The City of Panama City Beach
Community Rating System Progress Report (2020)

Since qualifying for the National Flood Insurance Program Community Rating System in 2016, the City of Panama City Beach has refined many measures to improve floodplain protection, mitigate potential losses and inform and educate the public on the existence and importance of protecting the community’s floodplains. Public outreach has increased, a stormwater master plan with associated mapping has been completed and an aggressive, comprehensive stormwater mitigation program has already resulted in several completed projects with many more scheduled and funded.

Administratively, applications for construction in a special flood hazard area (SFHA) follow a process independent of all other permits and applications. The following summarizes the SFHA review process of the Building and Planning Department:

1. Building Permit paperwork is placed in an orange folder (instead of a manila folder);

2. After approval and issuance of the building permit, the active files for new construction in flood zones are kept in a separate file drawer while the structure is under construction;

3. Special notes are included in the building permit software program (iWorQ) record for the master building permit alerting users to the flood zone and reminding users to obtain Elevation Certificates as appropriate;

4. Sealed Elevation Certificates are required after the construction passes the slab inspection and the slab is poured. No further inspections are scheduled until the first Elevation Certificate is received. A sealed Elevation Certificate is also required after construction is finished before the property will receive a Certificate of Occupancy. Elevation Certificates are reviewed by the Building Code Administrator and kept ‘active’ in his office until the property is ready for a Certificate of Occupancy. When the Certificate of Occupancy is issued, the reviewed Elevation Certificate and Certificate of
Occupancy is scanned and stored electronically on the Building Division network. The paper Elevation Certificate and Certificate of Occupancy are kept in the building permit paperwork folder;

5. When properties receive the Certificate of Occupancy, the paper files are kept in a separate file location and not archived with non-flood files. The Building and Planning Department is moving toward more electronic delivery/storage so several building plans involving properties with recent flooding are already stored electronically on the network and continuously backed-up on a remote server;

6. Structures to be located in a “VE” zone have even more requirements. A “coastal building zone” exists for land area between the seasonal high-water line of the Gulf of Mexico and a line 1,500 feet landward from the Coastal Construction Control Line (Exhibit A). Within this zone and seaward of the CCCL, all new construction and substantial improvements are required to be elevated on pilings and columns so that the bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to the 100-year flood elevation established by the Florida Department of Environmental Protection (FDEP). The FDEP 100-year flood elevation is 17.4’ which is more than one foot above the FEMA base flood elevation level for this area. This area also requires enhanced engineering/architectural plans to comply with higher wind designs. FDEP and City requirements additionally require larger rear yard setbacks adjacent to the Gulf of Mexico. Most of the gulf-front structures are no closer than 170 feet from the water’s edge whereas rear yard setbacks in other areas of the City range from 10 to 20 feet.

7. Structures to be located near high-quality wetlands also have enhanced regulations that are to be met. The City’s adopted and approved Comprehensive Plan and Land Development Regulations both require a 50-foot natural, vegetative buffer to remain abutting high quality wetlands (Exhibit B). Only minor encroachments are permitted such as a path no greater than 10 feet in width. The buffer can be reduced to 30 feet in some areas to accommodate irregular property characteristics but must have an overall average width of 50 feet.
PUBLIC INFORMATION ACTIVITIES (300 Series)
The City undertakes a few different methods of disseminating SFHA information to the public. First, the Building Division’s webpage has been updated with pages dedicated to SFHA information. The Community Rating System is summarized and informational brochures from the Florida Division of Emergency Management are displayed (Exhibit C). Links to additional SFHA information are provided such as the National Flood Insurance Program website, an interactive Special Flood Hazard Area map, the City floodplain management regulations, floodplain and elevation certificate information and the list of current City stormwater projects. The interactive Special Flood Hazard Area map enables the user to locate areas subject to a Letter of Map Amendment (LOMA) or a Letter of Map Revision (LOMR) and click on the icons to see the associated documents. The Public Works webpage contains further detailed information of stormwater issues and education.

The Building Division and the Public Works Department have given presentations at various civic group luncheons regarding the SFHA management and permitting. The SFHA brochures that are displayed on the City’s webpage are additionally displayed in the lobby of the Building and Planning Department. In January, 2019, the Building Inspector further placed the brochures in the doors of dwellings located in SFHAs.

