Highlands County
ADAPTATION ACTION AREA PLAN
Little Lake Jackson

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ENSAFE

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Executive Summary

Highlands County is experiencing an increase in flooding driven by intense rainfall events, limited drainage capacity, and shallow groundwater conditions. One of the first steps the County has taken to address this challenge is conducting a Comprehensive Vulnerability Assessment and an Adaptation Action Area planning exercise. Together, the assessment and planning exercise help identify areas where focused resilience strategies are needed to reduce risk to critical assets, infrastructure, and community services. This Adaptation Action Area Plan focuses on the Little Lake Jackson Adaptation Action Area, one of the highest-priority areas identified through the County's data-driven ranking process.

The Little Lake Jackson area includes three critical community and emergency facilities that are vulnerable to current and future rainfall-induced flooding. The area received the third highest cumulative score due to its concentration of County-maintained critical assets and comments from community leaders and residents about flood challenges in the area. Flooding in this area may disrupt emergency services and limit access affecting residents, day-to-day business, and emergency response.

This plan takes the countywide comprehensive vulnerability assessment findings and zooms into the infrastructure and hydrologic conditions of the Little Lake Jackson area. It recommends a range of targeted actions, including:

- Policy and regulatory considerations
- Resilience hub planning
- Infrastructure improvements
- Conceptual adaptation strategies

These approaches aim to reduce flood depth and duration, improve infrastructure performance, maintain roadway access, and build community resilience.

1. Introduction

1.1 About Highlands County

Highlands County is an inland County located in south-central Florida that covers about 1,020 square miles. The County includes the cities of Sebring and Avon Park, the Town of Lake Placid, and many unincorporated communities[1]. The landscape is generally flat and characterized by numerous freshwater lakes and wetlands that contribute to the County's natural and environmental functions.

The County's flat geography and dense development patterns are key factors that impact its vulnerability to flooding, particularly during heavy rainfall events. Development in low-lying areas may experience more extreme flooding during major storms because of limited drainage capacity.

As of 2025, Highlands County is home to an estimated 111,122 residents[2]. About 35% of the population is aged 65 or older, almost double the statewide average. Older populations may face more challenges during flood events and recovery periods. They often need assistance to prepare for a flood or to evacuate.

Median household income in the County is lower than the Florida average[2]. Housing is mostly owner-occupied, with a high number of older structures and manufactured housing units. This means that housing may be more susceptible to flooding, but homeowners may not be able to afford repairs[2].

1.2 Countywide Existing Conditions

The existing conditions documented in the Highlands County Comprehensive Vulnerability Assessment (CVA)[3] indicate that flood risk is driven by intense rainfall and long duration flooding events. These flood impacts occur under varying drainage conditions across the County, reflecting differences in how stormwater is stored, conveyed, or infiltrated.

In many areas, stormwater is managed through localized or closed-basin systems that rely on the ground to absorb and store water rather than moving it through pipes or channels to an outlet. These conditions are common in areas where regional drainage outlets are limited, and stormwater management relies primarily on on-site storage and infiltration. These systems generally function well during typical rain events but can become overwhelmed when rainfall is intense, prolonged, or occur over multiple consecutive days, causing soils to become saturated and limiting how much additional water can be absorbed.

In other parts of the County, flooding is influenced by limited surface drainage infrastructure, such as a lack of connected storm sewer systems, swales, or defined drainage pathways. In these areas, flooding is driven less by infiltration capacity and more by the limited ability to convey runoff away from roadways and developed areas. The County's relatively flat terrain

further reduces the ability for water to naturally flow away, which can result in water ponding on roadways and low-lying areas after major storms.

As rainfall intensity and the frequency of back-to-back storms increase, both conditions can lead to flooding. Although these drainage mechanisms differ, they can produce similar flood outcomes during extreme or prolonged rainfall events. Saturated soils reduce infiltration in closed-basin areas, while limited drainage capacity slows water movement in areas with minimal conveyance. Together, these factors contribute to longer-lasting floods that can repeatedly affect the same locations and place added stress on infrastructure throughout both incorporated and unincorporated areas of the County.

The CVA also identified a concentration of regionally and locally important assets in areas vulnerable to rainfall-driven flooding. Flood impacts to these assets can disrupt transportation access, emergency response, and essential services, creating challenges that extend beyond the immediately flooded locations.

1.3 Countywide Resilience Planning and Vulnerability Assessment

Highlands County has taken a number of steps to address flooding. As an inland County, the primary flood risks are associated with intense rainfall events, stormwater system limitations, and rising groundwater levels. These risks can affect homes, transportation networks, utilities, emergency services, and natural resources.

To better understand current and future risks, the County received funding from the Florida Department of Environmental Protection (FDEP) through the Resilient Florida Program to complete a Comprehensive Vulnerability Assessment (CVA). Additional funding from the Coastal & Heartland National Estuary Partnership (CHNEP), part of the U.S. Environmental Protection Agency (EPA) National Estuary Program, supported the development of Adaptation Action Area (AAA) Plans.

