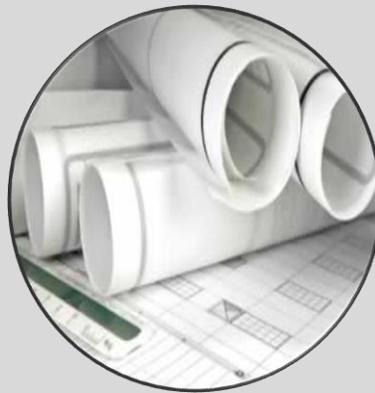


# ***SAFE GROWTH AUDIT***

## **CITY OF GARDEN CITY: A DISASTER RESILIENT COMMUNITY**



GEORGIA DEPARTMENT OF NATURAL RESOURCES  
COASTAL RESOURCES DIVISION  
COASTAL INCENTIVE GRANT - CYCLE 15

DECEMBER 2013

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## Acronyms

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<i>CEMA</i>	Chatham Emergency Management Agency
<i>CIE</i>	Capital Improvement Element
<i>CIG</i>	Coastal Incentive Grant
<i>CRC</i>	Coastal Regional Commission
<i>CRD</i>	Coastal Resources Division
<i>CRS</i>	Community Rating System
<i>CSS</i>	Coastal Stormwater Supplement
<i>DIFA</i>	(Georgia) Development Impact Fee Act
<i>DCA</i>	Department of Community Affairs
<i>DNR</i>	Department of Natural Resources
<i>EOP</i>	Emergency Operations Plan
<i>EPA</i>	Environmental Protection Agency
<i>EPD</i>	(Georgia) Environmental Protection Division
<i>GIS</i>	Geographic Information System
<i>GSMM</i>	Georgia Stormwater Management Manual
<i>IBC</i>	International Building Code
<i>LDM</i>	Local Design Manual
<i>NFIP</i>	National Flood Insurance Program
<i>PDRP</i>	Post-Disaster Redevelopment Plan
<i>STWP</i>	Short-Term Work Program

## Definitions

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Built Environment	The human-made or developed space in which people live, work, and play on a day-to-day basis.
Critical Facilities	Elements of the infrastructure that support essential services in the community. They include such things as transportation systems, ports, infrastructure, schools, churches, emergency services facilities, and other public facilities.
Mitigation	The lessening or limitation of the adverse impacts of hazards and related disasters.
Natural Areas	Environmental features and landscapes maintaining original character, diversity, and processes. These are areas that have not been developed, planned, or designed.
Natural Environment	Encompasses all living and non-living things that occur naturally.
Natural Hazards	An environmental or climatic condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.
Resilience	The ability of a community withstand shocks from hurricanes, floods, and other natural hazards without permanent harm.
Safe Growth	Safe Growth is difficult to define because the definition may vary based on the issues within a given community. This report has defined Safe Growth as the manner in which a community controls development and redevelopment relative to the threat of natural hazards.

## Introduction

Garden City was awarded a two-year Coastal Incentive Grant (CIG) for Cycles 14-15 through the Department of Natural Resources (DNR) Coastal Resources Division (CRD) to improve disaster resiliency in the City. The year one tasks for Cycle 14 included the development of a Risk and Vulnerability Assessment, a GIS Planning Tool, a Greenhouse Gas Emissions Inventory, and an Emergency Operations Plan (EOP). The year two outcomes for Cycle 15 involved the incorporation of the year one outcomes into various city plans, codes, and ordinances. Originally, the year two process was to be completed in conjunction with an update to the City's Comprehensive Plan. However, statewide planning requirements were amended by the Georgia Department of Community Affairs (DCA) after this CIG was awarded, thereby pushing the City's deadline for updating its comprehensive plan back to 2016. This regulatory change afforded the City a unique opportunity to alter its approach for the year two outcomes.

In an effort to better address the goals of these outcomes, the City identified an opportunity to conduct a "Safe Growth Audit," which is a community-specific planning tool that allows the City to evaluate community plans, policies and ordinances as well as its capital improvement programs to ensure hazards and vulnerabilities are taken into consideration. The City documented this proposed modification to the CIG Work Plan in its Status Report dated March 27, 2013 and the associated letter dated February 6, 2013. Given that there are not many examples this type of audit available for Coastal Georgia, the City believes the results of the Safe Growth Audit will meet and hopefully exceed the year two outcomes and ultimately produce a deliverable that can be incorporated into the City's future Comprehensive Plan update work in 2016. The City is confident that the process established through the Safe Growth Audit can also be utilized by other communities in Coastal Georgia to become more resilient to potential disasters.