The Building and Planning Department maintains older FIRMs dating back to 1986 in order to assist the public review the history of the property and to verify whether a building had to meet flood protection criteria when it was built. All public inquiries regarding floodplain management are logged into a ledger and are scanned and saved as updates occur.

MAPPING AND REGULATIONS (400 Series)
A map series has been created to show types of open space preservation within the City limits. The map series includes a table to show Special Flood Hazard Areas by zoning district (Table 1) and another table (Table 2) to show open space preservation by type, zoning district and flood zone. The types of open space preservation within the City include: vacant lands through ownership or
regulations, deed restricted lands, low density zoning, natural functions open space and coastal erosion open space. The summary from Table 2 is the following:

<table>
<thead>
<tr>
<th>Description</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Space Preservation:</td>
<td>1,422.40</td>
</tr>
<tr>
<td>Deed Restrictions (Conservation Easements):</td>
<td>261.91</td>
</tr>
<tr>
<td>Low Density Zoning:</td>
<td>171.72</td>
</tr>
<tr>
<td>Natural Functions Open Space:</td>
<td>2,781.37</td>
</tr>
<tr>
<td>Coastal Erosion Open Space:</td>
<td>225.53</td>
</tr>
<tr>
<td><strong>Total Preserved Acreage:</strong></td>
<td><strong>4,838.71</strong></td>
</tr>
<tr>
<td><strong>Total Flood Zone Acreage:</strong></td>
<td><strong>6,071.62</strong></td>
</tr>
<tr>
<td><strong>Percent of Flood Zone Protected:</strong></td>
<td><strong>79.69%</strong></td>
</tr>
</tbody>
</table>

The City uses several different ways to mitigate the potential impact of flooding on development. A Coastal Building Zone is enforced which requires all new construction and substantial improvements located seaward of the Coastal Construction Control Line (CCCL) to be elevated on pilings and columns so that the bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to the 100-year flood elevation established by the Florida Department of Environmental Protection (FDEP). The FDEP 100-year flood elevation is 17.4’ which is more than one foot above the FEMA base flood elevation level for this area. The City also works with the FDEP in enforcing the increased rear yard setbacks parallel to the Gulf of Mexico. A linear building line has been established by which no new buildings or additions are permitted seaward of the line.

The Coastal Zone Area along the Gulf of Mexico is also subject to routine beach and dune renourishment as a result of coastal erosion. Most of the beachfront in the City has been eroding at a rate of 5.525 feet per year with some sections at the east end of the City eroding at a rate of 5.85 feet per year while a smaller section on the west end has been eroding at a rate of 4.45 feet per year.

To mitigate the loss of beachfront, the Bay County Tourist Development Council has funded and completed four beach renourishment projects. The initial restoration project was in 1998-1999 and placed approximately 9.8 million cubic
yards of sand along 18.5 miles of beaches. The 2005-2006 project placed approximately 3.3 million cubic yards of sand along 17.5 miles of beach and was in response to the impact of Hurricane Ivan in 2004. The 2011 project placed approximately 1.3 million cubic yards of sand along a total of 7.5 miles of beach. The latest renourishment project was conducted in 2017 and placed approximately 840,000 cubic yards of sand within four project areas: Pinnacle Port, the City Pier, the County Pier and the Treasure Island area. The sand for the projects comes from off-shore borrow areas. The main borrow area is located approximately 3.5 miles offshore of the Thomas Drive area with a secondary borrow areas near the St. Andrews Bay entrance channel. During storm events, these projects provide critical protection for structures and infrastructure landward of the beach.

Sea level rise is expected to also adversely impact the Coastal Zone Area of the City. The National Oceanic and Atmospheric Administration (NOAA) has recorded and projected sea level rise trends from 1973 to 2016. NOAA has recorded sea level rise at Panama City of 2.29 millimeters per year, the equivalent of .0075 feet per year. As a result, it is projected that sea levels will rise over the next 100 years at Panama City by 0.75 feet. Panama City Beach is not expected to have many impacts until a one foot of sea level rise. At that mark, some limited areas adjacent to the northern edge of the Colony Club subdivision, Lake Powell and Grand Lagoon will likely be impacted. There are no anticipated impacts to structures until a sea level rise of three feet.

