



City of Orange Beach
COMMUNITY DEVELOPMENT DEPARTMENT

4101 ORANGE BEACH BLVD.
ORANGE BEACH, ALABAMA 36561



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2009 FLOODPLAIN MANAGEMENT PLAN ANNUAL REPORT

Resolution 1153 adopted on October 19, 1999 established a Floodplain Management Committee and subsequently the Floodplain Management Plan was adopted by Resolution 1408 on January 16, 2001 and amended on October 24, 2005 by Resolution 2412.

For credit under the Community Rating System (CRS), this report must be distributed to the media and be made available to the public. It is being sent to the news media serving the City of Orange Beach. Copies of the Floodplain Management Plan are available for review at the Community Development office located at 4101 Orange Beach Blvd. and the plan is available on the City of Orange Beach website at www.cityoforangebeach.com.

1. BACKGROUND

The original Floodplain Management Plan drafted by the Floodplain Management Committee with assistance from The South Alabama Regional Planning Commission (SARPC) includes a detailed statement including hazard assessment, vulnerability assessment, hazard mitigation goals and proposed projects.

The plan reviews a variety of measures that can reduce the impact on people and property when flooding occurs. Some of the aspects reviewed include storm surge prediction, known hazards and repetitive loss areas, structures at risk, critical facilities identification, natural and beneficial areas, development trends, floodplain management activities and the Orange Beach Floodplain Management Plan.

A new Floodplain Management Committee was appointed on October 24, 2005 by Resolution 2412. The plan was updated by the Floodplain Management Committee during a series of meetings and in June of 2006 was presented to the Orange Beach Planning Commission and adopted by the City Council on June 20, 2006 by Resolution 2601. The new committee and plan update was deemed necessary due to changes in staff, relocation of some of the committee members out of the immediate area, changes in development patterns and accomplishment of a number of the original goals. In September of 2007 and again in August of 2009 new members were added to the committee due to the relocation of some members.

2. REVIEW OF PLAN COMPONENTS

The Floodplain Management Plan contains the following revised components:

Hazard Assessment – The revised plan includes an updated description of past events, updated storm surge predictions, effects of beach renourishment and an updated repetitive loss area description.

Vulnerability Assessment – The FMP updated structures at risk and removed structures previously described as at risk that have been elevated or removed from the floodplain as a result of substantial damage from recent storms.

Impacts of previous events were updated to include recent storm damage data.

Critical facilities identification was revised to reflect facilities located since the original plan.

Development trends were updated to reflect current trends in the development of the coastal areas.

3. RECOMMENDATIONS

It is vital that the key personnel continue to follow the plan and provide input to the Mayor and Council. Ongoing drainage projects, CRS activities and public education activities should continue.

ACTIVITY SUMMARY

Action #1: Continue participation in the NFIP Community Rating System

Description of Action: In November of 2007 Orange Beach Mayor Pete Blalock was notified by David I. Maurstad of the Federal Emergency Management Agency (FEMA) that Orange Beach would increase to a Class 7 in the National Flood Insurance Program (NFIP) Community Rating System (CRS). The notice commended Orange Beach for the activities implemented by the community to protect lives and reduce property damage. The City continues to follow program guidelines and conduct the activities necessary to advance in the community rating system.

Responsible Person: Building Official / CRS Coordinator

Timeframe: Ongoing

Budget/Resources needed: Staff time

CRS Credit: All activities

Potential Points: Dependent on activities

Action #2: Orange Beach Coastal Hazards Information System

Description of Action: With support from the Alabama Coastal Area Management Program (ACAMP), CDD is attempting to obtain necessary hardware, software, and training to tailor the Alabama Coastal Hazards Information System to specific conditions in the City of Orange Beach.

Responsible Person: Community Development Department

Timeframe: ongoing – In 2009 no local funding was available due to budget constraints.