There are three primary objectives that can be achieved when safe growth tools are implemented:

- **Keep future development out of known hazard areas.** This relates directly to the location of development. The City has the ability to use various methods to keep development out of known hazard areas. Simply put, the idea applied here is to *influence* development. Zoning regulations are a good example of a local government tool that is available to a city to influence the location of development.
- **Keep hazards from affecting existing developed areas.** The purpose here is to lessen the impact of hazards or to reduce the vulnerability of existing development to potential hazards. The goal being to *improve* the protection of areas that have been developed. Infrastructure improvements, best management practices (BMPs), and other resources can be utilized to better protect areas from potential hazards that are already developed.
- **Strengthen existing development to resist hazards.** This objective focuses on making existing development more resilient to potential hazards. The purpose here is to *enhance*. This can be accomplished by revising existing development codes to require more appropriate construction standards in known hazard areas.

In summary, the primary objectives of "safe growth" are to influence development, improve protection measures, and enhance design standards as they relate to the hazard resiliency of a community. The following sections evaluate existing Garden City planning documents and ordinances to see how they meet the goals of "safe growth", to identify where they potentially fall short, and to make recommendations for potential revisions to assist the City in achieving the principles of safe growth as the City seeks to become a more disaster resilient community.

## Methodology

In order for the City of Garden City to become a more resilient community, the City must review existing documents and policies to better understand the issues and opportunities related to this topic. In general, the Safe Growth Audit consists of an evaluation and assessment of the following:

- Comprehensive Plan
- City Codes and Ordinances
- Capital Improvement Program

Comprehensive Plan. The planning process is generally broken down into the following major elements: population, economic development, natural and cultural resources, housings, land use, and transportation. The City has developed a matrix to analyze each of these planning elements as they relate to resiliency. The results of the evaluation will be used to make more specific recommendations as to how the principles of safe growth can be utilized by the City as part of its future comprehensive planning efforts.

Codes & Ordinances. A series of questions were developed to assess the City's existing codes and ordinances as they relate to safe growth. The questions are based on the primary objectives defined above: influence, improve, and enhance. Each ordinance was evaluated based on how the existing code currently addresses "Safe Growth" objectives and how the code might be amended to better address them in the future. The section following each evaluation contains more specific recommendations for the City to consider in the future to become more resilient to potential disasters and hazards. The general process is illustrated in the flow chart below:



## Comprehensive Plan

Comprehensive planning in the State of Georgia is administered by the Department of Community Affairs (DCA). The purpose of this program is to provide guidance for long range planning to communities throughout the state. The DCA maintains a set of "Local Planning Requirements" that is designed to assist communities with development of comprehensive plans. The guidelines in place when Garden City completed their most recent comprehensive plan in 2008 required three elements: a community assessment, community participation plan, and a community agenda. The City was required to address specific items within each of these elements in order to meet the local planning requirements.



The general nature of comprehensive planning in Georgia is that it tends to focus on the impacts that development or planning decisions have on the environment. The question then becomes: *How do we*

*find the balance between development and the protection of natural and cultural resources?* Resiliency planning looks at planning from the opposite perspective and raises the question: *How should the environment impact development and planning decisions?* The City is using the Safe Growth Audit as a means to evaluate our comprehensive plan to determine the degree to which resiliency planning has been considered, where it best fits based on local planning requirements, and how it can be incorporated/implemented in the future.

**Evaluation**

The following table was created by the City and designed to determine how the comprehensive plan addresses safe growth:

