CITY OF BOYNTON BEACH

Repetitive Loss Area Analysis

2019

CRS MAX CONSULTANTS, INC.

FTC FLORIDA TECHNICAL CONSULTANTS

Table of Contents

List of Figures

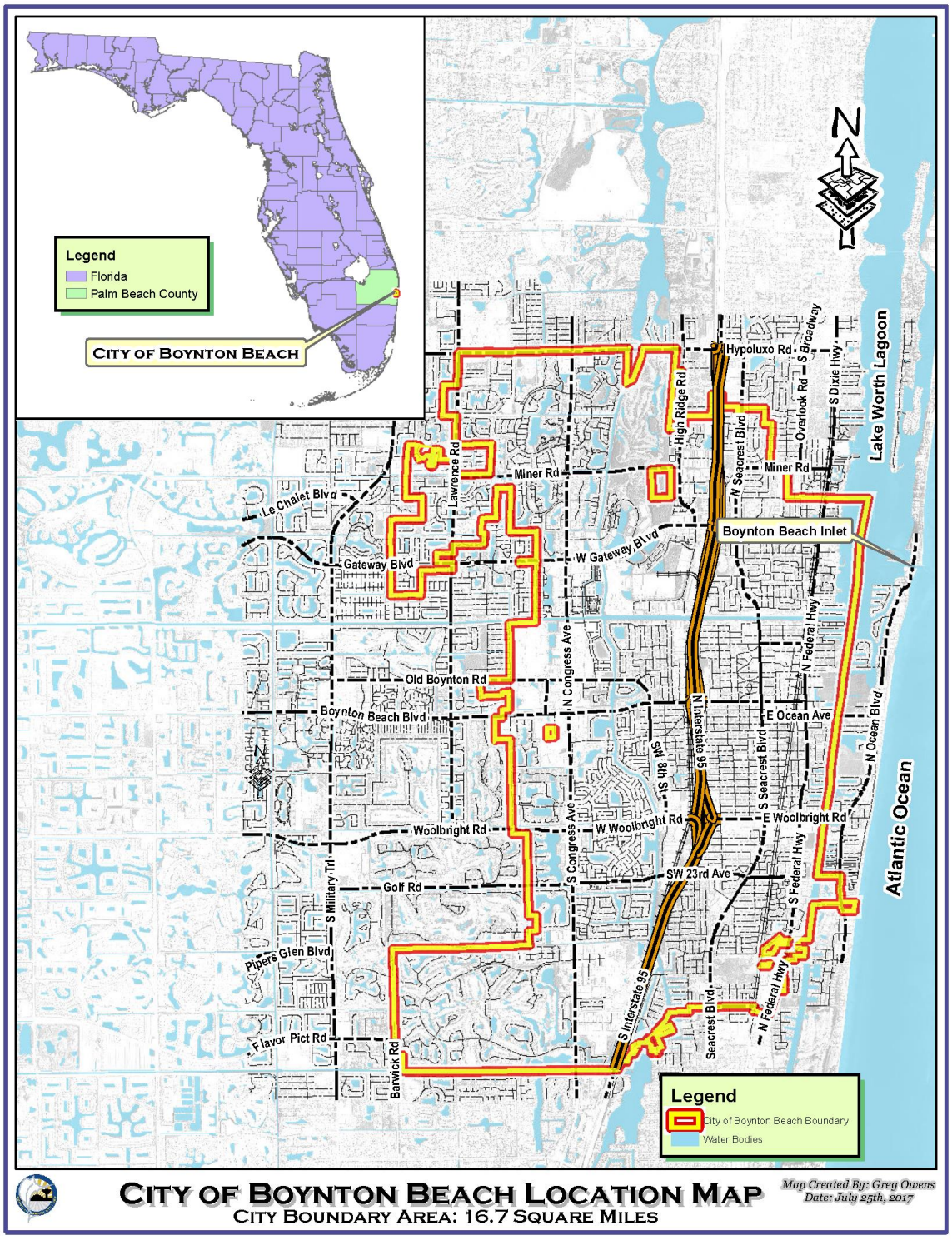


Figure 1: City of Boynton Beach Location Map

City of Boynton Beach Summary

Known as “America’s Gateway to the Gulfstream,” Boynton Beach is a 16.5 square-mile coastal community in southeastern Palm Beach County, Florida. Refer to Figure 1. The City spans four miles of the Intracoastal Waterway and one of the four ocean inlets along the County’s 47-mile shoreline. The City lies within close proximity to three major international airports and three major seaports. The average annual precipitation in Boynton Beach is 61.33 inches (155 cm).

Boynton Beach’s mission is to be “a vibrant and sustainable community that provides exceptional services” and its vision is “to be a welcoming and progressive coastal community that celebrates culture, innovation and business development.” The City has 253 acres of municipal parks, beach and conservation lands; and a full-service marina that offers fishing and scuba diving charters, jet-ski and boat rentals, and waterfront restaurants. The City and Community Redevelopment Agency host outdoor events year-round, including Pirate Fest and an International Kinetic Art Exhibit and Symposium.

Boynton Beach is the third largest city in Palm Beach County, with an estimated 2018 population of 76,756. The City’s racially and ethnically diverse population includes 53% non-Hispanic Whites, 29% Black/African Americans, and 14% Latino. Boynton Beach prides itself on its diversity and inclusivity. The City’s top employers are Bethesda Memorial Hospital, the City of Boynton Beach, Palm Beach County School District, Publix Super Markets, and Walmart. The City is undergoing a period of economic development, with increasing housing prices and numerous mixed-use projects underway, including the 16-acre *Town Square Boynton Beach*.

Repetitive Loss Area Analysis

September 2019

Executive Summary

The National Flood Insurance Program has established the "repetitive loss property" as a classification for properties that continue to be impacted by flooding and its resulting claims. These properties, together with surrounding properties that may experience similar problems, are classified as "repetitive loss areas" and become the focus of attention. The Repetitive Loss Area Analysis is a tool that a community can use to address its most costly flooding issues. It includes an analysis of the repetitive loss areas, including a description of every building, a statement of the problem in each area, and recommendations to mitigate the problem. The City of Boynton Beach, in order to be proactive in its efforts to mitigate flooding in the community, has produced a Repetitive Loss Area Analysis covering all the repetitive loss areas in the City.

The Analysis includes considering a broad spectrum of activity types, including:

- Preventive
- Property protection
- Natural resource protection
- Emergency services
- Structural projects
- Public information

The specific recommendations given in this report represent concrete steps the City, the affected communities, the local drainage districts and the property owners can take to mitigate flooding in each of the repetitive loss areas in the City.

1 Overview

No natural hazard is more common in the United States than flooding. Floods have been the cause of more than 70 percent of all Presidential Disaster Declarations, occurring in over 20,000 American communities. More than 8 million residential and commercial structures are currently built in areas at risk of flooding, and floods are costly to local, state and federal governments, as well as to flood victims, who must shoulder the cost of recovery.

The City of Boynton Beach, which is the third most populous municipality in Palm Beach County, has not been immune to the flooding hazard. Intense or prolonged,

concentrated rain is the primary cause of localized flooding. Major rainfall events often accompany hurricanes, tropical storms, and thunderstorms. The overabundance of rainfall creates saturated soil conditions, after which additional rain causes surface ponding or an overflow of catchment canals and ponds. This can result in street and yard flooding, which is regarded as nuisance flooding. It can also result in flooding of buildings, a consequence that is of particular importance to the City because of its impact to the community's residents and businesses.

In recent years the City of Boynton Beach has experienced the following major flood events registering at least 8 inches of rainfall:

• Hurricane Frances	September 4, 2004	10.36 in.
• Hurricane Jeanne	September 25, 2004	10.22 in.
• Rain Event	June 5, 2005	8 in.
• Rain Event	December 14, 2006	8.21 in.
• Rain Event	October 28-29, 2011	6-9 in.
• Tropical Storm Isaac	August 26, 2012	12 in.
• Rain Event	December 11-12, 2012	6-10 in.
• Rain Event	January 9-10, 2014	20 in.
• Tropical Storm Philippe	October 28-29, 2017	4-8 in.

In response to the challenge of the flood hazard, the City has established a proactive approach, which includes stormwater planning, floodplain management planning, establishment of higher regulatory standards, implementation of an aggressive stormwater capital improvement program and implementation of sustainable development standards

1.1 National Flood Insurance Program (NFIP)

Historically the private insurance industry was reluctant to insure properties against flood losses due to the financial risk that would be required. Beginning in 1968 the federal government made flood insurance available through the National Flood Insurance Program (NFIP). The NFIP is based on a cooperative agreement between the Federal Emergency Management Agency (FEMA) and local units of government. FEMA now underwrites flood insurance policies within communities. Local governments are tasked to regulate development in the floodplain. Participation in the NFIP is voluntary. Communities have incentive to join because federally backed flood insurance is not available in non-participating communities and a non-participating community will not receive Federal aid for damage to insurable buildings in the flood hazard areas.

1.2 Community Rating System (CRS)

The Community Rating System (CRS) is a voluntary program recognized by NFIP and designed to reward a community for doing more than simply meeting the NFIP minimum requirements to reduce flood damages. Once a community has been accepted into the CRS, the community's floodplain management activities are rated according to the scoring system described in the *CRS Coordinator's Manual*. CRS communities are rated on a scale of 1-10; Class 10 is the lowest and Class 1 is the highest. A Class 10 community receives no reduction in flood insurance premiums; each class above Class 10 receives an additional 5% premium cost reduction over the previous class for properties located within special flood hazard areas. Class 1 requires the most credit points and provides the highest premium reduction of 45%.

Communities can improve their CRS ratings by performing activities such as: reducing flood damage to existing buildings, managing development in areas not shown in the floodplain on the FIRMs, protecting new buildings from floods greater than the 100-year flood, maintaining and improving stormwater drainage infrastructure, helping insurance agents obtain flood data, and encouraging people to obtain flood insurance. The reward for these activities comes in the form of reduced premiums for flood insurance policy holders.

In October 1991, the City of Boynton Beach qualified for the CRS Program. There are currently 7,386 flood insurance policies in place in the City, with over $2.6 million paid in premiums annually. The average policy cost is $354. To keep the CRS discounts, the City must continue to implement its CRS program and provide status reports to the NFIP each year. The City of Boynton Beach is currently rated as Class 6 in the CRS program, earning its residents and businesses within its special flood hazard areas a 20% premium reduction. Each year participation in the CRS program earns an average discount of $53 per policy and a total community discount of $388,766.

1.3 Repetitive Loss Properties

The NFIP considers a property a Repetitive Loss Property if two or more flood insurance claims of more than $1,000 have been paid within any 10-year period since 1978. Currently, repetitive loss properties nationwide account for 15-20 percent of all flood losses, however, they comprise only 1.3 percent of all flood insurance policies. The NFIP has paid over $9 billion in claims to properties classified as repetitive loss properties. By focusing specifically on mitigation of flooding in areas where there are repetitive loss properties, a community can make strides to significantly reduce the detrimental impacts of flooding.

According to FEMA's most recent records, dated May 31, 2018, there are 12 Repetitive Loss Properties within the City of Boynton Beach.

1.4 Repetitive Loss Categories

CRS identifies the following three categories of repetitive loss communities based on the number of properties on the updated FEMA Repetitive Loss list:

(1) Category A: A community that has no repetitive loss properties, or whose repetitive loss properties all have been mitigated. A Category A community has no special requirements except to submit information needed to update its repetitive loss list.

(2) Category B: A community with at least one, but fewer than 50, repetitive loss properties that have not been mitigated. At each verification visit, a Category B community must complete the following activities:

(a) Prepare a map of the repetitive loss area(s),

(b) Review and describe the causes of the repetitive loss,

(c) Prepare a list of the addresses of all improved properties in the identified repetitive loss areas, and

(d) Undertake an annual outreach project to those addresses. A copy of the outreach project is submitted with each year's recertification.

(3) Category C: A community with 50 or more repetitive loss properties that have not been mitigated. A Category C community must

(a) Complete Category B Activies AND

(b) Prepare a floodplain management plan or area analyses for its repetitive loss area(s). The plan and area analysis requirements are explained in Activity 510 (Floodplain Management Planning) in the *CRS Coordinator's Manual*.

The total of 12 repetitive loss properties categorizes the City of Boynton Beach as a Category B community. The City has developed a floodplain management, or flood mitigation, plan which further addresses the City's flood hazards. In an effort to address the City's flood hazard, the City determined the benefit of specific focus upon those areas of the community that have been most impacted by flooding, as shown by their historical flood insurance claims. These areas are known as Repetitive Loss Areas (RLAs).

1.5 Repetitive Loss Area (RLA)

A Repetitive Loss Area (RLA) consists of Repetitive Loss Properties and the surrounding properties that experience the same or similar flooding conditions, whether or not the buildings on those surrounding properties have been damaged by flooding.

Based on the 5/31/2018 AW-501 worksheets, there are 12 unmitigated repetitive loss properties and 6 mitigated repetitive loss properties. A total of 6 Repetitive Loss Areas (RLAs) were initially identified. The areas were based on the following:

(1) Identified properties within a reasonable radius of the repetitive loss properties. This identification was based on an analysis using parcel data and building footprints;

(2) Evaluation of topographical lows and other factors that may have contributed to the flooding of the repetitive loss properties;

(3) Neighboring historical loss properties;

(4) Connectivity of adjacent properties with associated repetitive loss properties, e.g. not separated by a topographic ridge.