Budget/Resources needed: Staff time, 50% match for ACAMP funds

CRS Credit:

Potential Points:

Action #3: Stormwater Management

Description of Action: Update Stormwater Management Ordinance

Responsible Person: City Engineer

Timeframe: ongoing

Budget/Resources needed: Staff time

CRS Credit: Activity 450

Potential Points: 225 points

Action #4: Drainage System Maintenance

Description of Action: Continue Drainage System Maintenance Program

Responsible Person: Public Works Dept.

Timeframe: ongoing

Budget/Resources needed: Staff time

CRS Credit: Activity 540

Action #5: Additional Flood Data

Description of Action: Evaluate amending regulations to require developers to establish base flood elevations in X zones and make recommendation to the City Council.

Responsible Person: Building Official

Timeframe: not started (this action has been tabled until the results of the new coastal flood study can be reviewed and evaluated)

Budget/Resources needed: Staff time

CRS Credit: Activity 410

Potential Points: 300

Action #6: Hazard Mitigation Project Development

Description of Action: Identify potential hazard mitigation projects for which to prepare applications to the Hazard Mitigation Grant Program when funds become available.

Responsible Person: Community Development Dept.

Timeframe: Ongoing

Budget/Resources needed: Staff time and mapping

CRS Credit: Activity 530

Action #7:	Outreach to the Community
Description of Action:	Publish and mail a newsletter to the entire community on an annual basis that covers at least six topics including hurricane safety and evacuation and the local flood hazard, and flood insurance.
Responsible Person:	Building Inspection Dept.
Timeframe:	Annually
Budget/Resources needed:	Staff time, funds for updating publication newsletter, postage costs.
CRS Credit:	Activity 330 (OPC)
Potential points:	60

The fall 2008 city newsletter mailed to all residents within the municipal limits contained an article providing an overview to the community on plan components such as the National Flood Insurance Program, Community Rating System, Mitigation and resource availability within the community as a part of our continued public outreach activities. The city-wide newsletter was discontinued in 2009 due to budget constraints and the same information was published in the on-line newsletter and distributed by direct mail in letter format.

Action #8:	Floodplain Property Outreach
Description of Action:	Develop a database of addresses for all properties in the floodplain. Develop and mail a letter to this database on an annual basis that clearly explains that the recipient's property is subject to flooding.
Responsible Person:	Community Development Dept.
Timeframe:	Annually
Budget/Resources needed:	Staff time, postage costs.
CRS Credit:	Activity 330 (OPF)
Potential Points:	130

Informational letters were sent to residents located within the SFHA and to lenders, realtors and insurance agent doing business in Orange Beach.

Action #9:	Repetitive Loss Area Outreach
Description of Action:	Develop a database of addresses in the repetitive loss areas. Develop and mail a letter to this database on an annual basis that clearly explains that the property is in or near and area subject to flooding, describes property protection measures appropriate for the situation, and provides basic facts about flood insurance.
Responsible Person:	Community Development Dept.
Timeframe:	Annually
Budget/Resources needed:	Staff time, postage costs.
CRS Credit:	Activity 330 (OPS) and 503
Potential points:	130

Informational letters were sent to residents with repetitive loss properties.

Action #10:	Public Information Strategy monitoring and Evaluation
Description of Action:	The Public Information Strategy Subcommittee will meet at least annually to monitor implementation and to assist in preparation of the annual evaluation report.
Responsible Person:	Public Information Strategy Subcommittee
Timeframe:	Ongoing
Budget/Resources needed:	Staff time
CRS Credit:	Activity 330
Potential Points:	125

Action #11: Flood Protection Library

Description of Action: Update flood protection and mitigation materials held at the Orange Beach Public Library.

Responsible Person: Building Inspection Dept.

Timeframe: Ongoing

Budget/Resources needed: Staff time

Action #12: Hurricane Evacuation Zone Update

Description of Action: Update hurricane evacuation zones based on lessons learned from Hurricane Ivan.

Responsible Person: Emergency Management and Community Development Depts.