These initiatives build on existing County efforts, including the Multi-Hazard Local Mitigation Strategy[4], Emergency Management planning, and ongoing updates to the Highlands County Comprehensive Plan[5]. Together, these coordinated efforts help ensure that future policies, projects, and investments reduce risk, improve safety, and enhance long-term resilience.

The Highlands County CVA is currently underway and is being conducted in accordance with Section 380.093, Florida Statutes[6]. The CVA covers unincorporated areas of the County as well as the Cities of Avon Park and Sebring and the Town of Lake Placid. The assessment inventories and evaluates the statutorily required critical assets, including:

- Community and Emergency Facilities
- Critical Infrastructure

- Transportation and Evacuation Routes
- Natural, Cultural, and Historical Resources

Using high-resolution light detection and ranging (LiDAR) elevation data and two-dimensional hydraulic modeling, the CVA evaluated flood exposure under current and future conditions across multiple planning horizons. Flood modeling incorporates rainfall-driven flooding scenarios representing varying storm intensities and durations to assess how flood risk may change over time. Flood extents and depths are analyzed with critical asset locations to identify areas and facilities that are most vulnerable.

The results of the CVA provide the technical foundation for identifying AAAs and prioritizing actions that reduce flood risk and strengthen community resilience.

1.4 Adaptation Action Area Planning

AAAs are locally designated geographic areas that experience heightened vulnerability and where focused resilience and adaptation strategies are needed to reduce flood impacts. This data-driven approach focuses on local conditions and priorities while supporting state planning requirements. The AAA designation approach also incorporated public input, bringing local leaders into the process while aligning with the goals of the Resilient Florida Program.

The AAA planning process is intended to:

- Identify areas of the County where critical assets are most exposed to future flooding conditions.
- Prioritize areas for adaptation and mitigation investments, informed by technical analysis and public and stakeholder input.
- Support informed decision-making related to capital improvement planning, land use policy, and infrastructure resilience.
- Strengthen eligibility for further resilience and infrastructure funding.

In Highlands County, AAAs were identified through GIS-based, data-driven methodology that integrates flood exposure, asset sensitivity, land use, asset ownership, and critical assets.

1.5 Common Risks and Recurring Challenges across AAAs

AAA planning builds on Highlands County's ongoing resilience initiatives and the AAA framework translates countywide vulnerability findings into targeted planning areas where coordinated adaptation actions can be implemented. The AAA process also supports goals set in the Highlands County Comprehensive Plan by informing future land use considerations, infrastructure priorities, and long-range resilience strategies. The three highest priority AAAs are primarily located in the City of Sebring and adjacent unincorporated areas of Highlands

County. While each AAA has distinct characteristics and assets, they share several recurring risks related to development patterns and drainage conditions.

- **Rainfall Patterns**: Rainfall-driven flooding is the dominant hazard across the Sebring AAAs, particularly during high-intensity or multi-day flooding events. Flooding is influenced by soil saturation, limited infiltration capacity, and stormwater system performance. As identified in the CVA, flood risk is dynamic and can occur both within and outside the mapped Special Flood Hazard Areas (SFHAs).
- **Outdated Infrastructure Design**: Aging drainage systems and public facilities were designed for historically lower rainfall amounts, deeper groundwater levels, and higher infiltration capacity. Such systems may experience strain during today's and future major storms with increased rainfall amounts, increasing the likelihood of localized roadway flooding, operational disruptions, and maintenance demands.
- **Assets and Daily Activity**: The concentration of critical facilities, government services, and daily public activity in flood-prone areas increases the consequences of flooding events. These locations are typically highly developed and intensively used, leaving limited physical space for flood mitigation retrofits or stormwater system expansion. Flooding in downtown and civic areas can disrupt emergency response, government operations, transportation access, and community events, resulting in impacts that extend beyond the immediate flood footprint and affect day-to-day life for a large number of residents and visitors.

These shared challenges are a key factor for why multiple AAAs in Sebring scored highly as priorities for detailed planning. The individual adaptation strategies in each AAA plan are tailored to the specific conditions in each area.

2. Little Lake Jackson Adaptation Action Area

2.1 AAA Overview

The Little Lake Jackson AAA encompasses the southern shoreline of Lake Jackson, the Little Lake Jackson basin, and adjacent residential and transportation corridors within the City of Sebring. This area was designated as an AAA due to its exposure to localized flooding associated with intense rainfall events, low-lying topography near lake systems, and stormwater conveyance limitations, particularly along U.S. Highway 27 corridor and surrounding neighborhoods.

The Little Lake Jackson AAA includes a mix of critical community and transportation assets that are essential for emergency response, evacuation, and maintaining connectivity during flood events. Assets located within the Little Lake Jackson AAA are summarized in Table 1, and Figure 1 illustrates the AAA boundary and locations of these assets. Asset numbers shown in Table 1 correspond to those displayed in Figure 1.