From this analysis conducted in January 2019, 149 properties were included in the 6 RLAs. Following the initial determination, site visits were conducted to investigate each of these areas and examine the surrounding land and building characteristics. The individuals conducting the site visits included a stormwater supervisor and a CRS consultant. During the site visits, some of the property owners, managers, and renters were interviewed concerning their experience with flooding. This exercise proved informative and beneficial, resulting in revisions that more appropriately defined the RLAs.

Following the first site visit, the CRS consultant revisited all the areas, gathered data for each building within the areas, interviewed additional homeowners and determined a more precise and appropriate delineation of the RLA boundaries. It was determined that site data supported the establishment of 9, rather than 6 RLAs. The final number of properties in the these RLAs was 48. The primary reason for the increase in RLAs from 6 to 9 was that two of the original RLAs covered large areas that were subject to very different flooding issues. One of those original areas was changed to incorporated three separate RLAs, each with its distinctive issues. The second original RLA was changed to incorporate two separate RLAs, each with its distinctive issues. The limits of the 9 RLAs

was based upon an evaluation of the historic claims data and the determinations made from the onsite visits.

Figure 1 shows the 9 RLAs in Boynton Beach. For reporting purposes, the 9 Repetitive Loss Areas were grouped into two General Areas based on such characteristics as topography, geography and flooding source. The two General Areas are:

Area 1: Eastern/Coastal
Area 2: Western

Area 1 is especially impacted by current and projected levels of sea level rise.

Some of the RLAs are located in private communities in which stormwater management is the responsibility of the local community, rather than the City. For these RLAs, there are limited options for the City to mitigate flooding.

Detailed maps of each area are included in this analysis. Figure 2 provides an overview map of the two General Areas and the Repetitive Loss Areas included in each General Area.

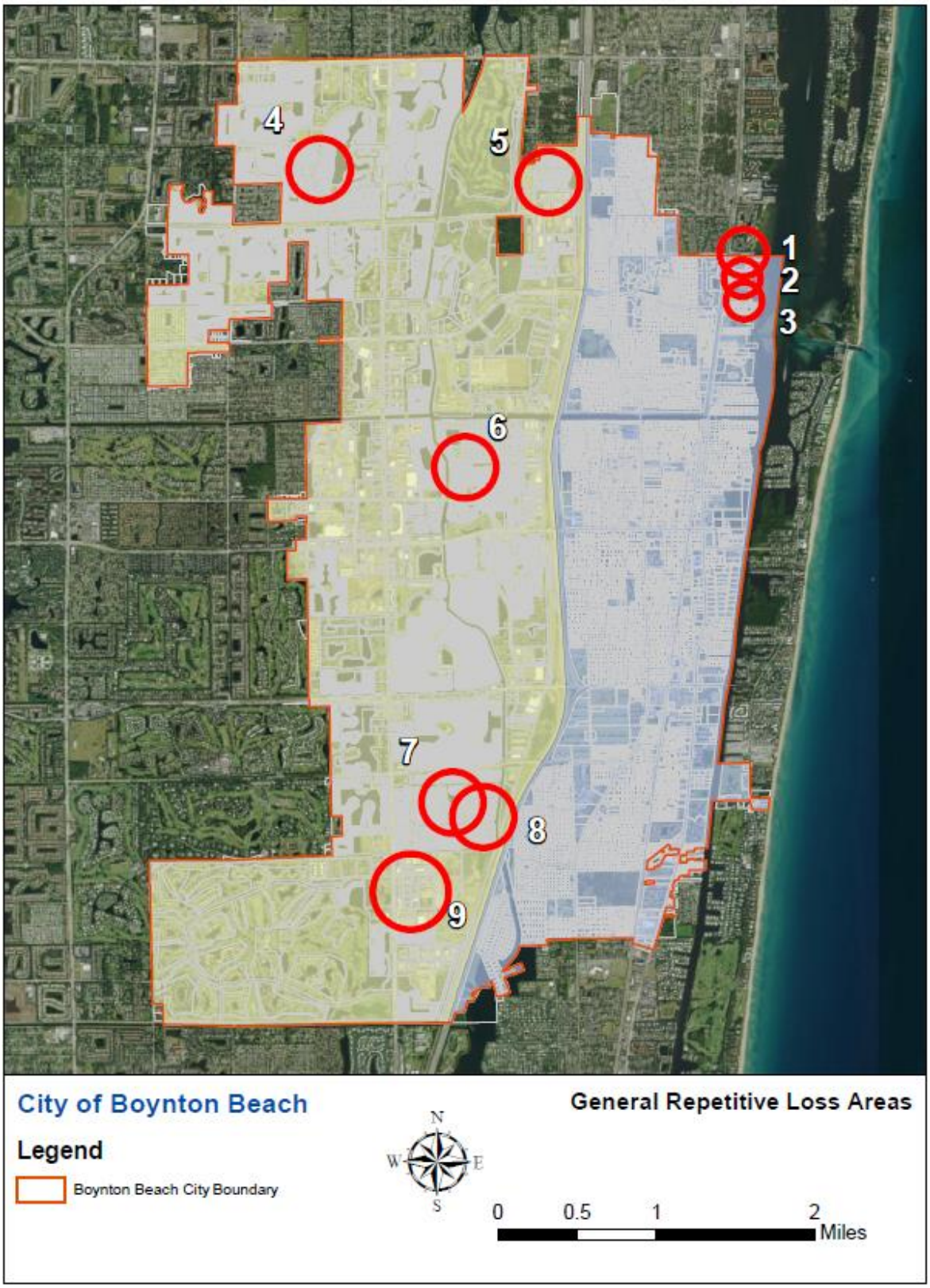


Figure 2: General Repetitive Loss Areas

1.6 Repetitive Loss Area Analysis (RLAA)

Having made an initial determination of the repetitive loss areas, the next required activity is to develop a detailed analysis of these repetitive loss areas to gain a comprehensive understanding of the specific flood conditions. This repetitive loss area analysis is also intended to identify alternative remedies and to provide specific recommendations for flood mitigation.

The following repetitive loss area analysis is a detailed mitigation plan for repetitive loss areas. It provides more specific guidance on how to reduce damage from repetitive flooding.

1.7 Repetitive Loss Area Analysis (RLAA) Process

CRS credit is dependent upon the community's following an appropriate process. The process of developing a RLAA consists of the following five steps outlined in the *2017 CRS Coordinator's Manual*:

Step 1 – Advise all the properties in each Repetitive Loss Area (RLA) that the analysis will be conducted and request their input on the hazard and recommended actions.

Step 2 – Contact agencies or organization that may have plans or studies that could affect the cause or impacts of the flooding.

Step 3 – Visit each building in the RLA and collect basic data.

Step 4 – Review alternative approaches and determine whether any property protection measures or drainage improvements are feasible. The review must look at all of the property protection measures that are appropriate for the types of buildings affected, including: preventative activities, property protection activities, natural resource protection activities, emergency services measures, structural projects, and public information activities.

Step 5 – Document the findings in a report. The report should include: a summary of the process that was followed and how property owners were involved in the process; a problem statement with a map of the affected area; a list or table showing basic information for each building in the affected area; the alternative approaches that were reviewed; and a list of action items identifying the responsible party, when the action should be completed, and how it will be funded.

Following the completion of the five steps of the RLAA process the report must be submitted to the community's governing body for adoption. Thereafter the community must prepare an annual progress report for its area analysis by May 1 and update its repetitive loss area analyses in time for each CRS cycle verification visit.

2. City of Boynton Beach RLAA Process

STEP 1: Advise All Property Owners

The City of Boynton Beach undertook its Repetitive Loss Area Analysis in 2018 and 2019. A letter of advisement was sent to all residents and businesses within the identified repetitive loss areas on December 19, 2018. A copy of this letter and the properties to which it was sent is included in Exhibit 1. Following the completion of the RLAA a second letter was sent to the same residents and businesses on October 18, 2019, advising of the draft completion, making the document available and soliciting input. A copy of this letter is also included in Exhibit 1.

Several property owners responded to the letters; their comments were recorded, and their concerns were taken under consideration. Additionally, while visiting the RLAs, the City team was able to speak with several property owners and renters concerning their particular flood experiences.

STEP 2: Contact Agencies and Organizations

The City sent letters to pertinent agencies and organizations on December 21, 2018. Copies of the letters sent to 37 agencies and organizations are included as Exhibit 2.

In addition to contacting other agencies, available reports and studies were reviewed and pertinent information was gleaned through the Flood Mitigation Plan Update that was concurrently being developed.

The following resources proved particularly beneficial:

- *City of Boynton Beach Flood Mitigation Plan, 2013*
- *City of Boynton Beach Flood Mitigation Plan Update, 2019*
- City of Boynton Beach Utilities Department
- Federal Emergency Management Agency/ISO, City of Boynton Beach, FL, Repetitive Loss Data, May 31, 2018
- Federal Emergency Management Agency, National Flood Insurance Program, *Community Rating System CRS Coordinator's Manual*. FIA-15/2017. Section 510.
- The Federal Emergency Management Agency's *Flood Insurance Study for Palm Beach County*, 2017.

STEP 3: Building Data Collection

One of the City's Stormwater Division staff member and the City's CRS consultant visited all 9 (nine) repetitive loss areas on January 30, 2019. On this site visit, the City described the known history of flooding in each area and mitigation projects either previously completed or planned. Additionally, the flooding causes were analyzed, solutions were discussed, and property owners or renters were interviewed. Subsequently, the CRS consultant returned, took photographs of each building and gathered additional building data, including the following information:

- Address
- Structure type
- Structure condition
- Existing mitigation
- Foundation type
- Foundation condition
- Number of stories
- Height above street grade
- Height above site grade
- HVAC unit or other electrical equipment
- Drainage patterns around building
- Additional structures
- Roadside drainage/swale
- Additional notes as deemed appropriate

The building data collected is available as Appendix A. In order to comply with the Privacy Act of 1974 (5 U.S.C. 522a), however, this information will not be shared with the general public. Photos of some of the typical buildings in each RLA are included in this report. Additional photos are available upon request.

STEP 4: Review Alternative Mitigation Approaches

Many types of flood hazard mitigation strategies exist. There is not one mitigation measure that fits every case. Nor is there even one strategy that fits most cases. Successful mitigation often requires multiple strategies. The *2017 CRS Coordinator's Manual* lists the following primary types of mitigation as follows under Categories of Floodplain Management Activities (FEMA FIA-15, 2017):

1. **Preventive** activities keep flood problems from getting worse. The use and development of flood-prone areas is limited through planning, land acquisition, or regulation. They are usually administered by building, zoning, planning, and/or code enforcement offices.

2. **Property Protection** activities are usually undertaken by property owners on a building-by- building or parcel basis.

3. **Natural Resource Protection** activities preserve or restore natural areas or the natural functions of floodplain and watershed areas. They are implemented by a variety of agencies, primarily parks, recreation, or conservation agencies or organizations.

4. **Emergency Services** measures are taken during an emergency to minimize its impact. These measures are usually the responsibility of city or county emergency management staff and the owners or operators of major or critical facilities.

5. **Structural Projects** keep flood waters away from an area with a levee, reservoir, or other flood control measure. They are usually designed by engineers and managed or maintained by public works staff.

6. **Public Information** activities advise property owners, potential property owners, and visitors about the hazards, ways to protect people and property from the hazards, and the natural and beneficial functions of local floodplains. They are usually implemented by a public information office.

The City took all six of these categories of floodplain management activities into consideration for both of its General Repetitive Loss Areas.

Property protection by homeowners can be undertaken in a variety of ways. Different measures are appropriate for different flood hazards, building types and building conditions. The *2013 CRS Coordinator's Manual* lists the following typical property protection measures.

- Demolish the building or relocate it out of harm's way.
- Elevate the building above the flood level.
- Elevate damage-prone components, such as the furnace or air conditioning unit.
- Dry flood proof portions of the building so water won't cause damage.
- Construct a berm or redirect drainage away for the building.
- Maintain nearby streams, ditches, and storm drains so debris does not obstruct them.
- Correct sewer backup problems.

Grant funding for property protection and flood mitigation is available for both communities and property owners. Following is a partial listing of available grants:
FEMA Grants

- Flood Mitigation Assistance Grant
- Hazard Mitigation Grant
- Pre-Disaster Mitigation Grant
- Repetitive Flood Claims Grant

Other Grants

- US Economic Development Administration (EDA) Public Works/ Infrastructure Grant (Infrastructure/ Stormwater Improvements)
- Five Star/ Urban Waters Restoration (Stormwater Improvement/ Flood Reduction)
- Coastal Partnership Initiative (Intercostal Waterway related)
- Community Budget Issue Request (Florida Legislature direct application for water-related projects)

While the first three steps of the RLAA process are basically identical for all repetitive loss areas, the review of alternative mitigation approaches varies somewhat in accordance with the specific conditions that are encountered in each RLA. Accordingly, the implementation of this step begins with a problem statement for each general area, followed by a discussion of alternative mitigation approaches and a recommendation of action items to be implemented.

STEP 5: Documentation of Findings

Step 5 entails a description of the Repetitive Loss Areas, an analysis of the alternative mitigation measures considered for each area, and a determination of the actions recommended for each area. This analysis for both General Repetitive Loss Areas is included in the remainder of this report.

