

Town of Juno Beach Flood Mitigation Plan

STEP 8: ACTION PLAN

Executive Summary

A key component of the Town of Juno Beach Flood Mitigation and Management Plan (FMP) is the Action Plan. The Action Plan transforms the goals and objectives into actual activities; this moves the process of flood mitigation from the theory to practicality.

In the course of developing the Action Plan, the Committee listed and discussed over 78 possible activities covering all of the activity types listed below:

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

As a direct result of the discussions and deliberations concerning possible activities, the activity descriptions were revised and a total of 60 activities were chosen for the Action Plan, several from each of the activity types listed.

The following are flood mitigation activities recommended by the Town of Juno Beach Flood Mitigation Task Force in December 2013. The activities have been prioritized based on the following criteria:

1. Overall effectiveness to mitigate flooding
2. Feasibility and affordability
3. Reduction of repetitive losses
4. Urgency of need

The Committee reviewed the initial prioritization, discussed the implications, and revised the initial prioritization by consensus.

Particular attention was given to the projects that can also be included in the Palm Beach County Local Mitigation Strategy (LMS). Twice a year, April 1st and October 1st, the LMS Evaluation Panel for Palm Beach County reviews projects submitted by participating municipalities and releases an updated Project Prioritization List (PPL) 30 days later; however, mitigation initiatives are accepted year round. If unexpected or multiple funding sources become available throughout the year that necessitate ranking, the LMS Evaluation Panel will meet and score submitted projects accordingly. For example this would occur in the case of Hazard Mitigation Grant Program (HMGP) funding, which could become available anytime of the year. The Panel encourages mitigation to be a year-round process of planning and implementing. **Please see Appendix #__ which** includes the LMS project list, the description of the submission process, and the required project submission forms.

Many of the Town of Juno Beach FMP Action Items are currently being performed, and the action item calls for its continuation. These activities are purposely included in the Action Plan to ensure that they are continued in the future, through the annual FMP evaluation process.

The activities have been prioritized; however, the priority of each activity may change due to urgency of need, current events, and funding.

1. Implement the following 5-Year Capital Improvement Program Street/Drainage projects contingent on the ability to secure funding:

a) Two unfunded Capital Improvement Projects are on an ongoing improvement list.

- o **Juno Ocean Walk**- Design and build exfiltration trench and French drains needed to capture and slow storm water drainage from the roadway to minimize localized flooding.
- o **Zenith Lane** – Design and construct storm drainage structures and exfiltration trenches to facilitate the drainage of storm water. (\$23,000)

Action: Director of Public Works will implement these projects within the next five years should funding become available. (\$60,000)

Funding: Need to secure funding for both Capital Improvement projects.

b) A \$50,000 unfunded Capital Improvement Project was recently completed.

- o **Universe Boulevard Project** - Large diameter drainage pipes that discharge into the Intracoastal required maintenance and repairs. FP&L lead the study of the existing pipes' condition, researched viable repair options and costs.

Action: Public Works Director worked with FP&L to move this project forward. Project is currently underway.

Funding: Properties in this area will be assessed for the work.

2. Prioritize flooding issues and implement capital projects to mitigate flooding. Drainage issues should continue to be given top priority in the capital improvement program, particularly in areas containing repetitive loss properties. To supplement funding, the Town must continue to be proactive in obtaining funding for this program. The following sources are recommended:

- Community Development Block Program
- Community Redevelopment Agency
- Flood Mitigation Assistance Grant
- Hazard Mitigation Grant Program
- Repetitive Flood Claims
- Severe Repetitive Loss

Action: The Director of Public Works may provide flood documentation and designate areas of concern. The Project Coordinator can assist with the grant applications. A yearly report of all efforts and findings will be presented to the Flood Mitigation Task Force.

Funding: Staff time (operating funds). Matching funds, if required, will have to be budgeted or will be assumed by the homeowner, if agreed.