<b>Question</b>	<b>Answer</b>	<b>Comments</b>
<b>LAND USE ELEMENT</b>		
<i>Does the future land use plan clearly identify natural hazard areas?</i>	N	The future land use plan and development strategy do not currently take hazard areas into consideration, nor are they formally mapped or identified.
<i>Do the land use policies discourage development or redevelopment within natural hazard areas?</i>	Y	Hazard areas are not clearly defined in the City’s comp plan, but development and redevelopment policies promote land conservation and densities that lessen the impact on natural resources.
<i>Does the plan provide adequate space for expected future growth in areas located outside natural hazard areas?</i>	N	The plan does identify areas for future growth, but did not focus the future growth areas based on the location of hazard areas. These areas are included in the Areas Requiring Special Attention section.
<b>TRANSPORTATION ELEMENT</b>		
<i>Does the transportation plan limit access to hazard areas?</i>	N	The transportation plan does not limit access to hazard areas.
<i>Is transportation policy used to guide growth to safe locations?</i>	N	The City does not currently have a transportation policy that guides growth to safe locations. However, various ordinances are designed to protect sensitive areas and may indirectly divert development from these areas.
<i>Are transportation systems designed to function under disaster conditions (e.g., evacuation)?</i>	Y	A certain level of storm is planned for when designing new roads and other transportation systems. The City is working on a road closure plan as part of a cycle 16 CIG
<b>NATURAL RESOURCES ELEMENT</b>		
<i>Are environmental systems that protect development from hazards identified and mapped?</i>	Y	The City has a comprehensive GIS system that includes the mapping of these types of features (flood zones, wetlands, infrastructure, dunes, etc.).

Question	Answer	Comments
<i>Do environmental policies maintain and restore protected ecosystems?</i>	Y	The policies in the comp plan and the City’s environmental ordinances are designed to protect and maintain these areas.
<i>Do environmental policies provide incentives to development that is located outside protective ecosystems?</i>	Y	The City’s stormwater ordinance provides incentives for the form of credits. Other policies do not provide direct incentives for development located away from sensitive areas, but restrictions often act as a deterrent.
<b>FACILITIES AND SERVICES ELEMENT</b>		
<i>Are the goals and policies of the comprehensive plan related to those of the FEMA Local Hazard Mitigation Plan?</i>	N	The Chatham County Hazard Mitigation Plan was completed in 2010. It was not referenced or incorporated into the City’s comp plan because the City’s plan was finished in 2008.
<i>Is safety included in the plan’s growth and development policies?</i>	N	The city’s future development strategy does not specifically address safety, however, it is addressed in the Hazard Mitigation Plan.
<i>Does the comprehensive plan identify the location of critical facilities?</i>	Y	The City maintains a map of critical facilities as part of the hazard mitigation plan. This list includes infrastructure, schools, churches, governmental buildings, etc. This layer was updated in conjunction with the risk and vulnerability assessment (cycle 14).
<i>Does the implementation section of the plan cover safe growth objectives?</i>	N	The Safe Growth concept was not considered or incorporated into the City’s implementation plan. However, some implementation measures, such as environmental protection and conservation overlap with the goals of safe growth.
<b>HOUSING ELEMENT</b>		
<i>Is the age of the city’s housing stock analyzed in the comp plan?</i>	Y	General information about the age of structures in the City is included in the data assessment.
<i>Is the vulnerability of certain housing types accounted for or considered in the comp plan?</i>	N	The comp plan does not evaluate mobile homes versus single family structures in terms of vulnerability.
<b>POPULATION ELEMENT</b>		

<b>Question</b>	<b>Answer</b>	<b>Comments</b>
<i>Does the comp plan identify population that may be more vulnerable?</i>	Y	The data assessment analyzes age distribution within the City on a city-wide basis, but does not get into the specific locations of elderly populations or residents with special needs. However, this type of information is available from other sources such as the police department, Meals-on-Wheels, and Coastal Regional Commission Aging Department.
<i>Does the comp plan include information about day-time population versus night-time population?</i>	N	The data assessment looks at employment types and sectors, but does not include specific number. Some analysis was completed with regard to day/night populations as part of the GIS tool developed for this grant.
<b>ECONOMIC DEVELOPMENT ELEMENT</b>		
<i>Does the future land use map promote commercial development in non-hazard areas?</i>	N	The future development map is somewhat general in terms of the way uses have been assigned. It does not account for hazard areas.

### **Recommendations**

The minimum planning requirements previously used by the DCA contained a detailed set of items that needed to be included in a Comprehensive Plan. As you might expect, most communities stayed within the boundaries of these requirements and did not expand much beyond. The new planning requirements offer a more flexible approach to the entire comprehensive planning process and give the City the ability to incorporate the results of this safe growth audit into its future comprehensive planning efforts. More specifically, it is recommended that the City's Comprehensive Plan include a section on disaster resiliency and that specific implementation activities be included in the Short-Term Work Plan to increase resiliency to potential coastal hazards.