Timeframe: Completed

Budget/Resources needed: Staff time

4. PROJECT PROGRESS REPORT

The following activities have occurred since the 2008 annual report.

2009 COASTAL FLOOD STUDY SCOPING MEETING

Orange Beach Floodplain Administrator Lannie Smith represented the City at several scoping meetings to prepare for the map modernization updates for the City of Orange Beach and Baldwin County. Local Floodplain Administrators provide assistance to FEMA, the Alabama Water Resources Office and the FEMA contractor AMEC.

Map Modernization is responding to National Flood Insurance Program (NFIP) requirements and feedback provided by Federal, State, and local Program stakeholders. Local involvement is critical being that flood hazard conditions are dynamic, and many NFIP maps may not reflect recent development and/or natural changes in the environment. Updated NFIP maps can take advantage of revised data and improved technologies for identifying flood hazards. Up-to-date

maps support a flood insurance program that is more closely aligned with actual risk, encourage wise community-based floodplain management, and improve citizens' flood hazard awareness. Local communities and various stakeholders desired more timely updates of flood maps and easier access to the flood hazard data used to create the maps. Map Modernization is a cornerstone for helping community officials and citizens be better prepared for flood-related disasters.

- **FLOOD AWARENESS TELEVISION SERIES 2009**

The City of Orange Beach, Alabama was featured in a three part series airing during prime time in the months of July and August of 2009. The series highlighted the City's floodplain management practices and featured, Mayor Tony Kennon, the City's Floodplain Administrator Lannie Smith and the Coastal Resource Manager for the City, Phillip West.

The project was a partnership with the National Oceanic and Atmospheric Administration, Mississippi/Alabama Sea Grant Consortium, WKRG-TV The City of Orange Beach, The University of South Alabama Engineering Department, and grassroots, inc.

The programs were based on the premise that the Gulf Coast is an area of storms, high winds and heavy rainfall and we can do a better job of building in this fragile environment by developing better building codes and practicing sound floodplain management. In Orange Beach we have learned that we can lessen our damage from storms and we can make our recovery more cost-effective. The following is an overview of the three-part series.

“Wind and Water”
(Beaches, Barrier Islands and Storm Surge)
Part One

Alan Sealls explains the stormy nature of our weather and the reach of storm surge. Dr. George Crozier, Dr. Scott Douglass and Dr. Bret Webb describe the nature of our beaches, barrier islands and wetlands and their natural protective role. Mayor Tony Kennon, Lannie Smith and Phillip West tell us how the City of Orange Beach, Alabama, has changed since Hurricane Ivan. Officials from Mississippi discuss rebuilding on the coast. The dramatic new flood maps and their effect on home owners insurance are presented. Danny Lipford outlines storm prevention for home owners.

“Water Runs Down Hill”
(The ABC's of a Watershed)
Part Two

Everyone lives in a watershed, though few of us realize it. A watershed is part of Nature's cycle of rainfall – storing runoff water in the ground for future use and returning water to the air. We alter the patterns of runoff by bulldozing the land,

clearing the trees and vegetation and paving over the ground. The water has nowhere to go except in huge torrents that tear up our creek beds, wash dirt and litter into our rivers, and create erosion, pollution and flooding. We can do better. Alan Sealls and Dr. George Crozier explain the nature of our coastal watersheds. Dr. Kevin White discusses alternate storm water management practices. and Malcolm Steeves outlines the problems caused to our water system. Terry Plauche tells us about the value of trees. The City of Orange Beach shows us the dramatic changes they have made in order to lessen storm water damage, and Biloxi's tree and park programs after Katrina are outlined.

“Hedging Our Bets”
(Flooding, Storms and Insurance)
Part Three

We can build better and we can act as a community to improve our storm water management. Senator Richard C. Shelby discusses changes coming in flood insurance and State Senator Ben Brooks describes his legislation to improve homeowner's insurance costs. The City of Orange Beach, Alabama, outlines their course of action that has reduced the cost of flood insurance by 15% for their citizens. Carl Schneider relates improvements that home owners can make to lower their insurance costs, and Danny Lipford demonstrates these changes.