2.1 City of Boynton Beach RLAA – General Area 1: Eastern/Coastal

Problem Statement

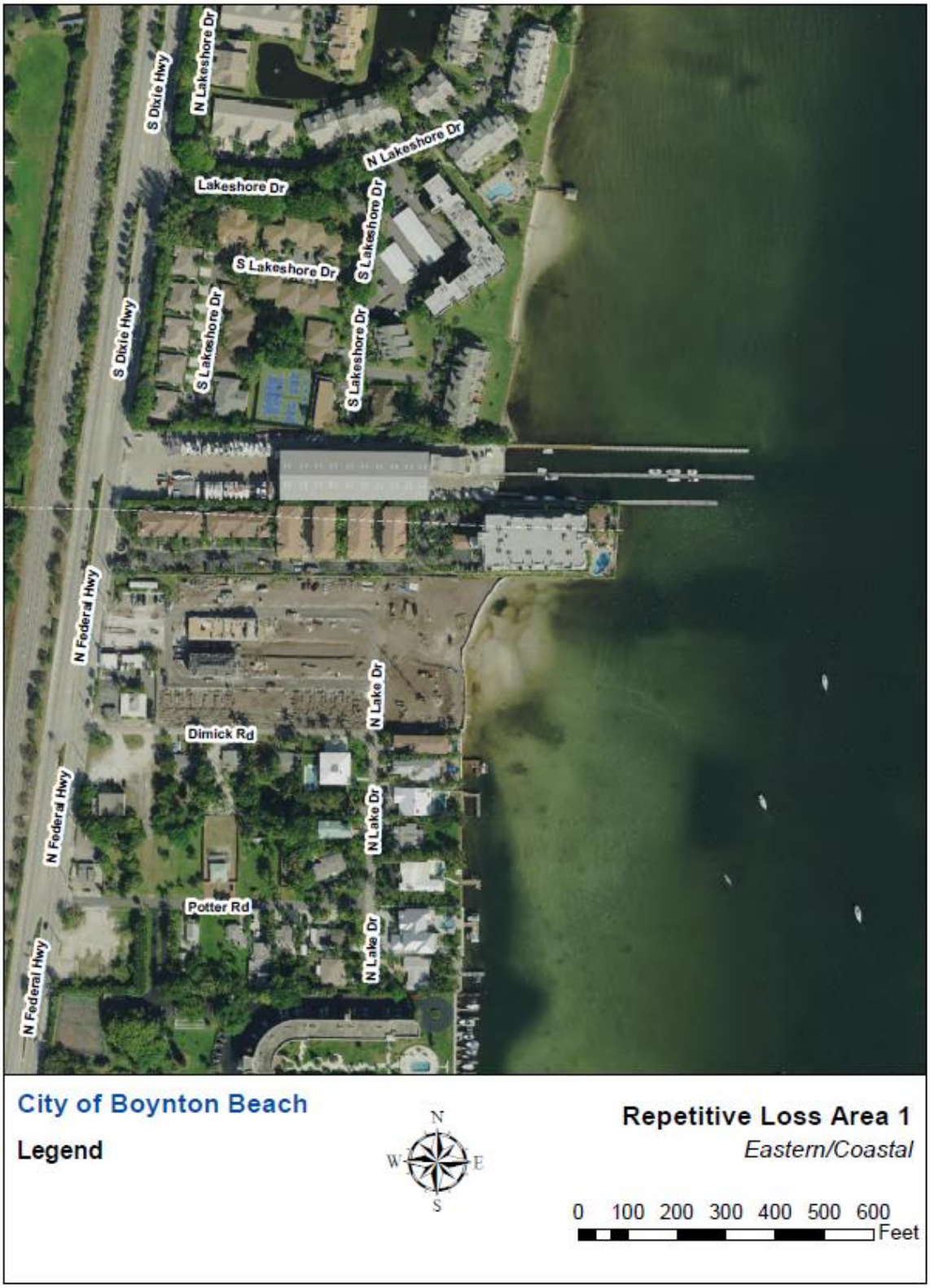
General Area 1 is located between the Southern Lake Worth Lagoon (Intracoastal Waterway) on the east and Interstate 95 on the west. Tidal flow and tidal flooding, particularly in the area along the eastern boundary, significantly impact the stormwater drainage and must be considered when determining mitigation solutions. The growing concern of sea level rise poses an increasing problem for this general area. The proximity to a large body of water near the Atlantic Ocean and across the Boynton Inlet also makes the area more susceptible to storm surges. Many of the buildings in this area are older and were built under ordinances that were less focused on flood mitigation than the current regulations. As newer development has taken place over the past few decades, the newer buildings and properties are more elevated than the older structures. An exceptionally high number of intense rainfall events over the past two decades, as compared with previous decades, increased the number of flood insurance claims.

General Area 1 (Eastern/Coastal) is composed of 3 Repetitive Loss Areas with 4 Repetitive Loss properties.

Repetitive Loss Area	Community Characteristics	Number of RL Properties	Number of Additional Properties*	Total Number of Properties in RL Area	Road Names
1	Private condo with private roadway	1	3	4	North Federal Highway
2	Residential community with City maintained roadway	2	4	6	Lake Drive Potter Road
3	Both private and public residential communities	1	5	6	Lakeside Harbor Las Palmas Park (City maintained road)

*Potential properties due to proximity

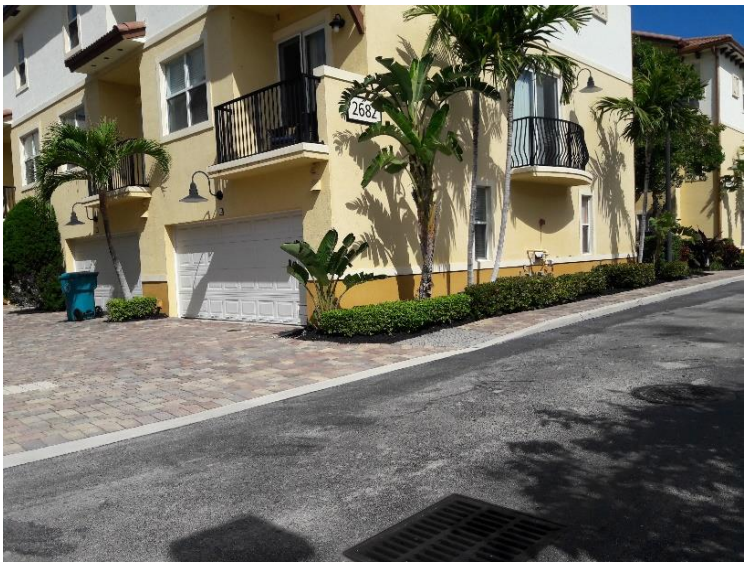
Table 1: General Repetitive Loss Area 1 – Eastern/Coastal



*

Figure 3: Repetitive Loss Area 1 – Private condominium with private roadway

RLA 1 Typical buildings



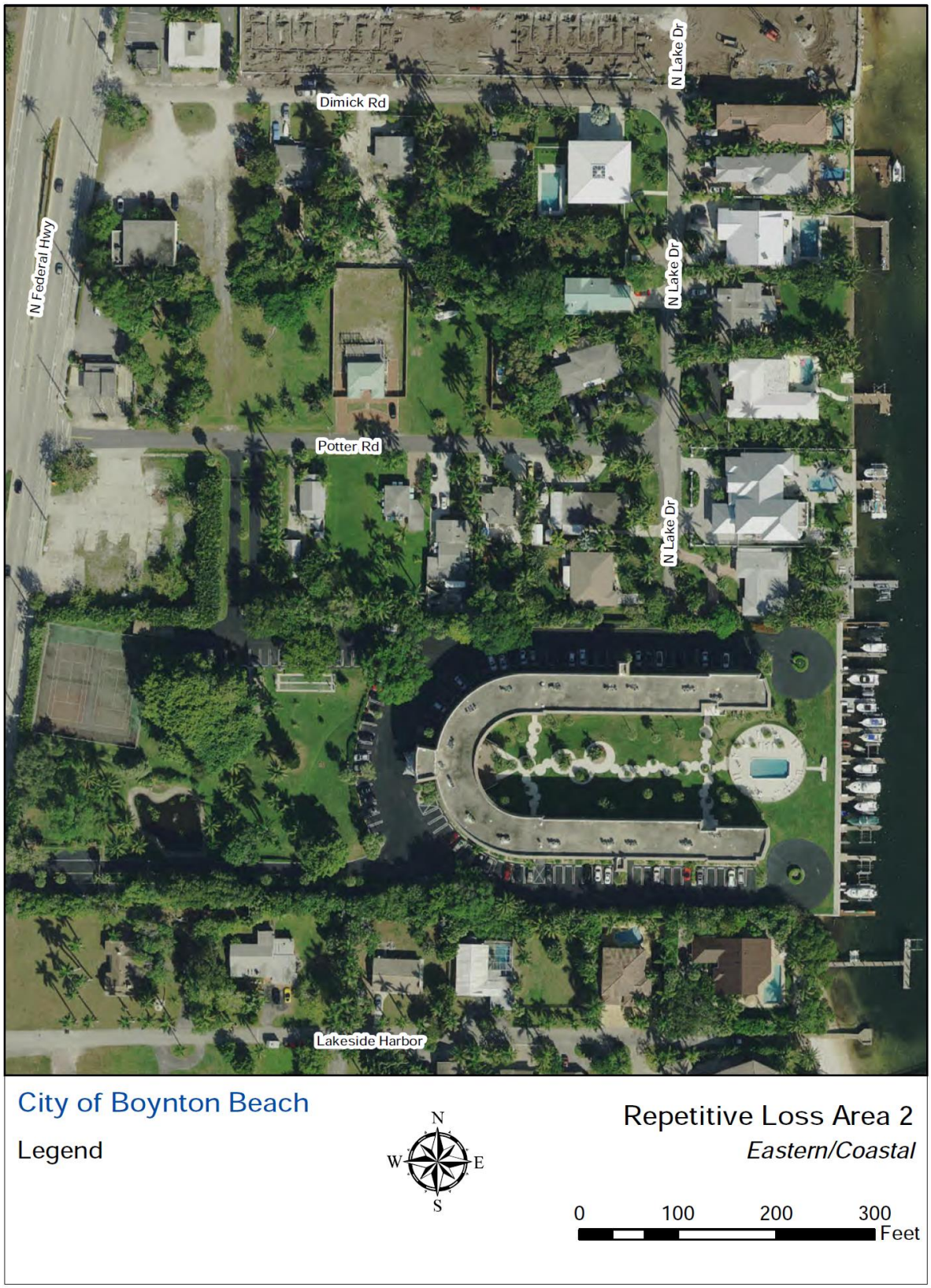


Figure 4: Repetitive Loss Area 2 – Residential community with City maintained roadway

RLA 2 Typical buildings

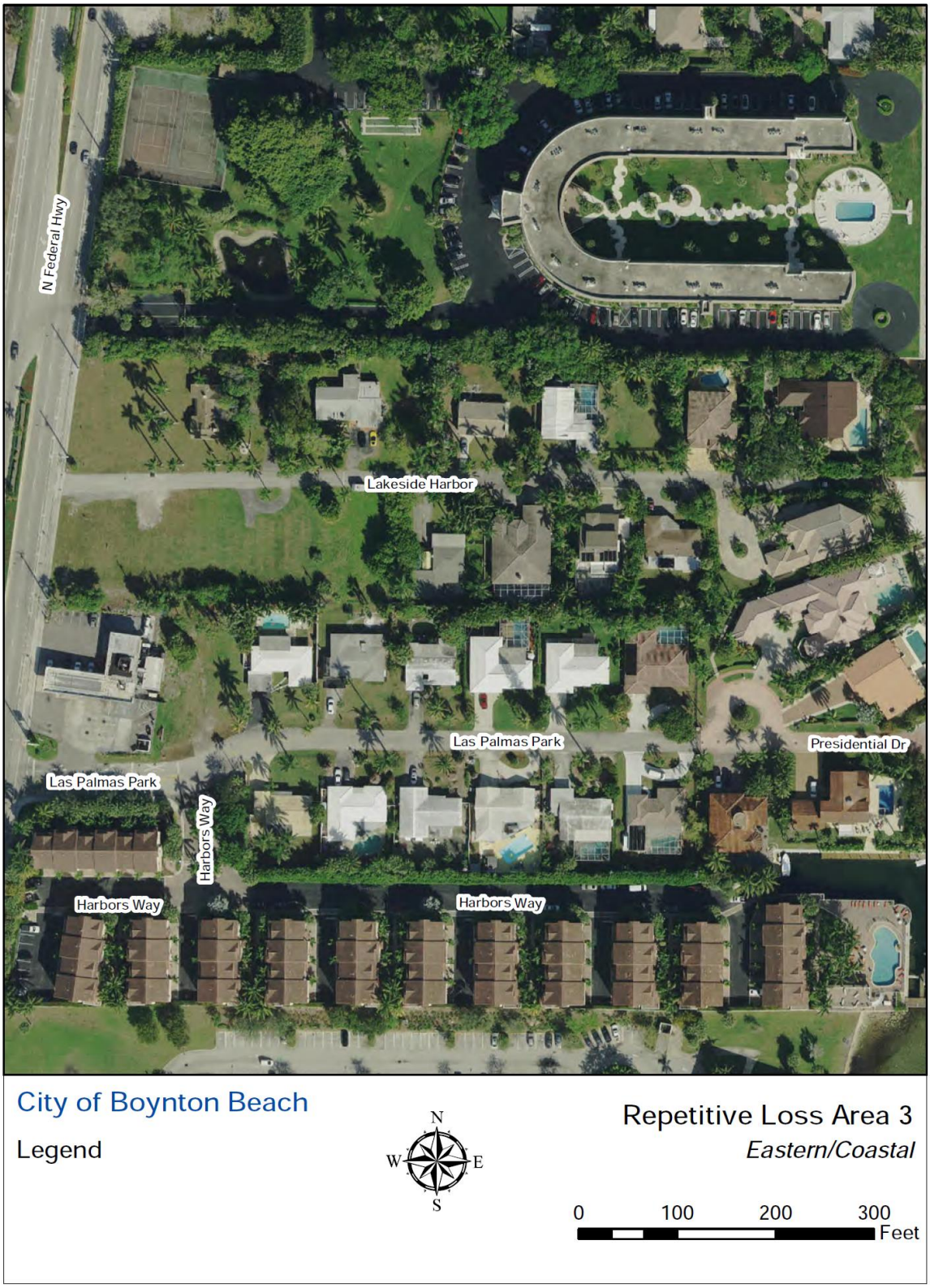


Figure 5: Repetitive Loss Area 3 – Residential community with both private and public roadways: Lakeside Harbor – private; Las Palmas Park – public

RLA 3 Typical buildings

Potential Mitigation Measures for General Area 1: Eastern/Coastal

Mitigation measures under consideration for General Area 1 should include both structural and nonstructural solutions.

