



**Community Rating System (CRS)
ACTIVITY 510
Floodplain Management Plan (FMP)
2015-2016 Annual Progress Report
Village of Key Biscayne, FL
Community #120648**

Background and Purpose:

The Village has adopted the Miami-Dade County Local Mitigation Strategy (LMS), in lieu of the FMP and has participated in the County's LMS Working Group since 1998. Participation in the LMS enables access to available funding sources for the purpose of reducing and minimizing the impact of flooding, particularly in repetitive loss areas and to obtain assistance with mitigation of flood damage through federal and state funded grants. The Village is required to and continues to attend quarterly meetings and maintain updates to the list of projects proposed to mitigate localized flooding in addition to the stormwater projects included in the CIP and funded through the Stormwater Utility revenue. This list is published and maintained on the County website at <http://www.miamidade.gov/fire/mitigation.asp>. The status of the current list, as latest update submitted to the County in December 2015, is summarized in this report as required under Activity 510 of the CRS Annual Recertification process.

1. Name of CRS Floodplain Management Plan (LMS or other):

Miami-Dade County Local Mitigation Strategy (LMS)

2. Date Adopted:

August 25th 2015

3. Location where copies are available for review:

Village of Key Biscayne Village Hall
Building, Zoning and Planning Department Suite 210
88 West McIntyre Street, Key Biscayne, FL 33149

Online at Village website document center:

http://keybiscayne.fl.gov/index.php?src=gendocs&ref=DocCenter_NFIP-CRS&category=DocumentCenter

4. Summary of any floods that occurred during the year (if any):

The Village did not experience any flood event defined as damaging more than 10 buildings, causing more than \$50,000 in property damage, or causing the death of one or more persons during the reporting year.

Several storm events occurred that caused temporary flooding on October 13, 2015, December 4-5, 2015, December 8, 2015 and May 3-5, 2016. The amounts of precipitation of these storms varied between 1.4 inches and 12 inches throughout the Village. The flooding generally subsided within 2 to 3 hours of event.

5. What impact did the floods have on the repetitive loss area(s):

The repetitive loss areas, or critical flooding areas, Areas 1, 2 and 3, as defined in the 2011 Stormwater Master Plan Update, were impacted most during the October 13, 2015 and December 4-5, 2015 storm events with flood depths ranging between 6-inches and 12-inches along streets, through right-of-ways and parking areas. These areas include: Galen Drive, Beach Club, South Fernwood Road, K-8 School, West Heather Drive, Harbor Point, Ocean Lane Drive and Sonesta Drive. The flooding occurred mainly in the Village right-of-way within the roadways, into some driveways, but not into the attached garages or carports, and subsided within 2 to 3 hours. There were no visible impacts to the habitable structures.

6. List each element of the original plan and note how much was accomplished during the previous year:

Project #	Description	Status	Timeline
1	Additional Training – Fire Department	Identified Funding Source – Fire Department Training Budget	FY 2017
2	CERT Readiness	Identified Funding Source - Grant	FY 2017-2018
3	Coastal Dune Vegetation	Funding Secured - CIP	FY 2017
4	Comprehensive Review of Local Laws and Regulations	Identified Funding Source – Stormwater Utility Fund Annual	On-going
5	CRS Outreach Program	Funding secured	Completed FY 2016
6	Drainage Improvements on East Heather Drive	Identified Funding source – Stormwater Utility Fund –	Design Phase – FY 2017 Quarter 1 Finalized FY 2017 Quarter 4
7	Drainage Improvements on Fernwood Road & Hampton Lane	Future Unfunded Project	FY 2018
8	Emergency Operation Center	Future Unfunded Project	FY 2020 or upon Grant approval
9	Feasibility Study for Additional Open Space Preservation	Pursuing through Land Acquisition Committee – Purchased 401 Hampton Lane as a pocket park	Ongoing
10	Flap Gates at Outfalls	Funding Secured – SW Utility	Installation completed at two (2) outfalls FY 2015. On-going FY 2016 thru FY 2017.
11	Hardening of Village Hall Generator	Future Unfunded Project	FY 2020 or upon Grant approval
12	Hazard Mitigation involvement	Partial Funding Secured	On-going
13	Holiday Colony Low Lying Area #1	Partial Funding Secured – SW Utility	Design Phase

14	New Stormwater Outfall Construction	24 Crandon Blvd - structure demolished	
15	Purchase of Emergency Vehicles	Identified Funding Source - CIP	FY 2017
16	Reverse 911 Community Notification System	Identified Funding Source - CIP	TBD
17	Traffic Signage & Pavement Marking Improvements Master plan		Completed FY 2016
18	Village K-8 Center Stormwater Pump Station	Scope changed – Two (2) drainage wells were installed along with inline check valve to prevent backflow – Completed July 2016	

In addition to the LMS projects listed above, the following stormwater improvement projects were included as part of the Village's Five Year Capital Improvement Plan and Emergency Repairs. These projects enhanced the Village storm water system and provide significant safety and quality of life improvements for residents by reducing flooding potential.