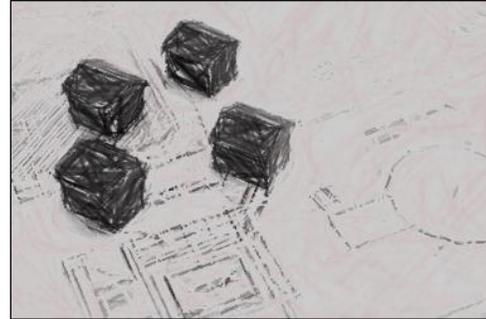
### **Ordinances**

The use of local government ordinances is arguably the most effective tool for a city when it comes to becoming a more disaster resilient community. A city's code of ordinances provides the authority to restrict certain types of development in areas that are most vulnerable to potential hazards. They also provide the means for the City to specify the type of development and general design standards for various types of development relative to overall risk. The City has identified a number of different ordinances that relate to (or can potentially be used to) influence, improve, or enhance development within hazard areas.

These ordinances have been evaluated below and include the following: Zoning, Tree Protection and Landscaping, Subdivision, Flood Damage Control, Stormwater Management, and Wetlands Protection.

## Zoning (Chapter 90)

The purpose of the City’s zoning ordinance is to encourage the most appropriate use of land, buildings and structures within the City as well as to promote the health, safety and general welfare of its citizens. The zoning ordinance accomplishes this by giving the City the authority to control the location, types of development, and density based on what is permitted in the various zoning districts. As a result, the zoning ordinance is one of the most effective tools the City has when it comes to making a community more resilient to hazards. The following is an evaluation of Garden City’s zoning ordinance as it relates to the principles of safe growth and recommendations the City should consider to become more resilient in the future.



### Evaluation

The City of Garden City has established 12 zoning districts to regulate and influence development within the City. The zoning code includes definitions of permitted uses within the designated districts, setbacks, lot requirements, building materials, etc. The code does not consider, nor is there a designation for, hazard areas or areas considered vulnerable to disasters. This City does participate in the National Flood Insurance Program (NFIP) and has a Flood Damage Ordinance (discussed later), which defines certain requirements for development within the designated special flood hazard areas or flood zones. However, this is not currently tied directly to the City’s zoning ordinance.

<p><i>How can the ordinance currently be used to influence development as it relates to safe growth?</i></p>	<p>The current zoning ordinance gives the City the authority to control a number of items related to development, but does not currently identify or directly address “safe growth” objectives.</p>
<p><i>How can it be amended to influence development?</i></p>	<p>The City could establish an overlay district for hazards (flood, hurricane, storm surge) and consider incorporation of a separate set of guidelines for properties that fall inside the boundaries for these overlay districts.</p>
<p><i>How can the ordinance currently be used to lessen the potential impact a hazard could have on areas already developed?</i></p>	<p>The ordinance does not currently have any provisions in place that could be used to lessen the impact on areas that area already developed.</p>
<p><i>How can it be amended to lessen the potential impact on existing development?</i></p>	<p>The City could look at down-zoning properties that fall within hazard areas when looking at redevelopment and/or infill development projects, but will need to determine what type of development is best for a given location.</p>

<i>How can the ordinance currently be used to make development more resistant to potential hazards?</i>	The ordinance places more restrictive development standards on properties that fall within the boundaries of the special flood hazard area.
<i>How can it be amended to make development more resilient?</i>	The City should review these standards to ensure they are consistent with the projected impacts of an extreme weather event as well as trends in sea level rise.

## Recommendations

As stated above, the zoning ordinance is one of the more effective tools for controlling development within the City. As with most communities, coastal flooding is the most common hazard facing the City. Over 50% of the land area in the City falls within the boundaries of the flood zone. Thus, the low-lying nature and lack of elevation change makes the City vulnerable to flooding and storm surge.

There are a number of options the City can explore in an effort to make the zoning ordinance a more powerful tool for influencing resiliency.

- Flood Zoning / Overlay District. Flood zoning is a process by which the actual flood zone boundaries are defined and then incorporated into the zoning map. Areas that fall within the boundaries of this overlay district would be subject to various use regulations, setbacks, construction standards, landscape requirements, etc.
- Hurricane Zoning. Some cities have used hurricane zoning to protect against flooding, storm surge, and wind damage in areas known to be vulnerable. The City could identify these areas and explore design / development standards to reduce the potential impact an event could have in these areas of town.
- Zoning Modifications. Explore the potential for modifications to the zoning of undeveloped properties within hazard areas to a more appropriate classifications. This will require the City to determine the best use and might be applied on a case by case basis. A residential use might be less intensive, but this does not necessarily make it the most appropriate use for a particular area.
- Reduce requirements that result in additional impervious surface such as, driveway width, roadway width, and parking minimum standards.
- Modify and allow flexibility for the parking ratio currently required for commercial developments.
- Establish maximum parking requirements versus minimum requirements to encourage safe growth.
- Develop standards for overflow parking.