Structural Alternatives:

Following is a listing and brief description of the primary methods of structural property protection:

1. Demolition/Relocation.

The only way to absolutely ensure a structure will not accumulate additional losses from future flood events is to demolish the structure completely. A second effective option could be to relocate the structure to an area that is not flood prone.

2. Elevation

Whenever the floor of a home is below FEMA's 100-year flood elevation, physically elevating the structure is often recommended as it is one of the most effective means to prevent flood damage. On a smaller scale, elevating crucial items such as furnaces, water heaters, air conditioning units and other electrical components can also be effective means of flood mitigation.

3. Dry flood-proofing

Dry flood-proofing consists of completely sealing around the exterior of the building so that water cannot enter the building

4. Wet flood-proofing

Wet floodproofing consists of modifying uninhabited portions of a home, such as a crawl space, garage, or unfinished basement with flood-damage resistant materials, to allow floodwaters to enter the structure without causing damage.

5. Direct drainage away from the building

In some cases, there are improvements the property owner can make on-site such as directing shallow floodwater away from a flood-prone structure. Building strategically located berms or retention ponds are examples or such mitigation measures.

6. Drainage maintenance.

Removing leaves and other debris from the top of a stormwater catch basin is a simple yet effective means of mitigating flooding.

7. Drainage improvements.

Implementation of drainage improvements, such as installing larger pipes or additional catch basins to receive more stormwater, can effectively reduce flooding.

The homeowner is encouraged to consider each of the structural alternatives listed above and pursue them as deemed appropriate. FEMA grants may be available for some of these alternatives. In addition to homeowner-initiated structural solutions, there are possible structural solutions the City could undertake within City rights-of-way that may provide additional flood mitigation, such as local drainage improvement projects.

Nonstructural Alternatives:

Nonstructural alternatives often provide flood mitigation indirectly. Their impact may be as significant as structural alternatives, but that impact may not be as immediately realized or as dramatic as structural solutions. Following are examples of effective nonstructural mitigation alternatives.

1. Promote the purchase of flood insurance.
2. Improve the City's floodplain and zoning ordinances.
3. Improve the City's floodplain mapping, and stormwater master planning.
4. Provide enhanced public education concerning the flood hazard and flood mitigation alternatives. This can take place through such means as distributing flyers, utilization of social media and City websites, and neighborhood meetings.
5. Elevate damage-prone components, such as the furnace or air conditioning unit.
6. Coordinate with the Palm Beach County Division of Emergency Management and the National Weather Service (NWS) to enhance flood warning system.
7. Increase open space designation.

General Area 1 is especially impacted by the growing heights of seasonal and King Tides. Several alternatives can continue to be implemented to mitigate the effects of King Tides and high tides, including the following:

- Continuing installation of tidal check valves and raising sea walls
- Enhancing educational program to inform and encourage private communities to maintain their drainage systems
- Maintenance of public outfalls
- Coastal Resilience programming

A brief listing of potential mitigation activities specific to the RLAs in General Area 1 follows:

RLA 1: This RLA, located in a private gated condo, is unique because it is comprised of new buildings. An investigation of the properties in RLA 1 did not indicate problematic features nor suggest clear mitigation alternatives. Furthermore, only one of the four

properties in this RLA has reportedly been impacted by flooding, as indicated by flood insurance claims. It appears likely that the flooding issue is unique to that building and would best be addressed by the owner of that property.

RLA 2: There are two single-family repetitive loss properties located in this RLA. The owner of one property has been pursuing a grant that would allow for demolition of the existing home and raising of the property. The City was recently awarded a Hazard Mitigation Grant Program (HMGP) grant for design and construction of capital drainage improvements to mitigate flooding for the Lakeside Gardens community. Design of this project is underway and construction is scheduled for 2021.

RLA 3: This RLA is comprised of one public street and one private gated street. Flood mitigation efforts by the City in this RLA within the last three years have included the installation of deep swales adjacent to the public roadway. Conversations with homeowners in the area have confirmed that the swale installation has been a successful flood mitigation project, as demonstrated by the fact that no serious flooding has been reported since their installation. Houses adjacent to Lakeside Harbor, however, continue to be subject to flooding. Because these houses are located within a private community, the City's options to assist are limited. Several homeowners have constructed pumping systems which have proven effective for some flooding conditions, but additional mitigation will be necessary to address more serious flooding events.

General Area 1 Recommendations

In light to the increased risk that is encountered by properties located in General Area 1, flood mitigation efforts on the part of property owners is encouraged. The prospect of sea level rise will make flooding in this coastal region particularly concerning in the future. The following mitigation action items are recommended:

1. Capital Stormwater Projects Implementation Specific to General Area 1

Two projects in particular are recommended to mitigate flooding in RLA 2. These are the grant-funded elevation project for one of the RL properties and the grant-funded stormwater drainage project in the Lakeside Gardens neighborhood, immediately adjacent to RLA 2. The Lakeside Gardens project may be completed by 2022. The elevation project is underway.

Responsibility: The RL property owner will be responsible for pursuit of the elevation grant. The Utilities Department is pursuing the HMGP stormwater drainage capital structural improvement grant.

Funding: Both projects are dependent upon grant funding. The City's project is in the design phase, which is funded.

Timing: It is anticipated that both projects could be implemented within three years.

2. Low Impact Development

For purposes of both flood mitigation and water quality improvement, it is recommended that low-impact development be promoted and encouraged in General Area 1. Low Impact Development is a sustainable stormwater management strategy that distributes stormwater across a project site in order to replenish groundwater supplies, rather than sending it into a system of storm drain pipes and channelized networks.

Responsibility: The City's Department of Development Services will be responsible for this action item.

Funding: No additional City funding needed; funds are available in City's operations budget.

Timing: This will be done consistently as a matter of the development review process.

3. Flood Insurance Promotion

In 2015, the City began implementation of Activity 370, Flood Insurance Promotion, as outlined in the *2013 CRS Coordinator's Manual.* The intent has been to prioritize encouragement of property owners to purchase both content and building flood insurance. This effort continues. Furthermore, the City continues to conduct an annual outreach to all properties in the General Area 1 RLAs.

Responsibility: The City's CRS Coordinator is responsible for this action item.

Funding: No additional funding needed; funds are available in City's operations budget.

Timing: Annually.

4. Enhanced Floodplain Standards

The City is championing the implementation of higher regulatory standards as it works together with other communities in the Southeast Florida Regional Climate Change Compact. Currently the City enforces a one-foot freeboard above the FEMA Flood Insurance Rate Map's 100-year flood elevation for finish floor elevation of buildings,

in accordance with the Florida Building Code. The City approved the sustainable development standards.

Responsibility: The City Commission is responsible for increasing regulatory standards.

Funding: No additional funding needed; funds are available in City's operations budget.

Timing: Ongoing.

5. Public Information Outreach

The City established a Program for Public Information in 2015 that has strengthened the City's public information outreach to the community. This activity should continue and grow, in accordance with the guidelines specified in the City's 2015 Program for Public Information Report. One outreach each year is focused exclusively on the Repetitive Loss Areas, following the guidelines required by the CRS program.

Responsibility: The CRS Coordinator is responsible for this activity.

Funding: No additional funding needed; funds are available in City's operations budget.

Timing: Annually.

6. Property Protection Measures

Property owners are encouraged to take actions that will protect themselves and their properties from flood damage. This includes such actions as elevating equipment above published flood levels and implementing various measures. The City's Development Services Department provides consultation to homeowners, as may be requested.

Responsibility: The City's CRS Coordinator is responsible for distributing public information pertaining to property protection. The City Development Services Department will provide the consultation.

Funding: No additional funding needed; funds are available in City's operations budget.

Timing: Ongoing.

2.2 City of Boynton Beach RLAA – General Area 2: Western

Problem Statement

General Area 2, comprising the reminder of the City, is located on the west side of Interstate 95, transecting the City in a north-south orientation. There are several distinctive features which characterize this area and join to impact its particular flooding features. Unlike the Eastern/Coastal General Area, the Western General Area does not have one large body of water to which drainage can be directed. Instead, there are numerous lakes, canals and drainage features, each with its own specific characteristics. The typical challenge in this area is finding a means to convey stormwater from properties and streets to the lakes and waterways. The groundwater levels are controlled by the South water Management District and the Lake Worth Drainage District to provide flood control as well as drinking water aquifer recharge. Commercial zones with extensive impervious areas for buildings and parking can be particularly vulnerable to flooding. Properties that do not provide adequate slope for stormwater conveyance away from buildings can also be vulnerable. The Western Area encompasses by far the most RL properties and RL areas.

General Area 2 (Western) is composed of 6 RLAs, with a total of 8 Repetitive Loss Properties. Total number in RLAs includes potential properties due to their proximity.

Repetitive Loss Area	Community Characteristics	Number of RL Properties	Number of Additional Properties*	Total Number of Properties in RL Area	Road Names
4	Single-family residential with private roads/ drainage	1	6	7	Sandpiper Way
5	Private townhouses in private gated community	1	3	4	Spruce Street
6	Single-family residential with City roads/ drainage	1	5	6	Le Grace Circle
7	Single-family residential with City roads/ drainage	1	3	4	SW 12 Street
8	Single-family residential with City roads/ drainage	3	3	6	SW 10 Circle SW 10 Court SW 10 Street
9	Commercial Property Owner Association with City maintenance of roads and Lake Worth Drainage District maintenance of canal	1	4	5	S Congress Avenue SW 13 Place SW 14 Place SW 30 Avenue

*Potential properties due to proximity

Table 2: General Repetitive Loss Area 2 – Western

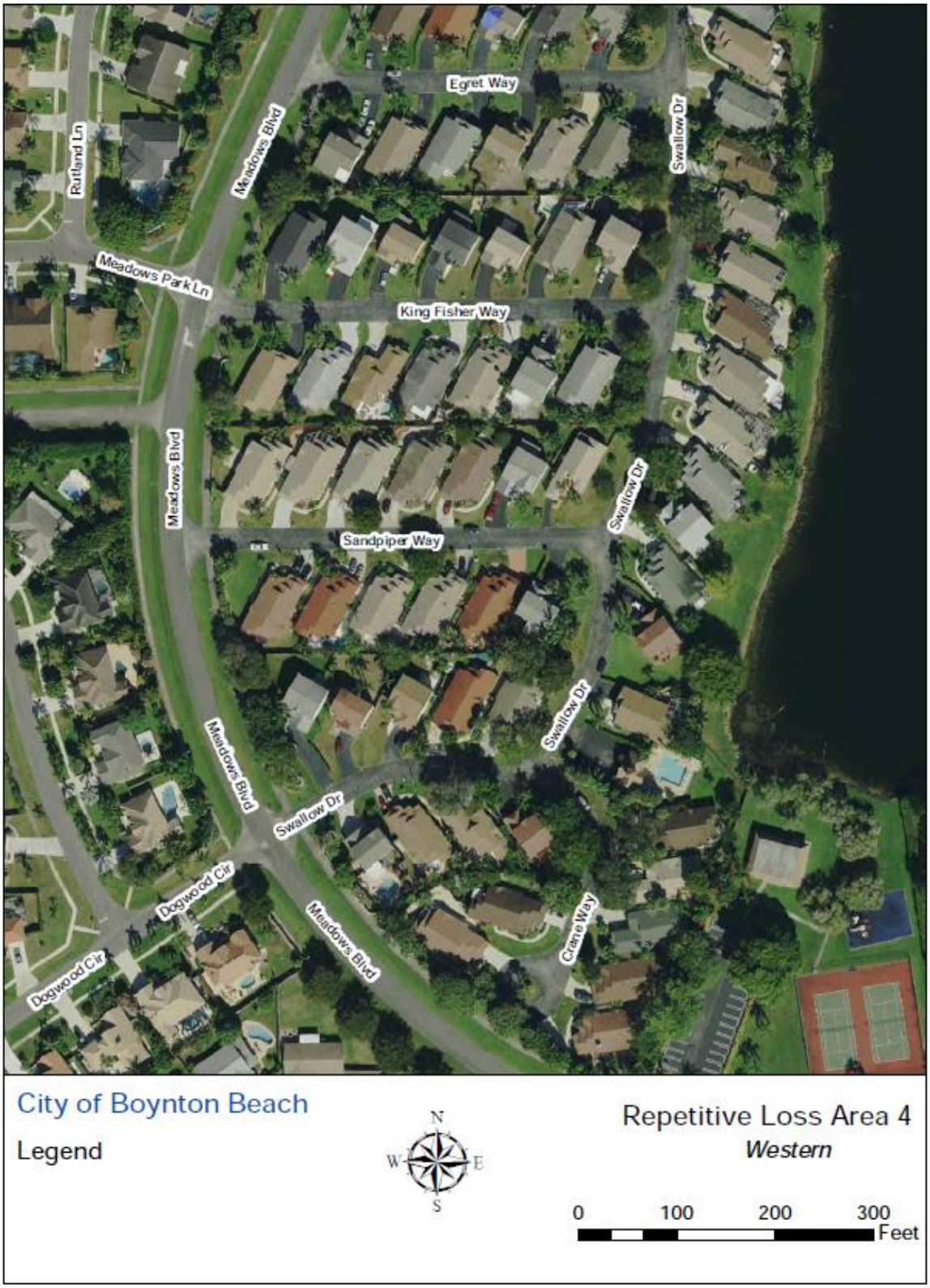


Figure 6: Repetitive Loss Area 4 - Residential community with private maintenance