1. Inline backflow prevention valve installation at West McIntyre Street and Fernwood Road.
2. Rehabilitation of eight (8) wells – Completed October 2016.
3. Installation and implementation of SCADA at Stormwater pump stations 1 and 2 – Completed June 2015.
4. Installation of remote drainage well level monitoring devices at eleven (11) locations Village wide.

The FMP includes a number of on-going tasks that are significant in the mitigation of flood hazards. These tasks extend beyond continued management of "normal" on-going CRS-mandated activities such as Drainage System Maintenance, Flood Warning, Map Information, Outreach Projects and Library.

The Village's Beach Renourishment Project and Dune are particularly significant in that the beach-dune system represents a barrier island's first line of defense against storm surges. The Village maintains a capital outlay expenditure item for these efforts as part of Activity 420.

In July 2012, a Beach Renourishment Project was completed. The project placed 37,500 cubic yards of beach compatible fill material along 5,425 linear feet of the Village's shoreline. The permits are valid for subsequent renourishment events over a ten year period. The Village has committed funding in FY 2017 for an additional Beach Renourishment Project if deemed necessary by the Village's Coastal Engineers.

In September 2014, a coastal dune vegetation report identified 1,510 square yards in need of exotic removal. The area was cleared of invasive vegetation and replanted with 2,000 Sea Oats to promote sand built up and to preserve the dunes. No additional action has been deemed necessary by the Village's Coastal Consultant at this time. Funding for the ongoing maintenance project is secured for FY 2017.

7. Were any objectives not reached or is implementation behind schedule? If so, state why:

No. The majority of the objectives summarized in the table under Item 6 have funding sources identified and are on schedule for implementation.

8. Should new projects be started or should any of the recommendations or objectives be revised:

Since the majority of the objectives have either been completed or commenced with funding, several new projects related to drainage improvements are being recommended for implementation summarized as listed in Attachment 1 and will be included in the LMS.

9. Progress Report discussed and/or made available publicly.

The FMP Update report was prepared by the Village Floodplain Manager, Special Projects Coordinator, Web Manager, CRS Coordinator and Village Consultant. It was transmitted to the Village Manager and Council Members for review and approval on September 12, 2016.

The Village issued a press release to local newspapers.

A copy of this report can be obtained in the Village's website www.keybiscayne.fl.gov

For more information please contact Mariana Dominguez-Hardie, CRS Coordinator at mdominquez@keybiscayne.fl.gov