- **ARE YOU READY? EMERGENCY PREPARIDNESS TRAINING**

Orange Beach City Attorney Wanda Cochran and Floodplain Administrator Lannie Smith attended training in Ocean Springs, Ms. to address the legal issues associated with preparation and recovery from coastal storms. The program was offered by the Mississippi/Alabama Sea Grant Consortium and the American Bar Association Center for Continuing Legal Education.

The following activities have occurred since the adoption of the revised plan:

- **COMMUNITY RATING SYSTEM RECLASSIFICATION**

On October 1, 2007 Orange Beach was notified that our community had been reclassified to a class 7 CRS community. This reclassification was a result of the implementation maintenance of activities identified within our Floodplain Management Plan to protect life and property in the event of flooding. On December 7, 2007 Ken Meredith with the Office of Water Resources and Susan Wilson of FEMA presented Mayor Pete Blalock with a certificate recognizing Orange Beach as a Class 7 community.

- **ORANGE BEACH PARTICIPATES IN ESTABLISHMENT OF THE ALABAMA ASSOCIATION OF FLOODPLAIN MANAGERS CHAPTER**

On January 24, 2008, Alabama floodplain managers came together in Montgomery, Alabama to create and establish the Alabama Association of

Floodplain Managers (AAFM). Forty-eight concerned floodplain management professionals, from every corner of the state, saw the need to bring together the more than 369 Alabama communities that participate in the National Flood Insurance Program and create an association that promotes education and outreach for safe and wise development of the Special Flood Hazard. Orange Beach Floodplain Administrator Landon K. Smith, CBO, CFM was on the committee organizing this effort. On May 8, 2008, AAFM officially received its charter from the Association of State Floodplain Managers (ASFPM). Mr. Smith serves on the Executive Committee for the new state organization.

- **2008 ASFPM NATIONAL CONFERENCE**

On May 19-23, 2008 Floodplain Administrator Landon K. Smith, CBO,CFM represented the City of Orange Beach and The State of Alabama at the world's largest and most comprehensive floodplain management conference, the ASFPM Conference in Reno-Sparks, Nevada. Throughout the week, Mr. Smith joined nearly 200 of the industry's experts participating in plenary and concurrent sessions and sharing state-of-the-art techniques, programs, and resources to accomplish flood mitigation, watershed management, and other community goals. A three-day comprehensive exposition featured the materials, equipment, accessories, and services vital to get the job done. Supplementary technical field tours and training workshops provided in-depth training and numerous networking activities. Mr. Smith was recognized by ASFPM during the conference for his work towards the creation of the Alabama Chapter.

- **2007/08 STAFF QCI RE-CERTIFICATIONS**

In 2006 all inspection and plans review staff received recognition as Qualified Credentialed Inspection Professionals through a program offered by the Home Builders Association through the Alabama Department of Environmental Management. This certification allows City staff to perform the inspections required under the National Pollutant Discharge Elimination System (NPDES) permits. Through completion of required continuing education requirements the QCI personnel received notice of certificate maintenance from the National Home Builders Association for the 2007/08 period.

- **2007 FEMA E-273 TRAINING**

In December of 2007, the City of Orange Beach partnered with the Alabama Department of Economic and Community Affairs (ADECA) and FEMA to offer a four day training class called Managing Floodplain Development through the National Flood Insurance Program (NFIP). This course (L273) is designed to provide an organized training opportunity for local officials responsible for administering their local floodplain management ordinance. The course focused on the NFIP and concepts of floodplain management,

maps and studies, ordinance administration, and the relationship between floodplain management and flood insurance.

- **2008 MAP MODERNIZATION SCOPING MEETING**

On August 28, 2008, the City of Orange Beach hosted a scoping meeting that included Baldwin County officials, Community Development and Engineering staff, officials from the Alabama Office of Water Resources and representatives from AMEC, Inc to initiate research for a new coastal flood insurance study. This initial meeting identified community needs in regards to updated flood hazard information needed to assist with the FEMA funded study.