RLA 4 Typical buildings

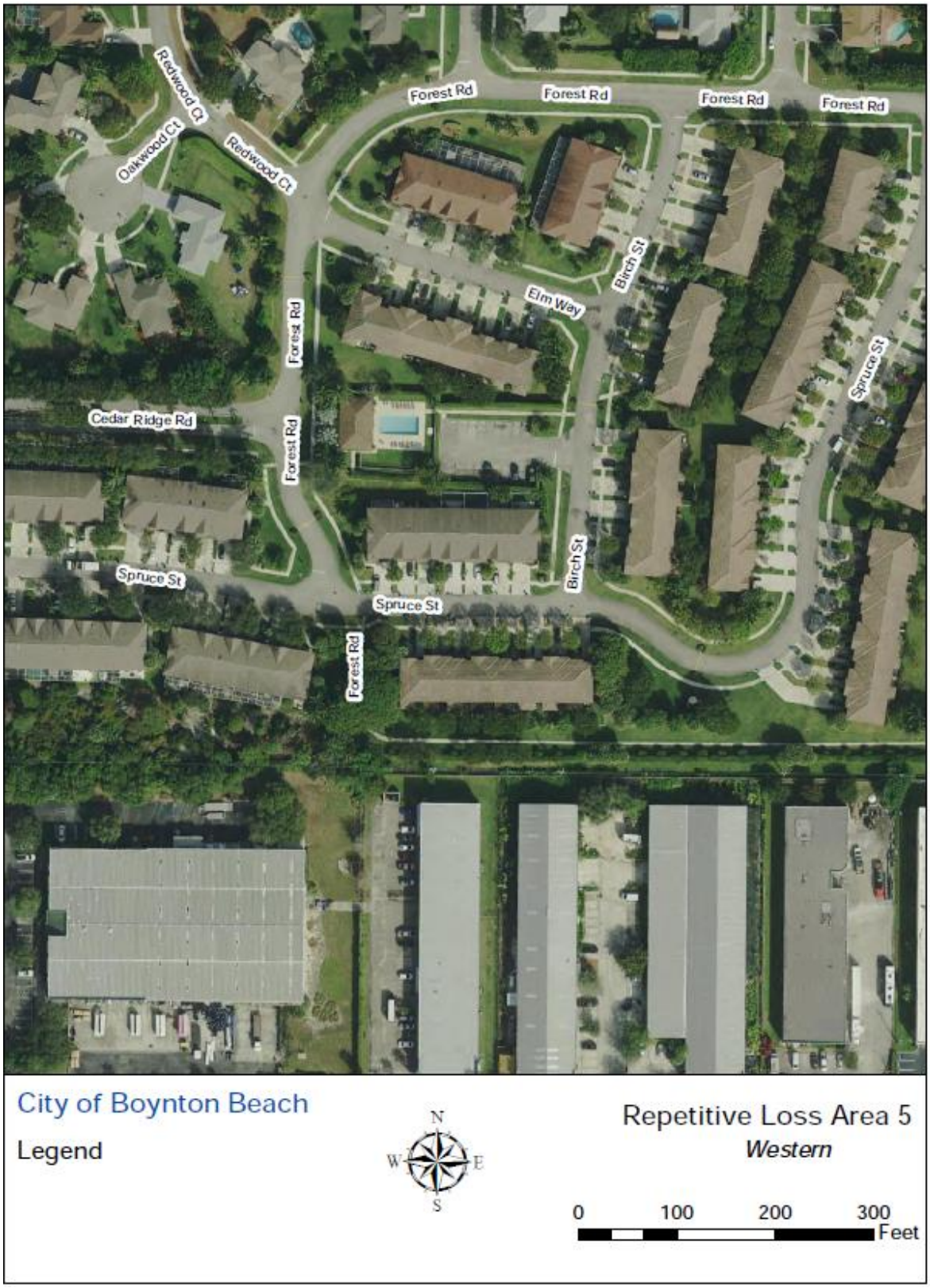
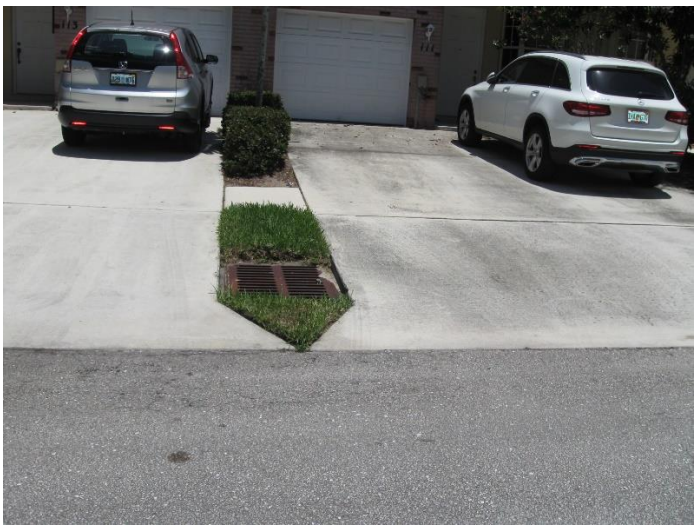


Figure 7: Repetitive Loss Area 5 – Townhouse community with private maintenance

RLA 5 Typical buildings



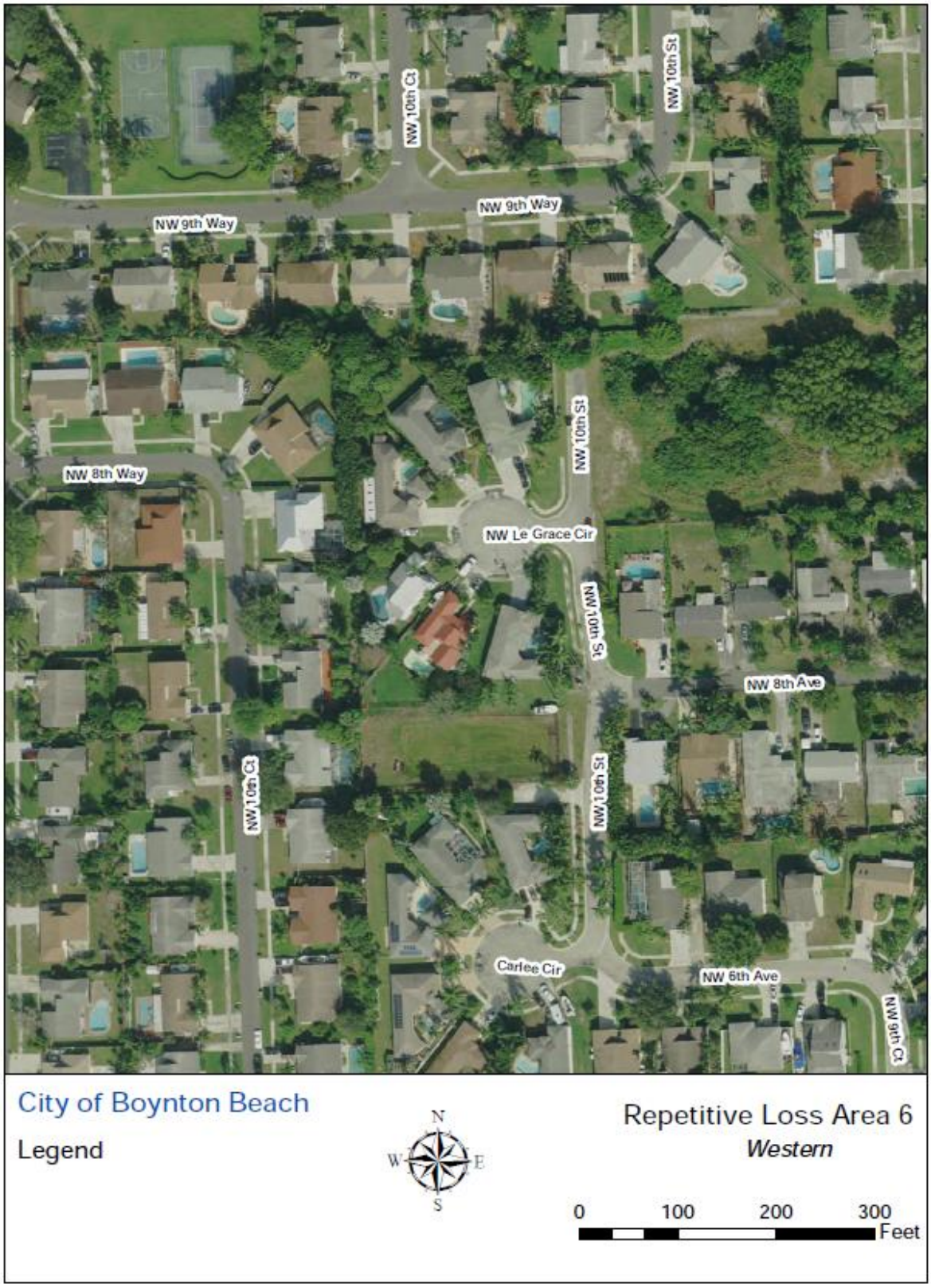


Figure 8: Repetitive Loss Area 6– Residential community with City maintained roadway

RLA 6 Typical buildings

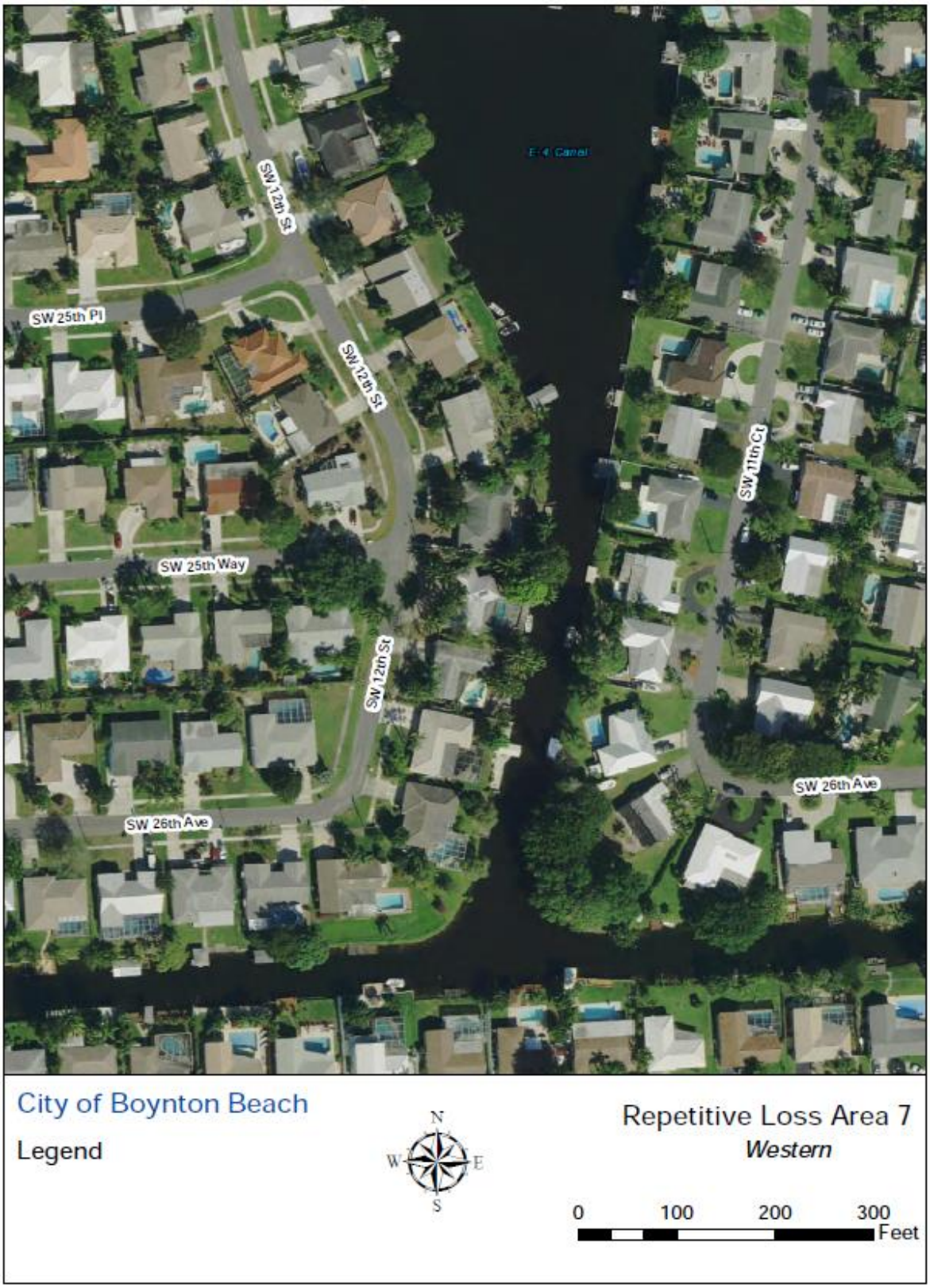


Figure 9: Repetitive Loss Area 7– Residential community with City maintained roadway