3. Encourage all property owners and renters to purchase flood insurance.

Action: This is the responsibility of the Town CRS Coordinator through public education and outreach.

Funding: Staff time (operating funds)

4. Encourage individual property owners, homeowner associations and other stakeholders to pursue percolation-oriented drainage improvements using best management practices through outreach and education. Stormwater runoff that seeps into the soil, rather than being discharged to waterways provides multiple benefits. Not only does it mitigate flooding, but it also recharges the aquifer, enhances water quality, and reduces erosion.

Action: Town staff enforces these best management practices via Town Codes, Ordinances, and the State Building Codes. Furthermore, the Town will continue to encourage and educate residents, including homeowner associations.

Funding: Staff time (operating funds)

5. Contact FDOT about drainage problems emanating from US 1.

Action: The Public Works Director will work with FDOT to resolve drainage problems. If FDOT is unable to address the issue and/or alleviate the problem, the Town will consider commissioning an engineering study to determine the scope of FDOT's responsibilities under current water management regulations.

Funding: Staff time (operating funds)

6. Develop proactive response to Biggert-Waters Flood Insurance Reform Act of 2012 (BW-12).

Action: CRS Coordinator will explore the possible effects of BW-12 provisions eliminating "Grandfathered" property exemptions to existing homes where base flood and finished floor elevations are concerned and will work to educate homeowners about these new laws. Develop actions to mitigate the financial burdens of the new law on homeowners if such action is deemed appropriate, working together with the Palm Beach County CRS Users' Group.

Funding: Staff time and operating funds

7. Continue to support the Town's efforts to improve its classification in the Community Rating System, thus enhancing the Town's flood mitigation efforts while securing insurance premium rewards for its residents and businesses.

Action: This is the responsibility of the CRS Coordinator. This is an ongoing policy and the Town will continue its current approach.

Funding: Staff time (operating funds)

8. Consider the following forms of retrofitting for areas or buildings with major flooding issues:

- Install backflow valves on sewer and drain systems
- Elevation of structures by piers, posts and columns, and pilings
- Create a secondary water barrier
- Elevate the lowest floor above the 1% Chance of Flood Level
- Wet flood proofing (allowing water to enter uninhabited areas of the structure)
- Dry flood proofing (sealing the structure to prevent floodwaters from entering)
- Levees and flood walls (constructing a barrier around the structure to keep out floodwaters)
- Demolition (tearing down the structure and rebuilding with appropriate flood proof techniques or relocating the structure)
- Elevate the main breaker or fuse box above the 1% Chance of Flood Level

Action: This is the responsibility of the Planning and Zoning/Building Department. This is an ongoing policy and the Town will continue its current approach.

Funding: Staff time (operating funds)

9. Continue to require designation of open space property for all major development.

Action: This is current Town policy and will continue as is. The Director of Planning and Zoning will identify any proposed ordinance that could weaken the Town's strong open space requirements and coordinate with other Town staff to follow up as needed.

Funding: Staff time (operating funds)

10. The Town should continue its current policy of conducting a public outreach campaign.

- Chambers, civic groups, etc.
- Town Newsletters
- Handouts, brochures, newspapers in Town Center lobby
- Handouts available during Town events

Action: This is the responsibility of the CRS Coordinator. This is an ongoing effort and the Town will continue its current approach.

Funding: Staff time (operating funds)

11. Review all of the Juno Beach permits issued by South Florida Water Management District to private entities within the Town limits. Require those entities with special conditions to submit all monitoring reports on water management systems to the Town, in addition to the South Florida Water Management District.

Action: As part of the Site Plan review process, the Planning and Zoning Department will continue to require copies of all permits issued by South Florida Water Management District and any associated monitoring reports, as a condition of Site Plan approval.

Funding: Staff Time (operating funds)

12. Identify Town-owned land that could be reserved for permanent open space and encourage such designation where possible. Apply deed restrictions where applicable.

Action: This responsibility will be a collaboration of the Planning and Zoning Department and the Public Works Department; the locations identified will be presented to the Town Manager.