- **HMGP GULF BAY ROAD DRAINAGE PROJECT**

The City secured an HMGP Grant to improve the Gulf Bay Road outfalls to the north of the golf course by constructing box culverts and significantly increasing flow capacity. The improvements eliminate restriction of stormwater flow from the wetlands to tidally influenced Waters of the United States. These wetlands are located within and provide outfall for an estimated 300 acre watershed of which the golf course and its associated stormwater management facilities are contained within.

- **2007 ASFPM NO ADVERSE IMPACT TRAINING**

City of Orange Beach Floodplain Administrator Lannie Smith was a presenter at a workshop entitled "*Implementing No Adverse Impact in the Coastal Zone*" presented by the Association of State Floodplain Managers, Inc. for the Weeks Bay National Estuarine Research Reserve in partnership with the South Alabama Regional Planning Commission (SARPC) on July 18th at the Five Rivers Center in Spanish Fort. Certified Floodplain Manager credits (6 hours) were provided along with other continuing ed credits from Auburn University.

- **2007 STAFF FLOODPLAIN MANAGER CERTIFICATIONS**

With successful completion of the CFM exams in 2007, all inspection and plans review staff are Certified Floodplain Managers as recognized by the Association of State Floodplain Managers (ASFPM). The primary goal of the ASFPM Certified Floodplain Manager Program (CFM Program) is to help reduce the nation's flood losses and protect and enhance the natural resources and functions of its floodplains by improving the knowledge and abilities of floodplain managers in the United States.

- **2006 OPEN SPACE ACQUISITION**

The City purchased property known as the Orange Beach Golf Center to enhance drainage in the area and to preserve the property as recreational use land critical as a drainage basin for several residential developments. The property consists of approximately 54 total acres with 20 acres of wetlands.

- **2006 FEMA E-273 TRAINING**

In February of 2006 The City of Orange Beach partnered with the Alabama Department of Economic and Community Affairs (ADECA) and FEMA to offer a four day training class called Managing Floodplain Development through the National Flood Insurance Program (NFIP). This course (L273) is designed to provide an organized training opportunity for local officials responsible for administering their local floodplain management ordinance. The course focused on the NFIP and concepts of floodplain management, maps and studies, ordinance administration, and the relationship between floodplain management and flood insurance.

- **2006 STAFF QCI CERTIFICATIONS**

In 2006 all inspection and plans review staff received recognition as Qualified Credentialed Inspection Professionals through a program offered by the Home Builders Association through the Alabama Department of Environmental Management. This certification allows City staff to perform the inspections required under the National Pollutant Discharge Elimination System (NPDES) permits.

- **2006 OBGC DRAINAGE IMPROVEMENTS**

The following drainage improvements have been made at the Orange Beach Golf Center site acquired by the City:

1) Diverted the runoff from commercial properties to the southeast, fronting on Canal Rd, to the Golf Course lake conveyance system. This runoff previously drained through the Pines single-family residential subdivision (to the east), via inadequate rear yard swales, causing flooding of houses within the subdivision during significant storm events.

2) Dredged and reconfigured the on site lake system, constructed a 9-foot weir and 700-foot +/- channel outfall structure to convey off and on site runoff (roughly 48 acre off site watershed) from the golf course lake system to the wetlands located to the north of the golf course. This greatly reduced the golf course flooding during significant rain events which benefited the Mulligan Place single-family residential subdivision directly abutting to the west. The improvement of the on site lakes, which serve as both retention and detention facilities, allows for increased storage and conveyance of runoff that will result from the widening of Canal Road, State Highway 180, slated to begin 2008.