The City has already implemented some significant measures to mitigate flooding from all sources including sea level rise. In the Lake Powell area, increased setbacks and buffers and reduced residential densities have been implemented along the lake as part of the Lake Powell Protection Zone and enforcement of the City’s wetland setback requirements. The City dedicated an entire chapter of the Land Development Code (LDC) to floodplain management and resource protection (Chapter 3, Exhibit D). This chapter of the LDC designates the Building Official as the Floodplain Administrator as well as requires a first floor living area to be no less than 12 inches above the crown of the road at the highest point of the road or top of curb along the frontage, whichever is more restrictive, all as
determined by the City Engineer. In floodplains, the City additionally requires one foot of freeboard. In 2006, the City approved a stormwater assessment which has now collected a total of $15 million to fund prioritized stormwater improvements. Some of the specific stormwater improvement projects funded by the stormwater assessment are explained in more detail in the following section (500 series). Finally, the City has adopted an ordinance (Section 8-115.2 of the Code of Ordinances) that ensures an original building must be protected according to the requirements for new buildings when such building has a total value of all improvements or repairs permitted over a 10-year period exceeding 50% of the value of the structure.

To have a successful local SFHA system requires knowledgeable personnel to competently implement such system and to constantly look for viable methods of improvement. The Association of State Floodplain Managers established a national program for certifying floodplain managers to ensure that highly qualified individuals are available to help reduce the potential for damage and stop the drain on human, financial and natural resources. The City’s Public Works Department has two Certified Floodplain Managers (CFMs) on permanent, full-time staff with one employee being a Professional Engineer and Director of the Department. The Building and Planning Department had two additional CFMs on staff but both employees were recently lost to retirement. Two additional employees in the Building and Planning Department are now scheduled to pursue their certification this year which will once again give the City two CFMs with civil engineering backgrounds and two with building construction backgrounds.

**FLOOD DAMAGE REDUCTION ACTIVITIES (500 Series)**

In 2006, the City passed a resolution relating to the delivery and funding of stormwater related essential services through assessments and procedures to apply for mitigation credits were added in 2007. The City’s consultant Ennead, LLC was chosen to perform the initial analysis of each parcel within City limits and calculate the assessment per parcel. Ennead, LLC also performs updates and preparation of the City’s stormwater assessment roll to the property appraiser’s office each year to be added to the Truth in Millage (TRIM) roll and paid through the property tax bill. This funding source allows the City to design and construct
stormwater capital improvement projects to help alleviate localized flooding throughout City limits. To date this program has collected more than $15 million. Upon creation of the stormwater assessment, the City began work and developed a stormwater master plan which was finalized in late 2007 and is updated regularly. The process involved identifying and correcting existing deficiencies, establishing priorities for drainage facilities and replacement based on an adopted level of service standard. Currently the City regulates the review of drainage plans for new developments and redevelopments. The City adopted a stormwater ordinance in 1998 which regulates the quantity and quality of runoff. The ordinance was updated in 2007 to clarify and strengthen certain sections, though the core principles are unchanged. The level of service for stormwater quantity is: Peak post development runoff shall not exceed peak pre-development runoff rates based upon the 25-year critical duration storm if the development provides a positive direct discharge into either a public stormwater system with sufficient capacity or into estuarine water bodies. It must be proven that the public stormwater system has sufficient capacity in excess of a 25-year critical storm event. Otherwise, attenuation of the 100-year critical duration storm must be taken into account. Most new projects fall within the requirement to attenuate the 100-year critical storm. In addition, many new projects are now located within the Federal Emergency Management Agency (FEMA) Special Flood Hazard Area. As part of being a community within the National Flood Insurance Program (NFIP) all projects within the City limits that are located in these flood zones must analyze the 100-year storm and establish base flood elevations per their regulations. The City ensures compliance with these regulations. The level of service standard for water quality is: The stormwater treatment systems must provide a level of treatment within 72 hours for the stormwater runoff from the first 1 inch of rainfall for projects and drainage basins of 100 acres or more, or as an option for projects with drainage basins less than 100 acres, the first ½ inch of runoff. The City also falls within the regulation of the Northwest Florida Water Management District (NWFWMD) and therefore is subject to the rules of the Environmental Resource Permit (ERP) process. The more restrictive policy for either process will apply.