Funding: Staff time (operating funds)

13. Continue practice of improving localized drainage system problems so the Level of Service standards are maintained.

Action: The Public Works Department is actively looking for ways in which the function of the localized drainage systems can be improved. If opportunities for improvement are noted, the proposed improvements will be documented and presented to the Town Manager.

Funding: Funding sources vary. Should the opportunity for improvements be noted, the Project Coordinator will then seek appropriate funding sources which may include Capital Improvement funds, grants, operating funds or other applicable/available funding.

14. Explore the practicality of using the environmentally sensitive areas to capture and manage stormwater runoff from flood prone areas, thus recharging the natural water supply.

Action: Proper stormwater filtering mechanisms must be researched and the required government agencies will be consulted and included in the process of developing and implementing such practices, if they are deemed viable.

Funding: Cost not yet evaluated and funding not yet secured. Possible sources include Capital Improvement Program funds, State/County Funds, FEMA grant funds, or collaborate funding with other government agency such as the Environmental Protection Agency.

15. Continue to prioritize the reduction of repetitive loss properties through various means of mitigation, update repetitive loss forms and remove properties from the Repetitive Loss List. This is an ongoing activity that will continue as a priority of the Town's CRS Coordinator, the results of which will be reported annually to the Flood Mitigation Committee.

Action: The CRS Coordinator is currently in charge of researching and following up on all properties listed on the Repetitive Loss List, and is actively trying to mitigate any known conditions which may contribute to future flood losses. Where applicable, the CRS Coordinator will work with private property owners to address these conditions and notify Public Works Director for potential resolution. All progress will be reported to the Flood Mitigation Committee on a yearly basis.

Funding: Staff time (operating funds)

16. Assign an individual to continually update information pertaining to hurricane and flood warnings. This update responsibility will include, but not limited to, the following media:

- Town website
- Door to door, and bullhorn (notification of evacuation orders)

- Television Government Access Channel (conducted by Palm Beach County)
- Reverse 911 telephone system
- Public Service Announcements through local media (radio, newspapers, etc.)

Action: This is a current Town procedure and will continue as is as a responsibility of the Palm Beach County Emergency Management Division. The Standard Operating Procedure written for emergency information dissemination shall include the items listed above.

Funding: Staff time (operating funds)

17. Incorporate an assessment of public capital improvements within the Coastal High Hazard areas (as identified in the Coastal Management Element of the Comprehensive Plan) into the Town's review process for infrastructure planning.

Action: The Planning and Zoning Department will continue to ensure that the Coastal Management Element provides objectives and policies that will correspond with the Capital Improvement Element of the Comprehensive Plan to allow for adequate infrastructure planning within the Coastal High Hazard areas.

Funding: Staff time (operating funds)

18. Immediately prior to, during and after a hurricane or flood event, post pertinent information concerning major points of interest, such as bridge and road closures, evacuation orders, emergency shelter locations and electrical outages utilizing the following media:

- Town website
- Television Government Access Channel
- Electronic message boards
- Reverse 911 telephone system
- Public Service Announcements through local media (conducted by Palm Beach County)

Action: This is the responsibility of the Police Department. This is an ongoing policy and the Town will continue its current approach.

Funding: Staff time (operating funds)

19. Maintain the Town's strong regulatory flood mitigation standards, including:

- Utilization of 1% chance storm for development
- Closed basin design
- Lot grading plan
- Requirement of 18" freeboard over crown of road, if under 7.5' elevation

Action: The Director of Planning and Zoning will be responsible to identify any proposed ordinance that could weaken the Town's strong standards and coordinate with other Town staff to follow up as needed.

Funding: Staff time (operating funds)

20. As part of the Town's National Pollutant Discharge Elimination System (NPDES) program, continue sediment control, drainage systems maintenance including street sweeping, and planting vegetation on bare ground.

Action: This is current policy, and the Public Works Department will continue the current approach.