## Tree Protection and Landscaping (Chapter 90, Article VIII)

The Tree Protection and Landscaping Ordinance has been developed to benefit the environmental and aesthetic quality of the City. The intent is to promote the protection of the City's natural resources and promote growth in a way that will provide a healthy environment for the City's future.

### Evaluation

The main purpose of the Tree Protection Ordinance is to provide standards for the protection of trees as part of the land development process, to prevent mass grading of land, and to protect trees during the construction and redevelopment phases.

<i>How can the ordinance currently be used to influence development as it relates to safe growth?</i>	The landscape ordinance does not directly influence where development can take place, but controls the manner in which a site can be developed.
<i>How can it be amended to influence development?</i>	If the City creates a hazard overlay district on the zoning map, specific landscaping requirements could be incorporated into the standards for development within the overlay.
<i>How can the ordinance currently be used to lessen the potential impact a hazard could have on areas already developed?</i>	The planting requirements, preservation of trees, buffers, screening, etc. all play a role in protecting developed areas.
<i>How can it be amended to lessen the potential impact on existing development?</i>	Develop additional landscaping standards for redevelopment areas within known hazard areas.
<i>How can the ordinance currently be used to make development more resistant to potential hazards?</i>	Landscaping, tree protection, plantings all create a natural buffer and ultimately should make new development more resilient.
<i>How can it be amended to make development more resilient?</i>	Specific standards for new development within hazard areas could increase resiliency. For example, some species might create a better barrier and provide absorption mechanisms to help alleviate coastal flooding.

### Recommendations

The landscape ordinance was designed to promote aesthetics of development by establishing landscaping standards, but it also establishes protection for significant natural resources. There is a lot of opportunity within this ordinance to amend the language to include protection of natural resources within hazard areas. The following are some things the City should consider:

- Identify species / vegetation that creates a better natural buffers and provide strong root systems.
- Complete an inventory of trees on city-owned properties and ROWs.
- Complete a tree maintenance plan.
- Amend language to provide additional landscaping requirements within hazard areas.
- Preserve natural areas within the floodplain.

## Subdivision (Chapter 70)

The general purpose of the City's Subdivision Ordinance is to conserve and protect the natural, economic, and scenic resources of the City. Among other things, the Subdivision Ordinance serves as a means to help the City eliminate maintenance problems which develop when streets and lots are laid out without proper consideration begin given to the drainage characteristics of the tract of land at the time the land is being subdivided into streets and lots.

### Evaluation

<i>How can the ordinance currently be used to influence development as it relates to safe growth?</i>	The Subdivision Ordinance establishes design standards, which include street configurations, lot characteristics, setbacks, etc. All of these are in place to promote safe growth, but consideration is not currently given to areas based on potential vulnerabilities.
<i>How can it be amended to influence development?</i>	Specific design standards could be established for sites within known hazards areas.
<i>How can the ordinance currently be used to lessen the potential impact a hazard could have on areas already developed?</i>	Nothing is currently in place that could be used to lessen the impact on areas already developed. This ordinance is primarily designed to guide new development, and has limited applicability to existing development.
<i>How can it be amended to lessen the potential impact on existing development?</i>	The City's subdivision ordinance guides new development.
<i>How can the ordinance currently be used to make development more resistant to potential hazards?</i>	There are currently no additional requirements for new developments based on their location relative to hazards.
<i>How can it be amended to make development more resilient?</i>	The City could adopt a Conservation Subdivision Ordinance to encourage more greenspace within hazard areas. The City could also modify the minimum and maximum density requirements to account for hazard areas.

## Recommendations

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The Subdivision Ordinance offers a lot of opportunity for the City to make minor amendments to make development more resilient in potential hazard areas. Many of the following recommendations consist of changes to maximum and minimum requirements to allow for more flexibility and ultimately a reduction in the amount of impervious area associated with a development.

- Reduce the minimum street width requirements for residential developments within hazard areas.
- Make sure the road and culvert level of service is designed to the 100-year event along evacuation routes.

These recommendations primarily relate to development within hazard areas, but the City should consider amending the ordinance with these recommendations to promote safe growth principles city-wide.

