, we recommend that Westerly consult conservation experts to determine what kind of trail would best support the Pond's ecological processes while providing better pedestrian and bicycle access. The trail should act as a leg for a network of bike paths throughout Misquamicut. Educational placards along the trail could solidify the concept of the Pond as the center of Ecotourism.

RESPONSIBLE DEPARTMENTS

Public Works
Engineering
Planning + Zoning
Recreation

Atlantic Ave. acts as the main thoroughfare in Misquamicut's business district, however it lacks infrastructure to support safe walking or biking.

CREATING ENJOYABLE STREETS

Action Items:

1. **Transit:** Currently, there is no reliable public transit that tourists or residents can use to get to or around Misquamicut. We recommend that Westerly continue efforts in exploring at least seasonal public transit to serve Misquamicut.
2. **Parking:** For the day trippers who drive to Misquamicut, parking at a central lot further inland and taking a shuttle could be less expensive and more convenient. Reducing the number of cars in Misquamicut would make the pedestrian and bicycle experience safe and more enjoyable. Westerly could do more to coordinate and advertise a parking shuttle system, perhaps coordinating with a Business Improvement District (see Economical Resiliency).
3. **Bike:** The first step to making Misquamicut bikeable is to provide adequate bicycle facilities. In a non-residential building, this means providing bicycle storage for at least 2.5% of peak visitors, and no less than 4 spaces per building. For residential buildings, providing at least one storage space per unit is good practice. Westerly should mandate bicycle parking for all new construction and renovation.
4. **Walk:**

- **Sidewalks:** Misquamicut's lack of continuous sidewalks and lack of pedestrian amenities make it an unsafe and unenjoyable place to walk. Tourists and residents alike should be able to safely walk to and from the beach and the pond. Misquamicut could create a network of continuous sidewalks (possibly made from permeable materials) through the residential neighborhoods with connections to a walking trail by the pond and safe crossing at Atlantic Ave. should be established to get to the beach.
- **Street Trees**: Misquamicut is noticeably missing street trees. The Town of Westerly should consider hiring an Urban Forester to incorporate climate-appropriate trees and plantings along public rights-of-way. Trees provide shade for pedestrians and can perform a range of ecological functions.
- **Safe Speed for Ped and Bike Traffic:** On Atlantic Ave. the speed limit is too fast to support safe biking or walking. The speed limit should be reduced to 25 mph. Physical changes to the streetscape, such as pedestrian bulb-outs and the addition of street trees should be included to reduce traffic speeds.
- **Lighting:** Inadequate lighting contributes to pedestrians feeling unsafe when walking at night. Provide human-scale, night-sky-approved lighting to encourage safe night walking and avoid light pollution.

Some of Atlantic Ave., and most of the streets further inland have no sidewalks to support the throngs of beachgoers in the summer or the year-round residents.

REBUILDING + RELOCATING

Recommendation 3

Spending money (public and private) to redevelop properties in the floodplain that have been significantly damaged by storms is a losing battle and poor investment. When asked what the area would look like in 50 years, stakeholders related to the fact that sea level rise and inevitable storm inundations would dramatically change the landscape. Many people remarked that Shore Road would likely live up to its name. With this in mind, the Town of Westerly needs to consider how can Misquamicut make good investments to develop in the present. Our recommendation is to gradually stop development in the floodplain. This recommendation should inform decisions in the long term.

In the short term, Winnapaug Pond and its watershed can't function as an efficient storm sink if development continues at the status quo. Strategic zoning changes and land acquisition, in combination with resilient construction and engineering practices can, on a 25-year time frame, make the Misquamicut neighborhood a more sustainable place to live and run a business.

RESPONSIBLE DEPARTMENTS

Code Enforcement

Planning + Zoning

Conservation Commission

An example of a typical rebuild. Houses are raised to FEMA standards and sometimes built-out larger than the house they replaced.