RLA 7 Typical buildings

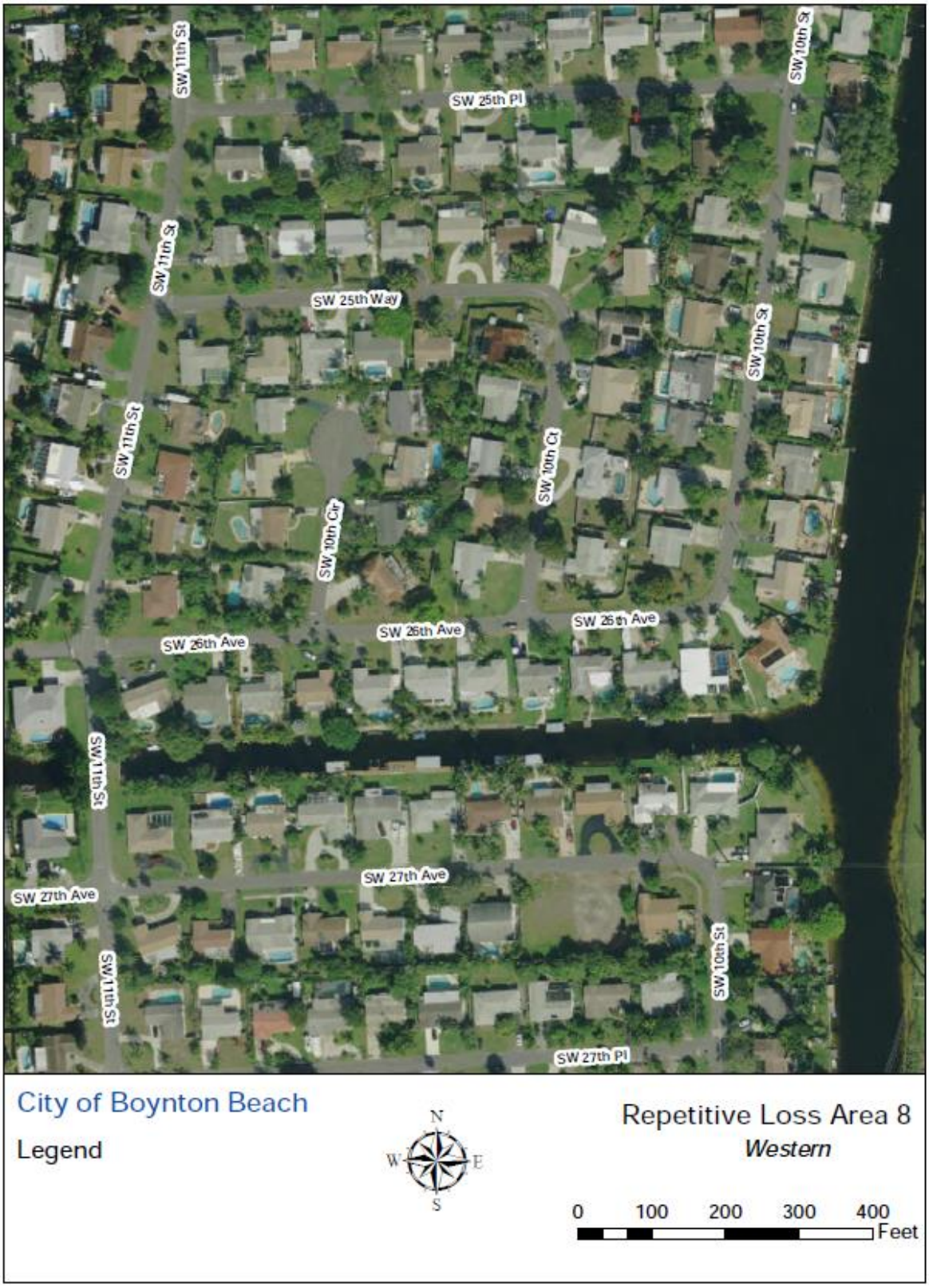


Figure 10: Repetitive Loss Area 8– Residential community with City maintained roadway

RLA 8 Typical buildings

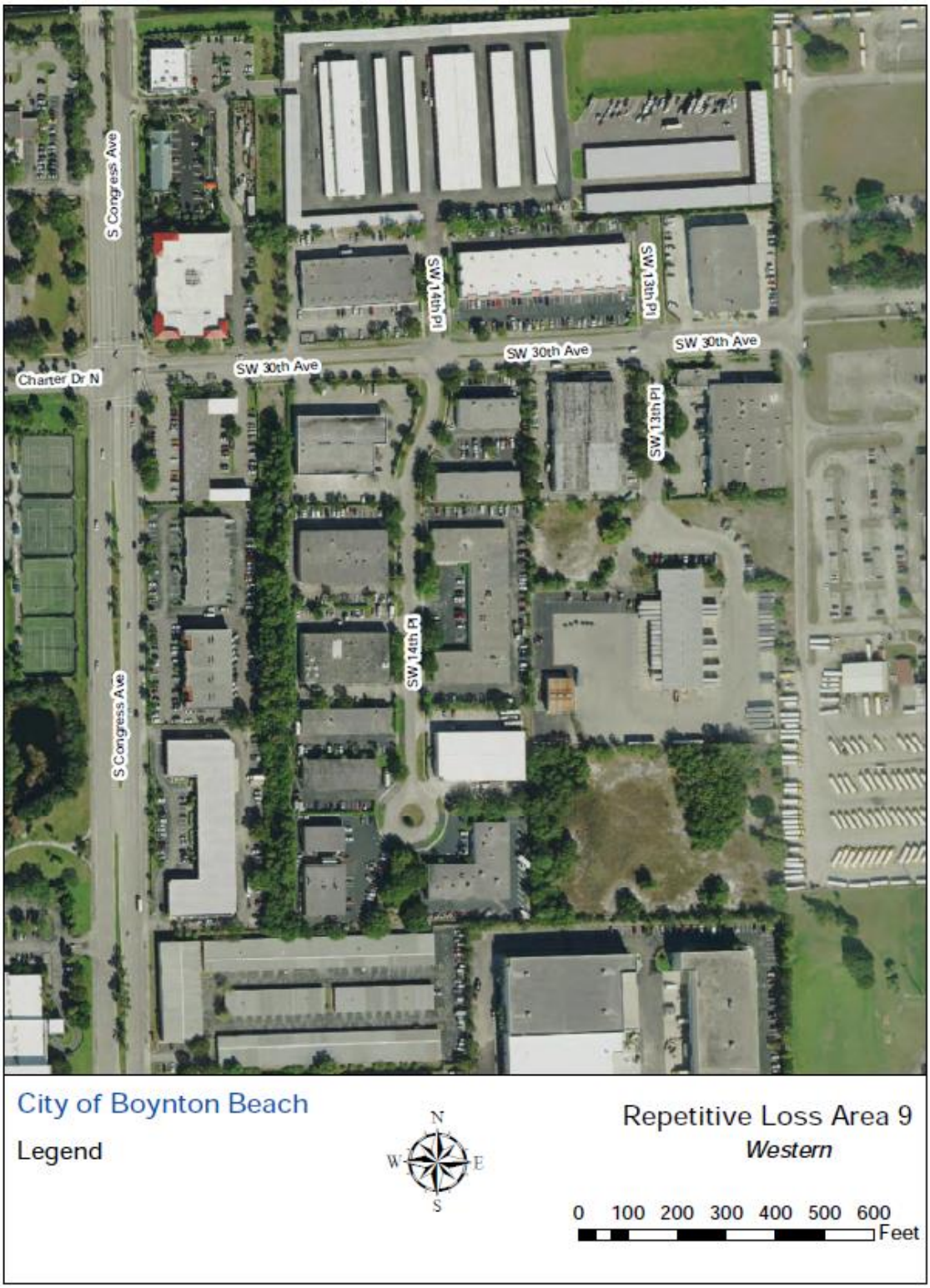
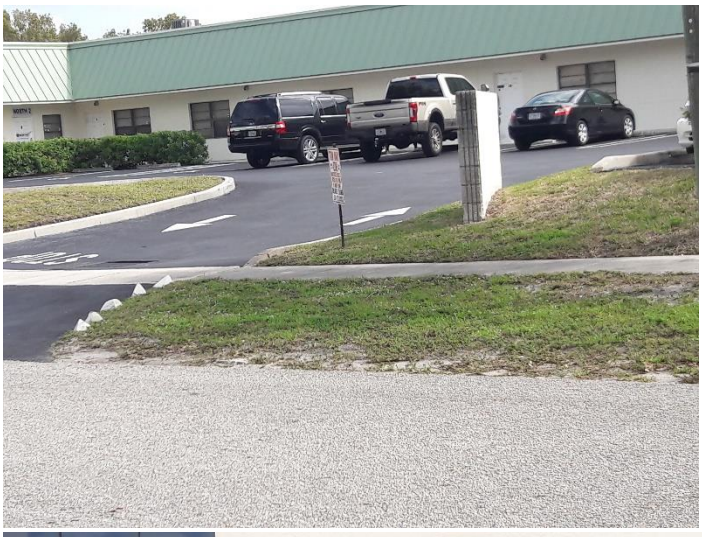


Figure 11: Repetitive Loss Area 9 – Commercial Property Owner Association with City maintenance of roads

RLA 9 Typical buildings



Potential Mitigation Measures for General Area 2

Mitigation measures under consideration for General Area 2 should include both structural and nonstructural solutions.

Structural Alternatives:

Following is a listing and brief description of the primary methods of structural property protection:

1. Demolition/Relocation.

The only way to absolutely ensure a structure will not accumulate additional losses from future flood events is to demolish the structure completely. A second effective option could be to relocate the structure to an area that is not flood prone.

2. Elevation

Whenever the floor of a home is below FEMA's 100-year flood elevation, physically elevating the structure is often recommended as it is one of the most effective means to prevent flood damage. On a smaller scale, elevating crucial items such as furnaces, water heaters, air conditioning units and other electrical components can also be effective means of flood mitigation.

3. Dry flood-proofing

Dry flood-proofing consists of completely sealing around the exterior of the building so that water cannot enter the building

4. Wet flood-proofing

Wet floodproofing consists of modifying uninhabited portions of a home, such as a crawl space, garage, or unfinished basement with flood-damage resistant materials, to allow floodwaters to enter the structure without causing damage.

5. Direct drainage away from the building

In some cases, there are improvements the property owner can make on-site such as directing shallow floodwater away from a flood-prone structure. Building strategically located berms or retention ponds are examples or such mitigation measures.

6. Drainage maintenance.

Removing leaves and other debris from the top of a stormwater catch basin is a simple yet effective means of mitigating flooding.

7. Drainage improvements.

Implementation of drainage improvements, such as installing larger pipes or additional catch basins to receive more stormwater, can effectively reduce flooding.

The homeowner is encouraged to consider each of the structural alternatives listed above and pursue them as deemed appropriate. FEMA grants may be available for some of these alternatives. In addition to homeowner-initiated structural solutions, there are possible structural solutions the City could undertake within City rights-of-way that may provide additional flood mitigation, such as local drainage improvement projects.

Nonstructural Alternatives:

Nonstructural alternatives often provide flood mitigation indirectly. Their impact may be as significant as structural alternatives, but that impact may not be as immediately realized or as dramatic as structural solutions. Following are examples of effective nonstructural mitigation alternatives.

1. Promote the purchase of flood insurance.
2. Improve the City's floodplain and zoning ordinances.
3. Improve the City's floodplain mapping, and stormwater master planning.
4. Provide enhanced public education concerning the flood hazard and flood mitigation alternatives. This can take place through such means as distributing flyers, utilization of social media and City websites, and neighborhood meetings.
5. Elevate damage-prone components, such as the furnace or air conditioning unit.
6. Coordinate with the Palm Beach County Division of Emergency Management and the National Weather Service (NWS) to enhance flood warning system.
7. Increase open space designation.