ATTACHMENT 1 – NEW PROJECTS

Project #	Project Name	Description
1	K-8 School Central Basin	The total area is 28.94 acres. This area is centered around the Key Biscayne K-8 Center. This area runs along Ridgewood Drive, Woodcrest Drive and Glenridge Drive starting north of Westwood Drive and ending south of West Heather Drive. It also includes portion of Fernwood Drive. The design proposed includes (1) stormwater drainage improvements to the conveyance system along Ridgewood Road, (2)Woodcrest Road, (3) Glenridge Road, (4)Fernwood Road, (5) West McIntyre Street and (6) West Enid Drive. The design also proposes (6) the redevelopment of two drainage wells and (7) the addition of six gravity drainage wells.
2	K-8 School South Basin	The total area is 26.04 acres and it is located south the Key Biscayne K-8 Center. This area runs along Ridgewood Drive, Woodcrest Drive and Glenridge Drive starting at West Masha Drive and ending south of West Enid Drive. The design proposes includes (1) stormwater drainage improvements to the conveyance system along Ridgewood Road, (2)Woodcrest Road, (3) Glenridge Road, (4)Fernwood Road, (5) West Mashta Drive and (6) West Enid Drive. The design also proposes (6) the redevelopment of two drainage wells and (7) the addition of five gravity drainage wells.
3	West Heather Drive Corridor	The total area is 20.27 and is located to the west of the village. It runs along West Heather Drive and includes portions of Allendale Road, Warren Lane and Hampton Lane. The design proposes includes (1) stormwater drainage improvements to the conveyance system along West Heather Drive, (2)Allendale Road, (3)Warren Lane and (4)Hampton Lane. The design also proposes (5) the redevelopment of one drainage wells and (6) the addition of seven gravity drainage wells.
4	Village Green Park	The total area is 29.94 acres and it is located just west of the Village Green Park. It runs along Ridgewood Road, Woodcrest Road, Glenridge Road and Fernwood Road starting north of West McIntyre Street end ending south of Hampton Lane and Woodcrest Lane. The design proposed includes (1) stormwater drainage improvements to the conveyance system along Ridgewood Road, (2)Woodcrest Road, (3) Glenridge Road, (4)Fernwood Road and (5) West Heather Drive. The design also proposes (6) the redevelopment of one drainage well and (7) the addition of six gravity drainage wells.
5	Holiday Colony	This area is approximately 24.41 acres and is located east of the village, to the right of Crandon Boulevard. It is composed entirely of the Holiday Colony area. The design proposed includes (1) stormwater drainage improvements to the conveyance system along East Heather Drive (2) the redevelopment of two gravity drainage wells and (3) the retrofit of the existing stormwater pump.
6	The Gardens District	Boulevard. It is composed entirely of the area knows at the Gardens District. The design proposed includes (1) stormwater drainage improvements to the conveyance system along East Enid Drive, (2) Sunrise Drive, (3) Galen Drive and (4) Ocean Lane. The design also proposes (5) the redevelopment of four drainage wells, (8) the addition on stormwater pump station with (9) three injection wells.
7	Ocean Lane Drive	This area approximately 14.32 acres and is located to the north of the village and to left of Crandon Boulevard. It is composed of entirely of Ocean Lane Drive, from its start at the intersection of Crandon Boulevard and Ocean Lane Drive all the way to the entrance to the Island House Apartments. The proposed design includes (1) improvements to the stormwater conveyance system along Ocean Lane (2) redevelopment of the existing injection wells and (3) the retrofit of an existing pump station.
8	Harbor Drive Corridor	This area is approximately 13.18 acres. It is located west of the village along Harbor Drive starting at West McIntyre Street and ending just north of Westwood Drive. It also includes Harbor Lane and Sunset Circle. The proposed design includes (1) improvements to the stormwater conveyance system along Harbor Drive (2) redevelopment of three gravity drainage wells and (3) the installation of four additional gravity drainage wells.
9	Westwood Drive Corridor	This area is approximately 13.18 acres. It is located to the south west of the village Westwood Drive starting at just west of Ridgewood Road and ending at Harbor Drive. It also includes portions of Hampton Lane, Warren Lane, Allendale Road, Curtiswood Drive and Myrtlewood Lane. The proposed design includes (1) improvements to the stormwater conveyance system along Westwood Drive, (2) Hampton Lane, (3) Warren Lane, (4) Allendale Road, and (5) Harbor Drive. The design also proposes (6) redevelopment of two gravity drainage wells and (7) the installation of eleven additional gravity drainage wells.
10	Allendale Road, Warren Lane and Hampton Lane Corridors	This area is approximately 13.01 acres and it is located just west of the Key Biscayne K-8 Center. The area runs long West McIntyre Street starting just west of Ridgewood Road and ending at Satinwood Road. It also includes portions of Hampton Lane, Warren Lane and Allendale Road. The proposed design includes (1) improvements to the stormwater conveyance system along West McIntyre Street, (2) Hampton Lane, (3) Warren Lane, (4) Allendale Road, and (5) Satinwood Road. The design also proposes (6) redevelopment of one gravity drainage well and (7) the installation of ten additional gravity drainage wells.
11	West Enid Corridor	This area is approximately 8.31 acres and it is located just west of the Key Biscayne K-8 Center. The area runs long West Enid Drive starting just west of Ridgewood Road and ending at Satinwood Road. It also includes portions of Hampton Lane, Warren Lane and Allendale Road. The proposed design includes (1) improvements to the stormwater conveyance system along West Enid Drive, (2) Hampton Lane, (3) Warren Lane, (4) Allendale Road, and (5) Satinwood Road. The design also proposes (6) redevelopment of one gravity drainage well and (7) the installation of seven additional gravity drainage wells.
12	Palmwood Drive Corridor	This area is approximately 8.85 acres and it is located west of the village. It is bounded to the north by Redwood Lane, to the south and west by Palmwood Lane and to the east by Allendale Road. The proposed design includes (1) improvements to the stormwater conveyance system along Palmwood Lane, (2) Redwood Lane and (3) Allendale Road. The design also proposes (4) redevelopment of one gravity drainage well.
13	Sabal Drive Corridor	This area is approximately 3.46 acres and it is located west of the village, just east of Harbor Drive. It runs along Sabal Drive starting at West McIntyre Street and ending at Beechwood Drive. The proposed design includes (1) the addition of one gravity drainage well.
14	Curtiswood Drive Corridor	This area is approximately 7.35 acres and is located to the west of the village, just east of Harbor Drive. It runs along Curtiswood starting at West Enid Drive and ending just north of Westwood Drive. The proposed design includes (1) improvements to the stormwater conveyance system along Curtiswood Drive, (2) redevelopment of two gravity drainage wells and (3) the installation of one additional gravity drainage well.