The City experiences on-going localized stormwater problems in several different locations scattered throughout Panama City Beach. These problems were identified during certain rainfall events and input into the Stormwater
Management Master Plan created in 2007. The City advertised for statements of qualification for masterplan modeling, FEMA floodplain mapping, wetland evaluation and regulatory compliance evaluation and design of major stormwater improvements. In September 2017, the City teamed with Bay County staff to analyze the Glades/Laird basin that is a shared basin along the eastern City limits. Dewberry converted the model from SWMM software to ICPR to serve as a planning tool that many consultant's and regulatory agencies utilize including FEMA. This effort provides the ability for the City to accurately account for potential stormwater impacts from proposed developments within City limits and provide an accurate model to serve as a capital improvements planning tool to address existing and future stormwater issues within the City. As of December 2019, the final report was submitted for review to the City. Prior to the completion of the final report FDOT installed 3-36” storm pipes under Back Beach Road in front of the proposed North Glades/Breakfast Point ditch that was constructed in 2019. The existing 3-30” stormwater pipes were left in place to convey drainage to the north side of Back Beach Road from the Moylan Road and Allison Avenue area. That flow is then directed to the ditch which discharges by overland flow through the St. Joe Company mitigation bank and ultimately into West Bay. The North Glades/Breakfast Point ditch is 5,760 LF long and 50’ to 68’ wide depending on location along the ditch. Construction is complete and the City is in the process of closing that project out. Flooding has substantially diminished in this basin due to these improvements. The City acquired an easement for this ditch and will maintain it moving forward.

The City currently has Master Services Agreements with Dewberry and McNeil Carroll for design on capital improvement projects. There are specific projects that were originally identified for engineering services, but the list is continually being updated and reprioritized.

Of the original projects identified in 2007, the City has completed the construction of seven stormwater improvement projects that include Lullwater Drive, Moonlight Bay, Coral Drive, South Glades Trail, Hombre Circle, Beth and Gardenia, and Caladium Circle. These projects mainly consisted of replacing old, deteriorating stormdrain pipe and culvert crossings. The initial engineering analysis was
completed for San Souci Street August 2010 and at that time did not seem like a feasible project based on a cost/benefit analysis due to land acquisition being required. However, currently the City is working with FEMA through the Local Mitigation Strategy and Hazardous Mitigation Grant Program to try and find a solution for a buyout and possible stormwater pond construction in that area to help alleviate localized flooding. The City installed an exfiltration chimney and roadside swale on South Vestavia Street which does help alleviate some of the runoff within this basin. Eagle Drive has been partially completed and construction plans for the next phase is anticipated for this year. The City routinely evaluates stormwater issues and has made some changes and additions to the original project list. The City planned to extend three beach outfalls as well as make repairs on one. Calypso outfall was extended, which incorporated an upstream exfiltration system and baffle box to allow trash and debris removal prior to making it to the beach. The City also extended the Ocean Reef outfall which included installation of a baffle box upstream. The City was informed that the outfall extension project at Short Street would not be approved for permitting and therefore is not moving forward with it. The lining of the additional outfall pipe at Bonita Beach was completed and functioning well. The City also evaluated options to help alleviate flooding on Alf Coleman Road. April 11, 2019 the City Council passed a resolution for Dewberry under a Master Services contract to perform professional services for engineering design, surveying, permitting and construction management services for a segment of Alf Coleman Road. Design included raising the roadway approximately 2.5 ft between the vicinity of Emerald Beach Church of Christ driveway to north of CVS driveway (approximately 2,200 LF).

After an unseasonably high amount of rainfall in 2013, the City identified two additional areas of concern. The Glades Subdivision and surrounding areas along with the Gulf Highlands drainage area incurred a large amount of flooding during a large rainfall event in July 2013. CDM Smith was tasked to analyze different possible scenarios for the Gulf Highlands stormwater basin to see if proposed infrastructure improvements could help alleviate some of the flooding for 100-year rainfall events. The report concluded that adding 2-54” culverts at Front Beach Road near the old Pompano Restaurant parcel, lowering a portion of the
existing weir and re-establishing the downstream capacity would provide approximately 5” to 6” of relief to many Gulf Highlands residents during a 100-year storm event.