3 REBUILDING + RELOCATING

Action Items:

1. **Non-Conforming Structures:** Westerly should consider re-zoning portions of Misquamicut with a history of storm damage, and where future inundation is projected to preclude new development. The Town could also establish a criteria for being eligible for rebuilding damaged structures. A threshold, for example 50% damage, would trigger a determination with restrictions on development. Additionally, vacant land should be inventoried and converted into ecosystem-supporting open space.
2. **Flood Resistance:** When rebuilding, FEMA standards or better should be standard practice. When possible, cluster building out of the floodplain. Open ground floor areas that result from homes being raised should be kept clear of "breakaway" walls and be used exclusively for parking. Stored items can lead to pollution of the groundwater and the pond during flood events.
3. **Construction:** Given the beach-front location, it is inevitable that people will want to continue building in Misquamicut. When this does occur, the construction standards should be crafted with consideration for the fragile ecosystem. Implementing construction activity pollution prevention techniques, prohibiting soil compaction, and attempting to keep existing trees on lots or replacing them should be standard practice. Low-Impact Development (LID) includes replicating to the extent possible natural site hydrology. We recommend that incentives be put in place for those developing a lot to manage (on site) the stormwater runoff from the developed site for between the 80th to 100th percentile rainfall events. This could be as simple as installing rainbarrels or as sophisticated as a rain garden / cistern combination system.

An example of a a typical Misquamicut house that has not been significantly damaged in a storm.

INCREASING ECONOMIC RESILIENCY

Recommendation

4

RESPONSIBLE DEPARTMENTS

Town Manager

Chamber of Commerce

Misquamicut Business Association

Prior to Hurricane Sandy making landfall in Misquamicut, the Town mobilized generator for the Stormwater Pump Station, which was mounted on a trailer, and placed it on higher ground. This small act kept a bad situation from becoming worse. Economic vitality and job availability in Misquamicut are intrinsically connected to the town's ability to relocate similarly critical infrastructure systems out of harm's way during future storm events.

LEED-ND SLL, Credit 5, Housing and Jobs Proximity, and NPD, Credit 3 Mixed-Use Neighborhood Centers, encourage balanced communities with proximate housing and employment opportunities and diverse land uses within 1/4 mile walking distance to increase a neighborhood's sustainability. Taken in aggregate, these credits strive to form a community with employment options and services to satisfy daily needs.

Though summer cottages on stilts are a greater challenge to mobilize, many businesses in Misquamicut (including small start-ups with limited capital) are well suited for alternatives to traditional brick-and-mortar structures. Restaurants, recreational outfitters, beach facilities, and educational groups can operate out of customized mobile units which would allow them to move their business out of harms way prior to a storm reaching the shore.

4 INCREASING ECONOMIC RESILIENCY

Action Items:

1. **BID:** Misquamicut's business district on Atlantic Ave. is unique in its seasonal nature, in its need for collaborative decision-making in light of resiliency to storms, and in its adaptability in the face of tragedy. A Business Improvement District, or BID, could provide capital for the Atlantic Ave. businesses to make strategic investments in their unique business community. Some functions of a BID are: Public Area Maintenance, Landscape Architecture, Urban Design, Capital Improvements, Marketing, Business Recruitment, and Crime Prevention. In order to establish a BID, the Town of Westerly will need to work to change the State legislation requiring a municipality's population to be at least 100,000 in order to establish a District Management Authority.
2. **Moveable Businesses:** Currently an ordinance limits street vendors to working during one-time events such as farmers markets. This ordinance makes it impossible for Street Vendors / Food Trucks to operate sustainably (or make a profit) within the law. From a resiliency standpoint, as well as from the LEED-ND standpoint, the moveable businesses provide a creative solution to the problem of establishing brick-and-mortar businesses in the floodplain, and, assuming they are employing locals, providing jobs in proximity to a residential neighborhood. We recommend reviewing the legislation and finding a way to facilitate their operations, as they represent a business model that is sustainable for a barrier island. An example of a way to facilitate their operations could be setting aside parking spaces in lots or on the streets where they do their best business and permitting the mobile businesses to set-up in a different spot every day.
3. **Economic Niches**: With a focus on Ecotourism and Winnapaug Pond as a destination, new economic niches will form and, in turn, new jobs will be created. Bikeable streets and a trail around the Pond will mean a demand for bicycles, bicycle repair, and bicycle rental. An unpolluted pond will attract more users, like kayakers, and a demand for watercraft outfitters. Diversifying small businesses will help sustain the economic viability of Misquamicut.

Michael Hughes and his University of Colorado collaborators transformed a 10-by-47-foot trailer destined for the landfill into the striking TrailerWrap "rehab" prototype.

Homes and businesses that can mobilize and move inland at the end of the season or in anticipation of a storm event are examples of a creative solution to the effects of regular storms and climate change in MIsquamicut.