Following is a brief listing of potential mitigation activities specific to the RLAs in General Area 2 (Western):

RLA 4: This area is comprised of single-family residences in a private community. The major drainage infrastructure to the north of this RLA is under the jurisdiction of the Lake Worth Drainage District. Coordination with the Lake Worth Drainage District could result in a revision in its protocol that would mitigate the flooding. Additionally, there is a privately-owned lake on the east side of the community that has capacity to receive stormwater, however, there is no direct connection to it from the RLA. Unfortunately, the only access to the lake is through private property. Should coordination with the Lake Worth Drainage District prove ineffective or insufficient, coordination with property owners to install drainage from the street to the lake may prove to be a helpful strategy for flood mitigation.

RLA 5: This gated private community is comprised of townhouses. Both on-site observations and discussions with property owners in this RLA indicated that there was no serious flooding issue in this area. Private property owners are responsible for

mitigation on their properties. Records indicate that there have been no claims since 2014.

RLA 6: This area, comprised of single-family structures, has been subject to flooding since 1992. It is adjacent to a large dry detention area. A property owner explained that the detention area, though connected to a conveyance system managed by the Lake Worth Drainage District by pipes, does not always drain well. The repetitive loss property is very low. The City has coordinated extensively with the homeowner, encouraging elevation.

RLA 7: The single-family homes in this RLA are immediately adjacent to a body of water which has no recorded overflow conditions. Because there is only one property in this area that has been flooded, it appears that the issue is specific to the repetitive loss property and could, perhaps be remedied by the owner conducting drainage improvements on the property.

RLA 8: The City's Utility Department reported that the City installed a new outfall three years ago. Since that time there have been no flooding issues in this area. It would appear that the flooding problem in this RLA has been effectively mitigated.

RLA 9: This area is comprised of commercial properties, including industrial warehouses. There is only one repetitive loss property identified in this RLA, comprised of commercial properties. Though the consultant did speak with a manager at the repetitive loss property, that individual was unaware of the flooding, which last took place in 2014. The City has conducted an investigation of the existing conveyance drainage system in the area and has determined that the existing pipe network in the vicinity has been compromised by lack of maintenance of the outfall ditch and outfall control structure. This maintenance is the responsibility of the property owners.

General Area 2 Recommendations

Due to the unique conditions encountered in General Area 2, flood mitigation efforts on the part of property owners is encouraged. The following mitigation action items are recommended for General Area 2:

1. **Capital Stormwater Projects Implementation Specific to General Area 2**
   The installation of drainage from the street to the lake in RLA 4 is one capital structural project that may prove effective, particularly if the other less intensive recommended solutions prove ineffective or insufficient.

Responsibility: The community is privately owned; any capital improvements would be initiated and conducted by the community.

Funding: No City funding would be required.

Timing: The capital project affecting the private roadway in RLA 4 will be implemented by the private community, if deemed appropriate by the community.

2. Enforcement Project Specific to General Area 2

The existing storm sewer pipe network in RLA 9 along SW 30th Avenue collects runoff from adjacent properties and outfalls into a series of drainage ditches starting approximately 0.21 miles south of SW 30th Avenue and extending north into the Lake Worth Drainage District's Canal No. L-28. The City is in the process of citing the responsible business owners to restore the canals to the permitted cross sections. LWDD has also been contacted to cite the owner for the outfall control structure, to restore the structure to perform as originally intended.

Responsibility: The City's Engineering Department, together with the City's Community Standard Team, is responsible to ensure that the existing drainage system in RL 9 is restored to its original design.

Funding: No additional City funding needed; funds are available in City's operations budget.

Timing: Restoration of canals and outfall structures within RLA 9 is anticipated within 6 months to 1 year.

3. Implementation of Enhanced Emergency Protocol with Lake Worth Drainage District

Emergency protocol pertaining to effective utilization of gates and pumps should be established between the community and the Lake Worth Drainage District in RLA 4.

Responsibility: The community will be responsible for the implementation of this recommendation.

Funding: No additional funding is required.

Timing: The implementation of this recommendation is ongoing and will continue.

4. Flood Insurance Promotion

The City continues the implementation of Activity 370, Flood Insurance Promotion, as outlined in the *2017 CRS Coordinator's Manual,* in its efforts to encourage property owners to purchase both content and building flood insurance. This effort will be continued on an annual basis to all properties in the General Area 2 RLAs.

Responsibility: The CRS Coordinator is responsible for this activity.

Funding: No additional City funding needed; funds are available in City's operations budget.

Timing: This will be done annually.

5. Enhanced floodplain standards

The City has begun championing the implementation of higher regulatory standards.

Responsibility: The City's Development Services Department may propose higher regulatory standards. The Commission is ultimately responsible for adoption of higher regulatory standards.

Funding: No additional City funding needed; funds are available in City's operations budget.

Timing: The timing of this item is dependent upon staff recommendation and City Commission approval.

6. Public Information Outreach

The City has established a Program for Public Information that is strengthening the City's public information outreach to the community. This activity should continue and grow, in accordance with the specific guidelines specified in the Program for Public Information Report. One mailed outreach a year is focused exclusively on the Repetitive Loss Areas with specific guidelines required by the CRS program.

Responsibility: The City's CRS Coordinator is responsible for this activity.

Funding: No additional City funding needed; funds are available in City's operations budget.

Timing: Annually.

7. Property Protection Measures

Property owners are encouraged to take actions that will protect themselves from flood damage. This will include such actions as elevating equipment above possible flood levels, and implementing various measures, such as those specified on page 15. Furthermore, the City's Development Services Department will provide consultation to homeowners, as may be requested.

Responsibility: The City's CRS Coordinator is responsible for distributing public information pertaining to property protection. The City's Development Services Department will provide the consultation.

Funding: No additional City funding needed; funds are available in City's operations budget.

Timing: This activity is ongoing.

3 Next Steps

In addition to the recommendations made in this report for the General Repetitive Loss Areas, following are next steps that can be taken:

1. **Further evaluation of RLA 8**
   Repetitive Loss Area 8 is the only RLA with three RL properties. A deeper evaluation of this RLA may provide additional insight into the particular problems in this area and the feasibility of implementing additional mitigation activities.

2. **Mitigation of unmitigated Repetitive Loss Properties**
   A concerted effort to mitigate Repetitive Loss Properties and to remove them from the City's inventory may prove beneficial.

3. **Pursuit of additional grants**
   While the City is already effectively pursuing and obtaining grants, continued vigilance to take advantage of grant opportunities for flood mitigation may be productive.

References

Federal Emergency Management Agency/ISO, City of Boynton Beach, FL, Repetitive Loss Data, May 31, 2018.

Federal Emergency Management Agency, National Flood Insurance Program, *Community Rating System CRS Coordinator's Manual*. FIA-15/2017. Section 510.

Federal Emergency Management Agency, National Flood Insurance Program, *Community Rating System, Mapping Repetitive Loss Areas*, August 2008.

Federal Emergency Management Agency, *Reducing Damage from Localized Flooding: A Guide for Communities*. FEMA 511/June 2005. Part III Chapter 7.

Flood Mitigation Plan. City of Boynton Beach, 2013.

Flood Mitigation Plan Update Draft. City of Boynton Beach, 2019.

Repetitive Loss Area Analysis, City of Savannah, GA, 2015.

Repetitive Loss Area Analysis, Sacramento County, CA, July 2015.

Repetitive Loss Area Analysis, City of West Palm Beach, FL, 2016.

University of New Orleans, Center for Hazards Assessment, Response and Technology, *Draft Guidebook to Conducting Repetitive Loss Area Analyses*, 2012.

Exhibit 1

Letters to Repetitive Loss Area Properties

The City of Boynton Beach

Boynton Beach Utilities
124 E. Woolbright Road, Boynton Beach, Florida 33435
Office: (561) 742-6400
Website: www.boynton-beach.org

December 19, 2018

CURRENT RESIDENT

Dear resident:

The City of Boynton Beach is reviewing ways to reduce repetitive flooding in our neighborhoods. Your property is located in one of the areas that the city is targeting for a Repetitive Loss Area Analysis. The purpose of this analysis is to get a better understanding of flooding issues in the vicinity and to offer ideas for reducing flood losses. Results will provide the city with technical information that can be used to develop mitigation recommendations for drainage improvements.

Within the next two months, personnel from the city and CRS Max Consultants will visit your neighborhood to collect general information about each building, such as the type of foundation and approximate elevation of the house above the street. This information is needed to develop flood mitigation strategies to protect buildings and residents in the area. The team will observe buildings from the street and take photographs. They will not enter your property and there is no need for you to be present.

As part of the analysis, we welcome residents to share information and experiences with flooding. You may tell us about the flood hazard in your neighborhood, any efforts you have made to reduce flood damage, recommendations to the city to alleviate flooding, or other related input. Your participation in this Repetitive Loss Area Analysis is completely voluntary and none of your personal information will be made public. If you have information to share, you may contact me at Boynton Beach Utilities at (561) 742-6421 or by email at PrymasA@bbfl.us.

After the analysis is completed, you will be invited to review the findings and preliminary recommendations.

If you have any questions about this project, please feel free to call me at the aforementioned phone number or email address.

Respectfully,

Angela Prymas
Angela Prymas, P.E.
Senior Engineer

The City of Boynton Beach

Boynton Beach Utilities
124 E. Woolbright Road, Boynton Beach, Florida 33435
Office: (561) 742-6400
Website: www.boynton-beach.org

October 18, 2019

CURRENT RESIDENT
2700 N Federal Hwy
Boynton Beach, FL 33435

Dear resident:

On December 19, 2018, I sent you a letter explaining that the City of Boynton Beach was reviewing ways to reduce repetitive flooding in its neighborhoods. Your property is located in or near one of the areas that the City targeted for a Repetitive Loss Area Analysis. The purpose of this analysis was to get a better understanding of flooding issues in the vicinity and to offer recommendations for reducing flood losses.

During the months of January and February City personnel and CRS Max Consultants visited your neighborhood on January and February to collect general information about each building, such as the type of foundation and approximate elevation of the house above the street. The team observed buildings from the street and took photographs. This information was used to develop flood mitigation strategies to protect buildings and residents in the area.

As part of the analysis, we welcomed residents to share information and experiences with flooding. We appreciate those of you who assisted by providing helpful input.

The purpose of this correspondence is to advise you that the Repetitive Loss Area Analysis is nearing completion. The draft has been completed and we would like to invite you to review the findings and preliminary recommendations.

If you would like to review the draft Repetitive Loss Area Analysis report, please contact me at Boynton Beach Utilities by phone (561) 742-6421 or by email at PrymasA@bbfl.us.

Thank you for your cooperation throughout this process.

Respectfully,

Angela Prymas
Angela Prymas, P.E.
Senior Engineer

Recipients of Letter to Addresses in Repetitive Loss Areas

The RL Areas and addresses below represent the areas and addresses initially designated. As a result of the findings of the Repetitive Loss Area Analysis, the RL Areas were redefined and renumbered.

	RL Area #1	**57**	
1	2700 N Federal Hwy	Boynton Beach	33435
2	2649 N Federal Highway	Boynton Beach	33435
3	2690 N Federal Highway	Boynton Beach	33435
4	2626 N Federal Hwy	Boynton Beach	33435
5	640 Dimick Rd	Boynton Beach	33435
6	628 Dimick Rd	Boynton Beach	33435
7	622 Dimick Rd	Boynton Beach	33435
8	2625 Lake Dr	Boynton Beach	33435
9	2624 Lake Dr	Boynton Beach	33435
10	2623 Lake Dr	Boynton Beach	33435
11	2622 Lake Dr	Boynton Beach	33435
12	2617 Lake Dr	Boynton Beach	33435
13	2612 Lake Dr	Boynton Beach	33435
14	2601 Lake Dr	Boynton Beach	33435
15	2600 Lake Dr	Boynton Beach	33435
16	2511 Lake Dr	Boynton Beach	33435
17	2505 Lake Dr	Boynton Beach	33435
18	2508 Lake Dr	Boynton Beach	33435
19	2510 Lake Dr	Boynton Beach	33435
20	2611 Lake Dr	Boynton Beach	33435
21	631 Potter Rd	Boynton Beach	33435
22	640 Potter Rd	Boynton Beach	33435
23	636 Potter Rd	Boynton Beach	33435
24	626 Potter Rd	Boynton Beach	33435
25	644 Potter Rd	Boynton Beach	33435
26	2424 N Federal Hwy	Boynton Beach	33435
27	695 Lakeside Harbor	Boynton Beach	33435
28	626 Lakeside Harbor	Boynton Beach	33435