Funding: Staff time (operating funds)

21. Evaluate the condition of infrastructure such as dune walkovers and the sea wall, currently present within the Coastal High Hazard Area. These items are infrastructure where state funding is anticipated to be needed, as identified in the *Local Mitigation Strategy Prioritized Project List*. Develop an improvement program, if warranted.

Action: The Town Manager may consider replacement or rehabilitation of the Town's 50-foot portion of the Atlantic Avenue seawall should funding be secured. The Town is currently performing dune walkover maintenance with operational budget funds and grant funding.

Funding: Need to seek funding sources, possibly State funding.

22. Implement equipment purchase and maintenance.

Action: Secure new portable emergency pump. Properly repair/maintain existing equipment required for storm water emergencies.

Funding: Town budget allocation

23. Continue to implement strict enforcement of best management practices for reducing erosion during development activity.

Action: This is the responsibility of the Planning and Zoning Department and Code Enforcement. All permit applicants are held to the highest standards of compliance. In addition, the Public Works Department does and will continue to implement these practices during all Capital Improvement and Town maintenance projects.

Funding: Staff time (operating funds)

24. Continue to support strong enforcement of South Florida Water Management District regulations pertaining to floodplain management.

Action: This is the responsibility of Code Enforcement. The Director of Planning and Zoning will ensure that the Town's commitment to enforce SFWMD regulations is upheld.

Funding: Staff time (operating funds)

25. Encourage FEMA to update Flood Insurance Rate Maps (FIRMs) to include base flood elevations in all Special Flood Hazard Areas. (Map updating is already in progress) Incorporate those base flood elevations into building development recommendations as they become available.

Action: Project Coordinator will review the new draft FIRMs to determine whether or not base flood elevations are included. If not, the appropriate FEMA representatives who are receiving input from the communities will be contacted and recommendation will be made for inclusion of base flood elevation in all Special Flood Hazard Areas.

Funding: Staff Time (operating funds)

26. Continue hosting the annual National Preparedness Month display and event every September in the Town Center lobby in order to provide the public with pertinent flood and emergency preparedness information.

Action: This is the responsibility of the CRS Coordinator. This is an annual event and the Town will continue its current approach.

Funding: Staff time (operating funds)

27. Continue to educate residents of the permitting process, particularly where it relates to water management on adjacent properties.

Action: Through various outreach projects, the Town will educate residents/homeowners about the permitting process so that they may actively participate in public discussion, and voice any concerns they may have about permit applications, permit issuance and other proposed land use projects. The Planning and Zoning Department uses the Town website to inform residents about all the information available (and the locations for obtaining that information) and encourages them to stay up-to-date on projects that may affect them.

Funding: Staff time (operating funds)

28. Maintain swales within the right-of-way.

Action: The Public Works Department will continue to inspect and maintain all swales within the Town's jurisdiction.

Funding: Staff Time (operating funds)

29. Integrate response to flooded homes with appropriate response organizations (Red Cross, faith-based organizations, other non-profit entities, etc.).

Action: This is the responsibility of the Police Department in collaboration with Palm Beach County Emergency Management.

Funding: Staff time (operating funds)

30. Continue the Town's practice of high standard design criteria for approval of permits for development projects for correcting existing deficiencies and meeting future drainage requirements.

Action: This is current Town policy and will continue as is. This is the responsibility of the Planning and Zoning Department.

Funding: Staff time (operating funds)

31. Include notification of grants, loans and service availability in all Town media publications, seminars and websites that address flood mitigation.

Action: CRS Coordinator will be responsible for publishing this information in the two local newsletters and on the Town's website.

Funding: Staff time (operating funds)

32. Identify areas that can be used for storage of floodwaters, such as public rights of way, parks, and open spaces, in locations that have flooding problems.

Action: The Director of Planning and Zoning will notify the Town Manager should any suitable locations be identified.