SUSTAINABILITY ASSESSMENT

LEED-ND Checklist

The Sustainable Neighborhood Assessment tool includes an annotated LEED-ND checklist created by Global Green. It is a key component of the process used to document and compare the assessment area against the LEED-ND prerequisites and credits. Each credit within the three credit categories (Smart Location & Linkage, Neighborhood Pattern & Design, and Green Infrastructure & Building) is marked as "achieved," "not achieved," "unknown," or "not applicable" under baseline conditions. Additional analysis has been done based on local planning policy, regulatory support, technical feasibility, market support and stakeholder input. The preliminary checklist analysis was edited after site visits, stakeholder meetings, and conversations with city staff. This information was then translated into an overall assessment of sustainable neighborhood performance.

LEED for Neighborhood Development:
Project Assessment Checklist

Misquamicut Neighborhood, Westerly, RI

Legend	
✔	Achieved
?	Unkown
✕	Not Achieved
–	Does not exist/ NA
	Explicit support/ no technical issues
	Lack of explicit support/ minor technical issues
	Opposition/ signficant technical issues
	Not Applicable

Baseline Conditions	Local/Regional Planning Priority	Regulatory Support	Technical feasibility	Market Support	Neighborhood Need/ Stakeholder Input			Smart Location & Linkage	Total Points
✕						P 1	**Smart Location**		Required
✔						P 2	**Imperiled Species and Ecological Communities**		Required
✔						P 3	**Wetland and Water Body Conservation**		Required
–						P 4	**Agricultural Land Conservation**		Required
✔						P 5	**Floodplain Avoidance**		Required
✔						C 1	**Preferred Locations**		
–						C 2	**Brownfield Redevelopment**		
✕						C 3	**Access to Quality Transit**		
✕						C 4	**Bicycle Network**		
✕						C 4	**Bicycle Storage**		
✔						C 5	**Housing and Jobs Proximity**		
–						C 6	**Steep Slope Protection**		
✔						C 7	**Site Design for Habitat or Wetland and Water Body Conservation**		
✕						C 8	**Restoration of Habitat or Wetlands and Water Bodies**		
✔						C 9	**Long-Term Conservation Management of Habitat or Wetlands and Water Bodies**		
								Total	0

LEED-ND Checklist

LEED for Neighborhood Development:
Project Assessment Checklist

Misquamicut Neighborhood, Westerly, RI

Legend	
✔	Achieved
?	Unkown
✕	Not Achieved
_	Does not exist/ NA
	Explicit support/ no technical issues
	Lack of explicit support/ minor technical issues
	Opposition/ signficant technical issues
	Not Applicable

Baseline Conditions	Local/Regional Planning Priority	Regulatory Support	Technical feasibility	Market Support	Neighborhood Need/ Stakeholder Input				
Neighborhood Pattern & Design									
✕						P 1	**Walkable Streets- Principal Entries**	Required
✕						P 1	**Walkable Streets- Building Height to Street Width Ratio**	Required
✕						P 1	**Walkable Streets-Continuous Sidewalks**	Required
✕						P 1	**Walkable Streets-Garage and Service Bays**	Required
✕						P 2	**Compact Development**	Required
✕						P 3	**Connected and Open Community**	Required
✕						C 1a	**Walkable Streets : Facades and Entries**	
✕						C 1b	**Walkable Streets: Ground-Level Use and Parking**	
✕						C 1c	**Walkable Streets:Design Speed for Safe Ped and Bike Travel**	
✕						C 1d	**Walkable Streets: Sidewalk Intrusions**	
✕						C 2	**Compact Development**	
✕						C 3	**Mixed-Use Neighborhood Centers**	
✕						C 4	**Diversity of Housing Types**	
✕						C 4	**Affordable Housing**	
✔						C 5	**Reduced Parking Footprint**	
✕						C 6	**Connected and Open Community**	
✕						C 7	**Transit Facilities**	
✕						C 8	**Transportation Demand Management**	
✔						C 9	**Access to Civic and Public Spaces**	
✕						C 10	**Access to Recreation Facilities**	
✕						C 11	**Visitability and Universal Design**	
✔						C 12	**Community Outreach and Involvement**	
✕						C 13	**Local Food Production**	
✕						C 14	**Tree-Lined and Shaded Streets**	
✕						C 15	**Neighborhood Schools**	

LEED-ND Checklist

LEED for Neighborhood Development:
Project Assessment Checklist

Misquamicut Neighborhood, Westerly, RI

Legend	
✔	Achieved
?	Unkown
✕	Not Achieved
–	Does not exist/ NA
	Explicit support/ no technical issues
	Lack of explicit support/ minor technical issues
	Opposition/ signficant technical issues
	Not Applicable