29	628 Lakeside Harbor	Boynton Beach	33435
30	638 Lakeside Harbor	Boynton Beach	33435
31	630 Lakeside Harbor	Boynton Beach	33435
32	646 Lakeside Harbor	Boynton Beach	33435
33	695 Lakeside Harbor	Boynton Beach	33435
34	655 Lakeside Harbor	Boynton Beach	33435
35	631 Lakeside Harbor	Boynton Beach	33435
36	625 Lakeside Harbor	Boynton Beach	33435
37	617 Lakeside Harbor	Boynton Beach	33435
38	605 Lakeside Harbor	Boynton Beach	33435
39	625 Las Palmas Park	Boynton Beach	33435
40	631 Las Palmas Park	Boynton Beach	33435
41	637 Las Palmas Park	Boynton Beach	33435
42	643 Las Palmas Park	Boynton Beach	33435
43	649 Las Palmas Park	Boynton Beach	33435
44	620 Las Palmas Park	Boynton Beach	33435
45	632 Las Palmas Park	Boynton Beach	33435
46	638 Las Palmas Park	Boynton Beach	33435
47	644 Las Palmas Park	Boynton Beach	33435
48	650 Las Palmas Park	Boynton Beach	33435
49	655 Las Palmas Park	Boynton Beach	33435
50	656 Las Palmas Park	Boynton Beach	33435
51	660 Las Palmas Park	Boynton Beach	33435
52	714 Presidential Dr	Boynton Beach	33435
53	720 Presidential Dr	Boynton Beach	33435
54	719 Presidential Dr	Boynton Beach	33435
55	707 Presidential Dr	Boynton Beach	33435
56	713 Presidential Dr	Boynton Beach	33435
57	726 Presidential Dr	Boynton Beach	33435
RL Area # 2	**34**		
58	2598 SW 10 St	Boynton Beach	33426
59	2585 SW 10 St	Boynton Beach	33426
60	2586 SW 10 St	Boynton Beach	33426

61	2575 SW 10 St	Boynton Beach	33426
62	2580 SW 10 St	Boynton Beach	33426
63	2569 SW 10 St	Boynton Beach	33426
64	2592 SW 10 St	Boynton Beach	33426
65	2581 SW 10 Ct	Boynton Beach	33426
66	2580 SW 10 CT	Boynton Beach	33426
67	2580 SW 10 Circle	Boynton Beach	33426
68	2585 SW 10 Circle	Boynton Beach	33426
69	2598 SW 11 Street	Boynton Beach	33426
70	2595 SW 11 Ct	Boynton Beach	33426
71	1128 SW 26 Ave	Boynton Beach	33426
72	1118 SW 26 Ave	Boynton Beach	33426
73	1104 SW 26 Ave	Boynton Beach	33426
74	1102 SW 26 AVE	Boynton Beach	33426
75	1096 SW 26 AVE	Boynton Beach	33426
76	1086 SW 26 AVE	Boynton Beach	33426
77	1076 SW 26 AVE	Boynton Beach	33426
78	1066 SW 26 AVE	Boynton Beach	33426
79	1056 SW 26 AVE	Boynton Beach	33426
80	1046 SW 26 AVE	Boynton Beach	33426
81	1036 SW 26 AVE	Boynton Beach	33426
82	1026 SW 26 AVE	Boynton Beach	33426
83	1016 SW 26 AVE	Boynton Beach	33426
84	1006 SW 26 AVE	Boynton Beach	33426
85	1000 SW 26 AVE	Boynton Beach	33426
86	2542 SW 12 Street	Boynton Beach	33426
87	2560 SW 12 Street	Boynton Beach	33426
88	2558 SW 12 Street	Boynton Beach	33426
89	2554 SW 12 Street	Boynton Beach	33426
90	2550 SW 12 Street	Boynton Beach	33426
91	2546 SW 12 Street	Boynton Beach	33426

RL Area # 3 30

92	75 Sandpiper Way	Boynton Beach	33436
93	76 Sandpiper Way	Boynton Beach	33436
94	77 Sandpiper Way	Boynton Beach	33436
95	78 Sandpiper Way	Boynton Beach	33436
96	79 Sandpiper Way	Boynton Beach	33436
97	80 Sandpiper Way	Boynton Beach	33436
98	81 Sandpiper Way	Boynton Beach	33436
99	82 Sandpiper Way	Boynton Beach	33436
100	83 Sandpiper Way	Boynton Beach	33436
101	84 Sandpiper Way	Boynton Beach	33436
102	85 Sandpiper Way	Boynton Beach	33436
103	86 Sandpiper Way	Boynton Beach	33436
104	87 Sandpiper Way	Boynton Beach	33436
105	19 Swallow Drive	Boynton Beach	33436
106	20 Swallow Drive	Boynton Beach	33436
107	21 Swallow Drive	Boynton Beach	33436
108	22 Swallow Drive	Boynton Beach	33436
109	23 Swallow Drive	Boynton Beach	33436
110	24 Swallow Drive	Boynton Beach	33436
111	25 Swallow Drive	Boynton Beach	33436
112	26 Swallow Drive	Boynton Beach	33436
113	27 Swallow Drive	Boynton Beach	33436
114	28 Swallow Drive	Boynton Beach	33436
115	68 Kingfisher Way	Boynton Beach	33436
116	69 Kingfisher Way	Boynton Beach	33436
117	70 Kingfisher Way	Boynton Beach	33436
118	71 Kingfisher Way	Boynton Beach	33436
119	72 Kingfisher Way	Boynton Beach	33436
120	73 Kingfisher Way	Boynton Beach	33436
121	74 Kingfisher Way	Boynton Beach	33436

RL Area #4	**6**		
122	935 Le Grace Circle	Boynton Beach	33426
123	925 Le Grace Cr	Boynton Beach	33426
124	945 Le Grace Cr	Boynton Beach	33426
125	955 Le Grace Cr	Boynton Beach	33426
126	965 Le Grace Cr	Boynton Beach	33426
127	975 Le Grace Cr	Boynton Beach	33426
RL Area #5	**5**		
128	3030 SW 13 Place	Boynton Beach	33426
129	3200 S Congress Ave	Boynton Beach	33426
130	3191 SW 14 Place	Boynton Beach	33426
131	3050 SW 14th Place	Boynton Beach	33426
132	1480 SW 30 Ave	Boynton Beach	33426
RL Area #6	**17**		
133	107 Spruce St	Boynton Beach	33426
134	109 Spruce St	Boynton Beach	33426
135	111 Spruce St	Boynton Beach	33426
136	113 Spruce Street	Boynton Beach	33426
137	115 Spruce Street	Boynton Beach	33426
138	117 Spruce St	Boynton Beach	33426
139	119 Spruce Street	Boynton Beach	33426
140	125 Spruce Street	Boynton Beach	33426
141	127 Spruce Street	Boynton Beach	33426
142	129 Spruce Street	Boynton Beach	33426
143	131 Spruce Street	Boynton Beach	33426
144	133 Spruce Street	Boynton Beach	33426
145	137 Spruce Street	Boynton Beach	33426
146	139 Spruce Street	Boynton Beach	33426
147	141 Spruce Street	Boynton Beach	33426
148	143 Spruce Street	Boynton Beach	33426
149	145 Spruce Street	Boynton Beach	33426

Exhibit 2

Letters to Agencies and Organizations Soliciting Input

The City of Boynton Beach

Boynton Beach Utilities
124 E. Woolbright Road, Boynton Beach, Florida 33435
Office: (561) 742-6400
Website: www.boynton-beach.org

December 21, 2018

Deborah Drum, Department Director
Palm Beach County Environmental Resources Management
2300 North Jog Road, Fourth Floor
West Palm Beach, FL 33411-2743

RE: City of Boynton Beach Flood Mitigation Plan and Repetitive Loss Area Analysis

The City of Boynton Beach is performing a five-year update to its Flood Mitigation Plan and concurrently is conducting a Repetitive Loss Area Analysis. In addition to gathering information from the City's staff, residents, and businesses, we are seeking input from other groups and agencies whose plans, studies, programs, and activities may affect flood mitigation planning in Boynton Beach. Such activities may include relevant new developments, stormwater drainage projects, or floodplain management initiatives.

We would be interested to know if your agency is doing anything that may affect the City of Boynton Beach's flood hazard mitigation efforts. In addition, if there is any way you would like to support our efforts, we welcome your participation. You may attend any of the Flood Mitigation Plan Task Force meetings, which are advertised on the City's website, www.Boynton-Beach.org. We would appreciate any comments you may have on the draft plans, which will also be posted on the City's website.

Should you have questions, please contact myself or, Earl King, the City's Flood Mitigation Plan consultant, at CRS Max Consultants (954) 421-7794 or by email: crsmaxinc@bellsouth.net.

Sincerely yours,

Angela Prymas

Angela Prymas, PE
Senior Engineer
Phone: (561) 742-6421
Email: Prymasa@bbfl.us

Comments and Recommendations Solicited From Other Agencies and Organizations

Name	Organization	Address	Address2	City	State	Zip
Thomas Lanahan, Executive Director	Treasure Coast Regional Planning Council	421 SW Camden Avenue		Stuart	FL	34994
Michael Simon, Executive Director	Boynton Beach Community Redevelopment Agency	710 N. Federal Highway		Boynton Beach	FL	00003-3435
Bradley Miller	Miller Land Planning Consultants, Inc.	508 E. Boynton Beach Blvd		Boynton Beach	FL	33435
Emergency Management Branch	U.S. Army Corps of Engineers, South Florida Area Office	4400 PGA Blvd, Suite 203		Palm Beach Gardens	FL	33410-6555
Michael Bornstein, City Manager	City of Lake Worth	7 N. Dixie Highway		Lake Worth	FL	336460
Mark R. Lauzier, City Manager	City of Delray Beach	100 NW 1st Avenue		Delray Beach	FL	33444
Ronald W. Rice	Palm Beach County University of Florida IFAS Extension	559 N Military Trail		West Palm Beach	FL	33415-0000
Jean A. Wihbey	Palm Beach State College	4200 Congress Avenue		Lake Worth	FL	33461
Senator Lori Berman	Florida State Senate	2300 High Ridge Road	Ste 161	Boynton Beach	FL	33426
Deborah Drum, Department Director	Palm Beach County Environmental Resources Management	2300 North Jog Road	Fourth Floor	West Palm Beach	FL	33411-2743
Jennifer Smith, Director Southeast District	Florida Department of Environmental Protection	3301 Gun Club Rd	MSC 7210-1	West Palm Beach	FL	33406
Senator Marco Rubio - Plam Beach Office	United States Senate	4580 PGA Blvd.		Palm Beach Gardens	FL	00003-3418
Gerry O'Reilly, District Four Secretary	Florida Department of Transportation	3400 West Commercial Blvd		Fort Lauderdale	FL	33309
Dale S. Sugerman, Town Manager	Town of Briny Breezes	4802 North Ocean Blvd		Briny Breezes	FL	33435
Greg Dunham, Town Manager	Town of Gulf Stream	100 Sea Road		Gulf Stream	FL	33483
Michael Brown, Mayor	Town of Hypoluxo	7580 S Federal Highway		Hypoluxo	FL	33462
James Titcomb, Town Manager	Town of Ocean Ridge	6450 North Ocean Blvd		Ocean Ridge	FL	33435
Steve Martin, Floodplain Management Officer	Florida Division of Emergency Management	2555 Shumard Oak Blvd		Tallahassee	FL	32399-2100

Name	Organization	Address	Address2	City	State	Zip
Laura Waterman, Mitigate FL Group	Florida State Hazard Mitigation Office	Florida Division of Emergency Management	2555 Shumard Oak Blvd	Tallahassee	FL	32399-2100
James J. Moran, Governing Board Member	South Florida Water Management District	PO Box 24680		West Palm Beach	FL	33416-4680
Gracia Szcech, Regional Administrator	Federal Emergency Management Agency	FEMA Region IV	3003 Chamblee Tucker Rd	Atlanta	GA	30341
Miles Anderson, Mitigation Bureau Chief	Florida Division of Emergency Management	Florida State Bureau of Mitigation	2555 Shumard Oak Blvd	Tallahassee	FL	32399-2100
Joseph Mercurio, Local Mitigation Strately Coordinator	Palm Beach County Div of Emergency Mgmt	20 South Military Trail		West Palm Beach	FL	33415
Verdinia C. Baker, County Administrator	Palm Beach County	301 N. Olive Avenue		West Palm Beach	FL	33401
Melissa Schloss, Mitigation Planning Manager	Florida Division of Emergency Management	Florida State Bureau of Mitigation	2555 Shumard Oak Blvd	Tallahassee	FL	32399-2100
National Weather Service	Miami Office	7500 NW 58th Street		Miami	FL	33166
David Kanarek	Gold Coast Builders' Association	2101 Vista Parkway	Ste 126	West Palm Beach	FL	33411
Kevin Brice, Southeast Director	Land Trust Alliance	Southeast Programs Office	PO Box 12212	Research Triangle Park	NC	27709
Dr. Neil Jacobs	National Oceanic and Atmospheric Administration	1401 Constitution Ave, NW	Room 5128	Washington	DC	20230
Jennifer Durrant, Chapter Executive Director	American Red Cross	Palm Beach & Martin Counties Chapter	1250 Northpoint Parkway	West Palm Beach	FL	33407
Tommy Strowd, PE	Lake Worth Drainage District	13081 S. Military Trail		Delray Beach	FL	33484
Matthew Bymaster, Secretary/Treasurer	Palm Beach Soil and Water Conservation District	2822 SW 4th Street		Boynton Beach	FL	33435
Rolf Olsen	Loxahatchee National Wildlife Refuge	10216 Lee Road		Boynton Beach	FL	33473
Cece McKierman	Florida Floodplain Mangers Associaiton	PO Box 21243		Tampa	FL	33622
Representative Lois Frankel	United Stated House of Representatives	2500 N Military Trl #490,		Boca Raton	FL	33431
Marybeth Morrison	Solid Waste Authority	7501 N. Jog Road		West Palm Beach	FL	33412
Emergency Management	Florida Power & Light Company	700 Universe Blvd		Juno Beach	FL	33408