Funding: Staff time (operating funds)

33. Continue semi-annual inspection and maintenance program of Town-owned stormwater control structures to ensure their proper functioning.

Action: This inspection is performed by the Public Works Department twice a year and any required maintenance will be performed as needed. Code Enforcement will coordinate with property owners when necessary.

Funding: Staff Time (operating funds)

34. Continue to require that installation of stormwater management facilities made necessary by new development is the responsibility of the developer.

Action: This is current Town policy and is enforced by the Planning and Zoning Department. The Town Council and Town Manager, with the help of the Floodplain Manager, will review all proposed ordinance changes to ensure that this requirement remains intact and complies with all NPDES requirements.

Funding: Staff time (operating funds)

35. Advertise evacuation routes.

Action: Assignment of the evacuation routes is the responsibility of Palm Beach County Emergency Management. All road signs advertising the routes have been removed by the County.

Funding: Staff time (operating funds)

36. Solicit federal, state and county agencies to continue dune restoration and maintenance programs.

Action: CRS Coordinator will coordinate with Palm Beach County to continue inclusion of Juno Beach in its dune restoration program. Dune restoration to date has been very successful.

Funding: Funding is provided by other governmental agencies.

37. Initiate a regional public education campaign to educate residents, business owners, policymakers on the merits of preserving open land as an “insurance policy” for adaptation to sea level rise in South Florida.

Action: The Planning and Zoning Department will take the lead in following up on this item.

Funding: Staff time (operating funds)

38. Continue to encourage environmentally-beneficial drainage solutions, including the use of pervious concrete and pavement.

Action: This is current Town policy and will continue. This is the ongoing responsibility of the Planning and Zoning Department.

Funding: Staff time (operating funds)

39. Identify areas where water drainage and ground permeation can be improved through soil replacement, as has been done and proven successful along US 1.

Action: The Director of Public Works will identify properties that meet these criteria. The process may require engaging, educating and seeking the support of adjacent property owners.

Funding: Staff time (operating funds)

40. Encourage flood proofing techniques.

Action: This is the responsibility of the Planning and Zoning Department. This can be implemented through outreach and education.

Funding: Staff time (operating funds)

41. The Town's policy to encourage designation, protection and maintenance of wetlands, mangroves and environmental sensitive lands will remain unchanged.

Action: This is the responsibility of the Planning and Zoning Department. This is an ongoing policy and the Town will continue its current approach.

Funding: Staff time (operating funds)

42. Ensure adherence to the Town's “Emergency Management Hurricane Plan,” particularly in the event of evacuation orders. Key components of the procedures will be reviewed beginning June 1st of each year.

Action: This is the responsibility of the Senior Staff. This is an ongoing policy and the Town will continue its current approach.

Funding: Staff time (operating funds)

43. At the start of each Hurricane Season, Juno Beach Police Department will confirm and update *Hurricane Evacuation Assistance; Juno Beach Residents Evacuation Assistance Forms* submitted by residents, review evacuation procedures, and advertise the availability of evacuation assistance.

Action: This is the responsibility of the Juno Beach Police Department. The CRS Coordinator can also assist with advertising. This is an ongoing policy and the Town will continue its current approach.

Funding: Staff time (operating funds)

44. Based on availability and prioritized needs, continue to provide knowledgeable staff to assist citizens before, during and after a flood event to help them understand their repair, rebuilding and mitigation options.

Action: This is the responsibility of the Planning and Zoning Department. This is an ongoing policy and the Town will continue its current approach.

Funding: Staff time (operating funds)

45. Ensure optimal staffing of emergency management personnel to receive and respond to emergency events. This practice will continue as in the past, in accordance with Incident Command System (ICS) standards.

Action: This is the responsibility of the Juno Beach Police Department. This is an ongoing policy and the Town will continue its current approach.

Funding: Staff time (operating funds)

46. Continue to encourage developers to incorporate historical drainage patterns in the analysis of the required stormwater storage.