The following activities occurred since the adoption of the initial plan:

- **2005 BEACH RENOURISHMENT PROJECT**



The City of Orange Beach completed a comprehensive beach nourishment and dune restoration project, the first of its type in the city's history. Using a hydraulic dredge staged at two offshore borrow sites, the dredge contractor pumped and shaped approximately 2.8 million cubic yards of beach quality sand for a length of 5.3 miles, or nearly 100 cubic yards of sand per linear foot of beach. The project cross section included a dune feature (~ 6 CY/LF) that has a crest of 12 feet above mean sea level, and a width of approximately 40 feet. The dune feature was then planted with native sea oats and panic grass (~ 540,000 total plants). Sand fencing was then installed to prevent the windblown loss of sand to the beach area until the sea oats mature. The project was engineered by Olsen Associates, Inc. of Jacksonville, FL, and constructed by Bean-Stuyvensant, Inc., of New Orleans, LA. The project took 4 months to complete at a cost of approximately \$7million, not including engineering, sand search, permitting or mobilization.

- **2005 BEAR POINT DRAINAGE PROJECT PHASE II**

This was a HMGP drainage project in the East Orange Beach/Bear Point area. This is a low lying area within the SFHA that contains several repetitive loss structures. The project consists of an underground drainage system conveying stormwater to wet wells and pumps to pick-up rainwater and prevent flooding of the adjacent properties.

- **CRITICAL FACILITY RETROFIT – ORANGE BEACH FIRE STATION 1**

This is an ongoing Hazard Mitigation Grant Program project to retrofit an existing fire station adjacent to the City Hall complex. The retrofit plan includes reducing spans of roof/ceiling framing, installing wind rated bay doors, installing shutters to protect window and door openings and adding framing anchors to achieve design wind speed compliance. This project is currently under construction.

- **2005 COTTON BAYOU DRAINAGE IMPROVEMENTS**

This project was completed in 2005 and consisted of installing new culverts and an improved outfall into Cotton Bayou to eliminate ponding in roadways and runoff onto adjacent properties.

- **2004 BEAR POINT DRAINAGE PROJECT PHASE I**

This drainage project was completed in 2004. It consisted of an underground drainage system, wet wells and pumps to relieve repetitive flooding problems in

the Bear Point area of Orange Beach. This low-lying area is within an SFHA and contains several repetitive loss structures. This project is complete and functioning as designed.

- **CAPTAINS COVE DRAINAGE IMPROVEMENTS**

This project involved improving outfalls by using concrete drainage ditches to convey stormwater to the drainage canal. This project lies within a SFHA and has relieved localized flooding to several structures.

- **BAYOU PLACE SUBDIVISION DRAINAGE PROJECT**

This project was within a SFHA and relieved localized flooding to an entire subdivision. The project involved the installation of underground drains to a wet well and pump. The project has proven successful in eliminating the flooding problem from heavy rains. This project also involved new culverts installed under Cotton Bayou Drive with an outfall into Cotton Bayou.

- **HWY 161 DRAINAGE IMPROVEMENT PROJECT**

New outfalls from Hwy 180 to the bay were installed in this project allowing the retainage areas of the highway to drain and prevent the flooding that had traditionally occurred at the intersection of Highways 161 and 180. Phase II of this project is in the engineering stage and will provide additional outfalls under Highway 180.

- **MITIGATION OPPORTUNITIES OUTREACH PROJECT**

This outreach project took place at the Bear Point Civic Associations November 2004 meeting. Lannie Smith, Floodplain Administrator for the City of Orange Beach presented a program on HMGP opportunities and the substantial damage determination process. Brochures were distributed providing additional information on Increased Cost of Compliance coverage, mitigation options, FEMA's role in disaster assistance and key contacts for assistance.

- **HMGP TOWN HALL MEETING**

This community wide outreach project was held in the Orange Beach Community Center on February 16, 2004. This meeting, sponsored by the City of Orange Beach and administered by the South Alabama Regional Planning Commission, offered the community a forum to meet with and discuss mitigation options with the local Floodplain Administrator, representatives from state and federal emergency management and SARPC personnel. HMGP applications and informational brochures were distributed and the meeting was followed by a Q&A session for individual assistance.