	Baseline Conditions	Local/Regional Planning Priority	Regulatory Support	Technical feasibility	Market Support	Neighborhood Need/ Stakeholder Input			
Green Infrastructure & Buildings									
✕							P 1	**Certified Green Building**	Required
✔							P 2	**Minimum Building Energy Efficiency**	Required
✔							P 3	**Minimum Building Water Efficiency**	Required
✔							P 4	**Construction Activity Pollution Prevention**	Required
✕							C 1	**Certified Green Buildings**	
✕							C 2	**Building Energy Efficiency**	
✕							C 3	**Building Water Efficiency**	
✕							C 4	**Water-Efficient Landscaping**	
✕							C 5	**Existing Building Use**	
✕							C 6	**Historic Resource Preservation and Adaptive Reuse**	
✕							C 7	**Minimized Site Disturbance**	
✕							C 8	**Rainwater Management**	
✕							C 9	**Heat Island Reduction**	
✕							C 10	**Solar Orientation**	
✕							C 11	**On-Site Renewable Energy Sources**	
✕							C 12	**District Heating and Cooling**	
✕							C 13	**Infrastructure Energy Efficiency**	
✕							C 14	**Wastewater Management**	
✕							C 15	**Recycled Content in Infrastructure**	
✔							C 16	**Solid Waste Management Infrastructure**	
✕							C 17	**Light Pollution Reduction**	

Project Totals (Certification estimates)

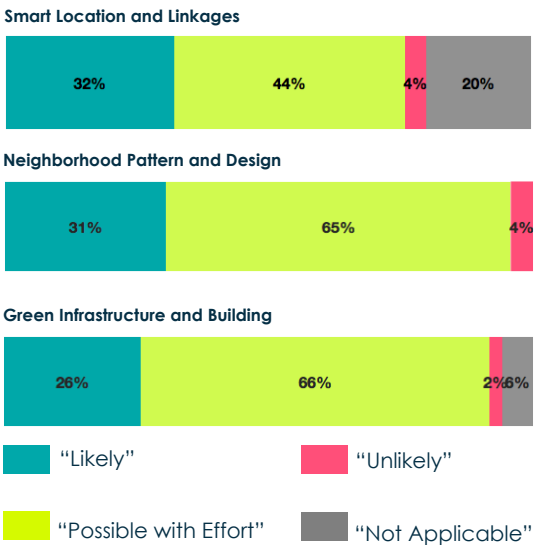
Certified: 40-49 points, **Silver:** 50-59 points, **Gold:** 60-79 points, **Platinum:** 80+ points

SUSTAINABILITY ASSESSMENT

LEED-ND SCORE

Based on the in-field assessment, planning document review, various stakeholder meetings, and the community workshop, the Global Green team estimated which LEED-ND credits were "Likely," "Possible with Effort," "Unlikely" to be achieved, or "Not Applicable," considering existing conditions, technical feasibility, policy readiness, financial burden, and applicability to neighborhood conditions. The bar graph summary identifies the overall level of sustainable neighborhood performance for Misquamicut. A high percentage of credits fall into the "Possible with Effort" category, and of the remaining credits, a significant percentage fall within the "Likely" category, which shows a lot of potential, and a long road ahead for improving the sustainability of the neighborhood, specifically by pursuing the high-priority recommendations described in this report.

The summary table below shows the numeric values extrapolated from the percentage of credits identified as "Likely" below. The recommendations listed in the previous pages are largely a response to LEED-ND criteria which achieving was identified as "Possible with Effort" by the assessment team. While these values do not correlate exactly to specific LEED-ND points, they provide an estimate of the neighborhood's potential level of future achievement. It should be noted that this is a rough measure of performance and not an exact representation of the neighborhood's level of possible certification. It should also be noted that all the prerequisites need to be achieved if certification will be pursued. While recognizing these constraints, the categories generated through the assessment serve as a useful metric for estimating formal LEED-ND certification.



Westerly, Misquamicut Neighborhood

LEED for Neighborhood Development

	Total	Achievable	Possible
Smart Location and Linkage	27	9	12
Neighborhood Pattern and Design	44	13	29
Green Building and Infrastructure	29	8	19
	100	30	60

Point Requirements for LEED-ND Certification

Certified: 40-49 Gold: 60-79

Silver: 50-59 Platinum:80+

This Page Is Intentionally Left Blank

Sustainable Neighborhood Assessment Team

Global Green USA

Tim Bevins
Krista Frank

Natural Resources Defense Council

Jessica Millman

US Green Building Council

Meghan Bogaerts

Green urbanism program

2218 Main Street
Second Floor
Santa Monica, CA 90405
310.581.2700 ph
310.581.2702 fax
www.globalgreen.org