Action: This is current Town policy and the responsibility of the Planning and Zoning Department.

Funding: Staff time (operating funds)

47. Ensure that citizens know how to contact FEMA post-flood.

Action: This is the responsibility of the CRS Coordinator. This is an ongoing policy and the Town will continue its current approach.

Funding: Staff time (operating funds)

48. Evaluate the *Flood Mitigation Plan*, particularly the Action Plan each year.

Action: The CRS Coordinator will prepare an evaluation of the Flood Mitigation Plan for every annual meeting of the Flood Mitigation Plan Task Force. This responsibility will be ongoing.

Funding: Staff time (operating funds)

49. Update the *Flood Mitigation Plan* every five years.

Action: The CRS Coordinator will be responsible for ensuring that the Flood Mitigation Plan is updated every five years and coordinate the update with the *Palm Beach County Unified Local Mitigation Strategy's* five-year update committee.

Funding: Staff time (operating funds)

50. Regularly inspect stormwater control structures to ensure they function as designed.

Action: The weir on Pelican Lake, a water control structure, will continue to be inspected by the Public Works Department.

Funding: Staff time (operating funds)

51. Maintain an inventory of the Town's drainage structures and review it annually.

Action: This function is performed by the Public Works Department.

Funding: Staff time (operating funds)

52. Identify, inform and encourage homeowners' associations to install littoral/upland buffer plantings around lakes.

Action: An article in the Town's newsletter is recommended to serve this purpose. The Planning and Zoning Department and the Public Works Department can continue to encourage older developments, and require new developments to plant native species surrounding lakes and waterways.

Funding: Staff time (operating funds)

53. Implement the following project ranked as #47 on the *Palm Beach County Local Mitigation Strategy (LMS)* Prioritized Project List (PPL), (January 2009).

Action: Purchase 18 vacant, privately-owned lots in New Palm Beach Heights (funding and owners permitting) to restore wetlands (\$430,000 unfunded). Consider adding this project to the 2014 LMS PPL.

Funding: Potential funding sources FEMA Grants: (Hazard Mitigation Grant Program and Flood Mitigation Assistance Grant)

54. Identify all critical facilities located in the Town and make contingency plans for each, in the event of flooding.

Action: This is the responsibility of the Town Manager. The Town does not currently operate any facilities within a Special Flood Hazard Area.

Funding: Staff time (operating funds)

55. Confirm that the town's nursing home continues to have an emergency plan.

Action: This is the responsibility of the Police Department.

Funding: Staff time (operating funds)

56. Recruit local business owners and leaders of civic organizations to assist with the distribution of flood and disaster outreach projects.

Action: Because all of the various departments within the Town have contact with different citizens, this should be a joint effort. The proposed development of a Program for Public Information will assist in making this activity successful.

Funding: Staff time (operating funds)

57. Identify privately-owned and public natural and beneficial areas in the Town and consider expansion of the Town's properties that are designated natural and beneficial areas. Currently 43% are designated as such.

Action: This is the responsibility of the Planning and Zoning Department. All properties identified as eligible will be presented to the Town Manager.

Funding: Should eligible properties be identified, the Town Project Coordinator would then seek purchase funding sources.

58. Implement the Town's Public Information Outreach Strategy, a copy of which can be found in [Appendix #_____](#).

Action: This is the responsibility of the CRS Coordinator. This is an ongoing effort and the Town will continue its current approach.

Funding: Staff time (operating funds)

59. Continue to provide education to home buyers regarding flood information.

Action: This is the responsibility of the CRS Coordinator. This is an ongoing policy and the Town will continue its current approach.

Funding: Staff time (operating funds)

60. Encourage property owners to use qualified hazard mitigation professionals to inspect building foundations and assess damage after flood events. FEMA, Insurance agents, the State NFIP office and the local building department can provide contact information.

Action: This is the responsibility of the Planning and Zoning Department. This is an ongoing policy and the Town will continue its current approach.

Funding: Staff time (operating funds)