## Flood Damage Control (Chapter 38)

The City has adopted a Flood Damage Control ordinance to promote public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific area. The City has identified the following provisions to assist in achieving the goals of this ordinance:

- Require that developed uses vulnerable to floods be protected against flood damage at the time of initial construction;
- Restrict or prohibit new construction that dangerous to health, safety, and property due to water or erosion hazards, or which increase flood heights, velocities, or erosion;
- Control filling, grading, dredging, and other development within the special flood hazard areas which may increase flood damage or erosion;
- Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands;
- Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of floodwaters.



In addition to the provisions listed above, this ordinance is designed to minimize damage to facilities and infrastructure, reduce expenditures of funds for flood damage control projects, and to ensure that people purchasing property within the City are aware of the flood zones and the associated risks.

## Evaluation

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Flooding is one of the high risk hazards that could impact the City. On a small scale, flooding occurs within the City with relative frequency. High intensity rain events, coupled with high tides have the potential to create more significant flood conditions throughout the City. While not all vulnerable areas fall within the

boundaries of designated flood zones, the City does understand the threat of flooding and has taken a number of steps to prepare for coastal flooding, address the impact, and respond effectively.

<i>How can the ordinance currently be used to influence development as it relates to safe growth?</i>	The existing ordinance has specific standards and requirements for any development proposed in a designated flood zone.
<i>How can it be amended to influence development?</i>	The flood zone boundaries are being remodeled through the Coastal Georgia Flood Map Project, which has the potential to expand the area covered by this ordinance in the future.
<i>How can the ordinance currently be used to lessen the potential impact a hazard could have on areas already developed?</i>	The development standards define “substantial improvements” and hold these redevelopment projects to the same standards as new development within the flood zone.
<i>How can it be amended to lessen the potential impact on existing development?</i>	Review what constitutes a substantial improvements to see if there is a justifiable reason make it more strict.
<i>How can the ordinance currently be used to make development more resistant to potential hazards?</i>	Design standards, anchoring, building materials, flood proofing, etc are all means the ordinance uses to make development more resilient.
<i>How can it be amended to make development more resilient?</i>	Explore the potential to expand these standards. The City currently participates in the Community Rating System (CRS) program which encourages communities to increase their floodplain protection and flood damage mitigations efforts to receive a discount on flood insurance rates for their citizens.

**Recommendations**

The flood damage ordinance appears to do an adequate job of making new development and improvements to existing structures more resilient. The City should consider the following recommendations to improve this ordinance.

- Adopt the most recent version of the Coastal Flood Damage Control model ordinance.
- Explore increasing the elevation of the lowest floor of a structure above the base flood elevation based on trends related to flooding as well as sea level rise (based on the 50 year horizon).
- Continue to participate in the CRS and adopt new mitigation measures that will increase protection of the floodplain and decrease the potential for flood damage.

## Stormwater Management (Chapter 30, Article V)

The Stormwater Management Ordinance falls under the purview of the Environment Ordinance, which can be found in Chapter 30 of the City’s Code of Ordinances. The purpose of the Stormwater Management Article is to protect and maintain the integrity of local aquatic resources and consequently, the health, safety, and welfare of the general public by establishing local stormwater management regulations that control and minimize the adverse impacts of the land development process.

### Evaluation

Garden City recently completed an update to the Post Construction Stormwater Management Ordinance. This update went into effect in April 2012 and was undertaken to comply with specific regulatory requirements set forth by the United States Environmental Protection Agency (EPA) and the State of Georgia Environmental Protection Division (EPD). The City’s stormwater ordinance has three main elements, which collectively work to protect the health and safety of residents and property as it relates to stormwater management. These elements are summarized below:

- Stormwater Management Ordinance. This document serves as the legal authority to regulate local stormwater management activities.
- Stormwater Management Local Design Manual (LDM). This document provides community-specific policies, and standards related to stormwater management design, construction, and maintenance.
- Coastal Stormwater Supplement (CSS). This document along with the Georgia Stormwater Management Manual serves as the technical reference handbook for stormwater management analysis, design, and maintenance.

The following graphic illustrates the interconnection of the various components of the City’s stormwater management regulations:



The matrix incorporates all aspects of this process in the evaluation.