Dewberry, the City’s stormwater consultant, assisted in submitting for FEMA Hazard Mitigation Grant Program (HMGP) Funds through the State Division of Emergency Management. This Grant was broken up into two phases. On January 8, 2015, the State sent the first phase of the subgrant agreement to the City for execution. The first and second phases are completed as of August, 2018 and the City was reimbursed the majority of the project costs through the HMGP grant program.

CDM Smith was also tasked to analyze different possible scenarios, for the Glades stormwater basin to see if proposed infrastructure improvements could help alleviate some of this flooding for 100-year rainfall events. The report suggested making a few different improvements that combined would be able to drop flooding levels in the area approximately 0.6’ where the most damage occurred to the residences. One of the recommendations as previously discussed was to widen the channel that the Glades discharges to on the north side of Back Beach Road that then outfalls into West Bay. This ditch runs primarily through St. Joe land which lies within their planned development Breakfast Point Subdivision. Along this ditch are many different land designations including conservation easements, mitigation banks, and wetlands (both high and low quality). Staff has received the Corps of Engineers permit to widen this channel. The task order to design and permit the channel widening was approved and Dewberry is 100% complete on the plans. The project was bid out and construction is 100% complete. Currently staff is working on the close out of this project. Flooding levels were dropped significantly once this project was constructed. Staff continues to monitor flooding downstream and maintain the channel to flowing at full capacity.

The City is also moving forward with two additional task orders for the Glades Subdivision. This includes culvert cleaning and structure design for culverts beneath Hombre Circle as well as construction plans for a channel located south of St. Bernadette Church. Both of these projects were also submitted to the
Local Mitigation Strategy for Hazardous Mitigation Grant funds. McNeil Carroll Engineering is working on the design and permitting for these projects and we plan to move to construction of the Hombre Circle project in the beginning of next year. Sea Oats Phase 1 project was awarded and construction is 100% complete and is closed out. Sea Oats Phase 2 project was awarded and construction is 100% complete and we are working on the close out of this project. The construction of the remaining projects, currently identified as Eagle Drive and Henley Drive are anticipated to be completed as funding becomes available.

The City also conducted a Letter of Map Revision “LOMR” for the Colony Club Subdivision, Gulf Highlands Beach Resort area and the Alf Coleman stormwater basin. The LOMR process established base flood elevations in areas where they had not been established previously. The LOMR assisted residents in accurately determining the elevation of their homes to purchase adequate flood insurance coverage. The City also completed a Letter of Map Amendment “LOMA” for Colony Club and for Gulf Highlands. Negotiations have started with the St. Joe Company to conduct a LOMR for the Panama City Beach Commerce Park in its entirety to establish BFE’s for each lot in the unnumbered Zone A in an attempt to provide better insurance costs for owners in this location. Staff plans to present a task order to City Council for the City’s consultant to start the stormwater modeling data collection in this area for analysis.

**WARNING AND RESPONSE (600 Series)**

The City recognizes that combining adequate warning notifications with a responsive plan can save lives and prevent and/or minimize property damage and loss. The City participates in ALERT Bay which is a system that pushes out notifications instantly via email and/or text messaging to those individuals who have registered to receive such notices. The alerts involve severe weather, flooding, road closures, evacuations of building or neighborhoods and other similar emergencies that can endanger life and property. The City additionally puts such information on the front of its web page and Facebook page when necessary. The City’s Public Information Officer stays in close contact with the four local television stations (WJHG, WMBB, FOX 28, WECP) and two newspapers (NewsHerald and the Bullet) and can disseminate advanced warning information
instantaneously. The City also participates in Bay County’s Local Mitigation Strategy (LMS) plan preparation and implementation. The LMS underwent and update in 2015 which included a new floodplain management component. The LMS is now at the beginning of a new update for 2020 that should incorporate improvements learned through Hurricane Michael and the COVID-19 pandemic.