<p><i>How can the ordinance currently be used to influence development as it relates to safe growth?</i></p>	<p>This ordinance adheres to the updated stormwater runoff standards for coastal Georgia as outlined in the CSS. Specifically, the 100 year floodplain must be identified on stormwater plans, and it is recommended that its functions for infiltration of stormwater runoff and buffering of floodwaters be protected.</p>
<p><i>How can it be amended to influence development?</i></p>	<p>This ordinance is being amended through the Cycle 16 CIG. The existing ordinance contains generic standards that apply citywide, which will be updated with drainage basin specific standards.</p>
<p><i>How can the ordinance currently be used to lessen the potential impact a hazard could have on areas already developed?</i></p>	<p>The existing ordinance requires you to document how you mitigate post-construction stormwater management for small and large rain events. The</p>
<p><i>How can it be amended to lessen the potential impact on existing development?</i></p>	<p>Cycle 16 CIG will establish special drainage districts to evaluate the application of storm water controls and water quality standards to better control runoff volumes from development.</p>
<p><i>How can the ordinance currently be used to make development more resistant to potential hazards?</i></p>	<p>The stormwater ordinance has stringent controls for how stormwater management is planned for and incorporated into any development project.</p>
<p><i>How can it be amended to make development more resilient?</i></p>	<p>The results of the Cycle 16 CIG will incorporate even more stringent controls as they will be based on the watershed characteristics of each basin in the City.</p>

**Recommendations**

As evidenced in the matrix, the existing Stormwater Management Article has specific design standards that parallel the objectives of safe growth. The City has been awarded a Cycle 16 CIG to establish special drainage districts that will apply more stringent standards to specific basins within the City. It is recommended that that City continue to implement the Cycle 16 CIG and incorporate the results into future development projects based on the established standards for the basin being impacted.

## Wetlands Protection (Chapter 30, Article VII)

Wetlands are indispensable and fragile natural resources with significant development constraints due to flooding, erosion, and soils limitations. In their natural state, wetlands serve man and nature. They provide habitat areas for fish, wildlife and vegetation; water quality maintenance and pollution control; erosion control; natural resource education; scientific study; and open space and recreational opportunities. In addition, the wise management of forested wetlands is essential to the well-being of communities in the State of Georgia. Nationally, a considerable percentage of wetlands have been lost or impaired by draining, dredging, filling, excavating, building, pollution and other activities. Without additional regulation, piecemeal or cumulative losses of wetlands will continue to occur over time.



Therefore, it is in the interest of public safety and general welfare to avoid damage or destruction to wetlands. The purpose of this article is to promote wetlands protection by adopting a generalized wetlands map; provide for the withholding of land use and building permits in areas designated as wetlands until a jurisdictional wetland determination is completed; and establish permitted and prohibited land uses within wetlands shown on the generalized wetlands map.

### Evaluation

<i>How can the ordinance currently be used to influence development as it relates to safe growth?</i>	This ordinance defines permitted uses as well as those prohibited within wetlands areas.
<i>How can it be amended to influence development?</i>	The list of prohibited uses could be expanded to include additional uses and highly visible pollutant sources.
<i>How can the ordinance currently be used to lessen the potential impact a hazard could have on areas already developed?</i>	The preservation of wetlands provides a natural buffer between development and hazards and allows for natural mitigation of water.
<i>How can it be amended to lessen the potential impact on existing development?</i>	The City could review other coastal wetlands ordinances for the potential to incorporate new measures.
<i>How can the ordinance currently be used to make development more resistant to potential hazards?</i>	Preventing the location of certain types of development inside wetland areas protects the natural buffer and improves resiliency.
<i>How can it be amended to make development more resilient?</i>	The City could expand the distance of current setbacks and buffers related to wetlands, as well as expansion of prohibited uses within wetlands.

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## Recommendations

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Some of the recommended improvements to the wetlands ordinance include:

- Revise prohibited uses to include additional industrial uses and highly visible pollution source businesses.
- Review the wetland protection ordinance of other coastal jurisdictions to determine other measures being used to protect these areas.
- Adopt a wetland buffer ordinance.
- Adopt a local provision to the wetlands ordinance that prioritizes in place mitigation.

## Capital Improvement Element

The capital improvement program for Garden City has been developed in accordance with applicable standards established by the Department of Community Affairs (DCA) in conjunction with the requirements of the Georgia Development Impact Fee Act (DIFA). This requires the City to include a Capital Improvement Element (CIE) in their Comprehensive Plan and submit updates to it annually. The Georgia DIFA defines a capital improvement as an improvement with a useful life of ten years or more, which increases the service capacity of a public facility.

Garden City maintains a capital improvement project list, referred to as the “Schedule of Improvements” that identifies capital projects that are to be financed in whole or in part during a five year period. The City’s current Schedule of Improvements is included in full in Appendix A. The schedule categorizes projects as water, sewer, and emergency services, and contains the following information about each project type:

- Project description
- Time frame
- Estimated cost
- Funding sources
- Responsible parties
- Current status

The existing CIE contains mainly improvements and upgrades to water and sewer infrastructure. The projects defined in the City’s CIE overlap with the objectives of Safe Growth. For example, improvements and rehabilitation projects fall in line with the “improve” objective of Safe Growth. If designed correctly, the resulting projects will lessen the impact a potential disaster could have on the City. In addition, the CIE includes a proposed fire station, which will dramatically improve the City’s level of service and ability to respond in the event of a disaster.

While the City’s current CIE does not directly incorporate the principles of safe growth into the identification of projects, the proposed infrastructure improvements will improve the resiliency of developed properties in the City. It is however, important as the City identifies future capital projects to consider the objectives of safe growth and how certain projects can inadvertently promote unsafe growth.

## Implementation Strategy

The following implementation plan has been developed to create specific action items that the City can undertake to address the recommendations in this Safe Growth Audit. The format of the table below is designed to be an abbreviated version of the Short-Term Work Program (STWP) format developed by the DCA for Comprehensive Planning. The table includes a brief description of the implementation activity, a timeframe for taking action, and possible funding sources (general fund, grants, enterprise fund, etc.). As stated previously, the City's Comprehensive Plan will be updated in 2016. The City will utilize this table in conjunction with the existing STWP and Capital Improvement Element to make informed decisions about proposed developments as they relate to Safe Growth.

Activity	Timeframe	Possible Funding Source
<b>Planning</b>		
Include a section on coastal vulnerability and resilience in comprehensive plan update.	2016	General
Include the identification and mapping of hazard areas on the future land use map.	2016	General
Incorporate the CEMA Hazard Mitigation Plan into the comp planning process.	2016	General
Complete a city-wide stormwater masterplan and flooding analysis.	2014	Stormwater
Incorporate the results of the Greenhouse Gas Emissions inventory into comp plan.	2016	General
Develop a post-disaster redevelopment plan (PDRP).	2015-2016	General / CIG
Conduct an energy audit of public buildings and facilities.	2015-2016	General
Expand the population analysis component of the comp plan to include more useful information (daytime/nighttime population, map the locations of vulnerable population, etc).	2016	General
Expand the housing section to include more specific information about potential vulnerability.	2016	General
<b>Ordinances</b>		
Examine the creation of overlay zoning districts to incorporate hazards into zoning ordinance.	2014-2015	General
Explore amendment to zoning ordinance for down-zoning undeveloped properties in identified hazard areas.	2014-2015	General
Amend subdivision ordinance to reduce street width requirements in hazard areas.	2014	General
Modify parking requirements to allow flexibility in hazard areas.	2014	General
Reduce minimum sidewalk widths	2014	General
Modify residential driveway and commercial entrance requirements for development within hazard areas.	2014	General

Activity	Timeframe	Possible Funding Source
Adopt to most recent version of the Coastal Flood Damage Control Model Ordinance.	2014	General
Study sea level rise trends to determine the potential need to increase the lowest floor elevation for developments within the flood zones.	2015-2016	General / Stormwater
Update list of prohibited uses in Wetlands Ordinance.	2014	General
Review the wetlands ordinances of other coastal communities.	2014	General
Update Stormwater Local Design Manual to include specific provisions for individual drainage basins based on the recommendations of the Stormwater Masterplan.	2015	Stormwater
Explore adoption of a Wetlands Buffer Ordinance.	2015	General
Complete an inventory of trees on city-owned properties and in ROW.	2015	General
Complete a tree maintenance plan.	2015	General
Seek a CIG to perform ordinance update as part of the comprehensive planning process.	2016	General
Review and evaluate the International Building Code	2015	General
Include provisions in applicable ordinances to encourage the preservation of the floodplain in its natural state.	2017	General
<b>Capital Improvement Program</b>		
Complete a drainage basin masterplan.	2014	SW / CIG Cycle 16
Complete a Street / Road closure plan.	2014	SW / CIG Cycle 16
Develop Special Drainage Districts to assist with the prioritization of capital projects.	2014	SW / CIG Cycle 16

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