Table 1: Assets Within the Little Lake Jackson AAA

Asset No.	Asset Name	Asset Type
1.	City of Sebring FD ST 15	Critical Community and Emergency Facilities
2.	US Highway 27 S	Transportation and Evacuation Routes
3.	Ryant Blvd	Transportation and Evacuation Routes

The Transportation and Evacuation Route assets used in this assessment represent a refined subset of the broader transportation and evacuation route assets originally developed in the Highlands County CVA. This refinement ensured that only features relevant to the County were included.

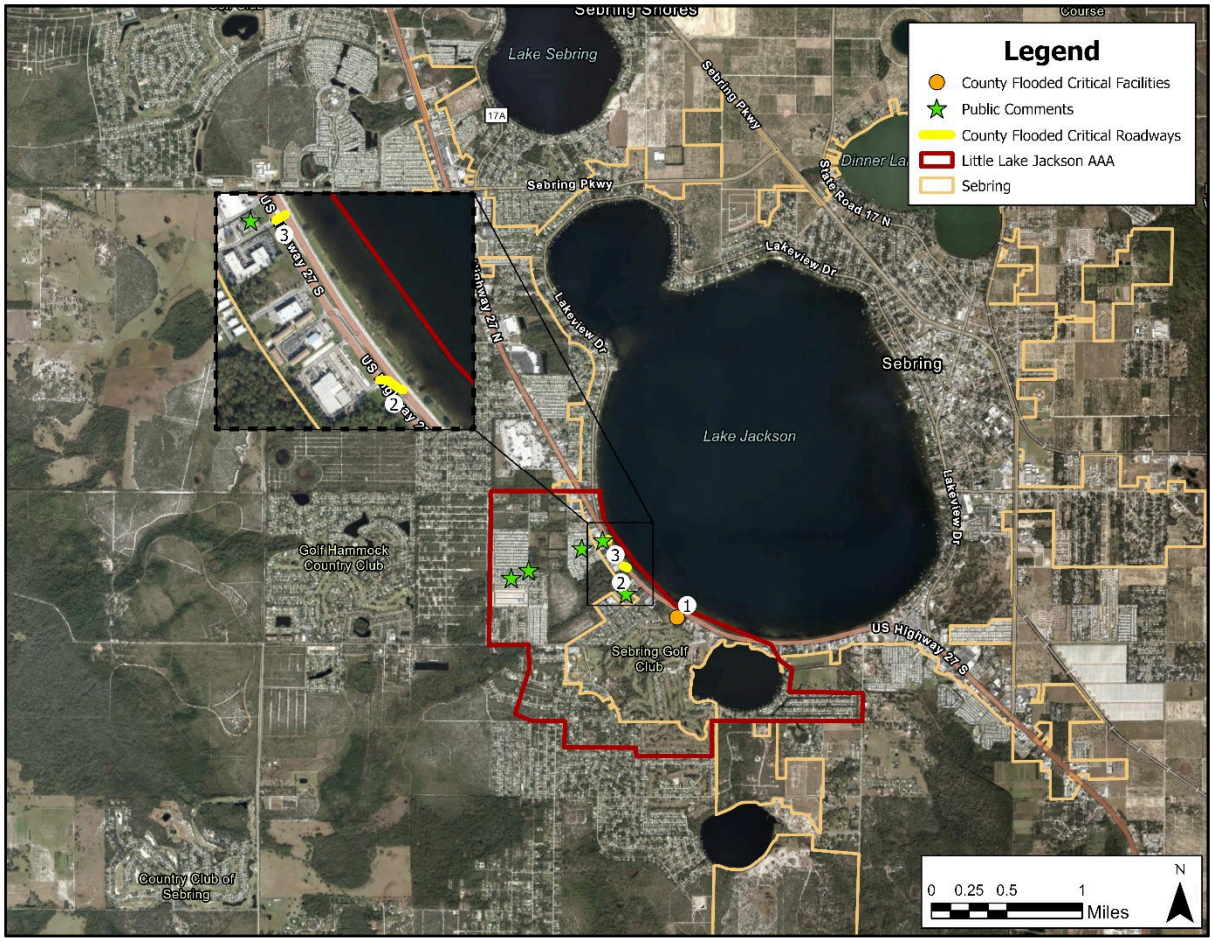


Figure 1: Little Lake Jackson Adaptation Action Area, Critical Assets, and Public Comment Locations

2.2 Existing Conditions and Recurring Challenges

The Little Lake Jackson area is characterized by relatively low-lying areas adjacent to Lake Jackson and Little Lake Jackson, aging drainage infrastructure, and a stormwater system that includes both conveyance components (catch basins and underground pipes) and stormwater management features (retention areas, exfiltration trenches, and natural infiltration)[7].

Conveyance limitations occur where existing catch basins and inlet structures have limited capacity to capture and convey runoff during high-intensity or long-duration rainfall events. In these locations, runoff can exceed inlet capacity, causing water to accumulate on roadways and in low-lying areas before it can enter the drainage network.

Stormwater management limitations are also present, particularly during periods of prolonged rainfall when soils become saturated. Under these conditions, infiltration rates decline and retention or exfiltration features experience reduced recovery time between rainfall events. When available storage capacity is diminished, excess runoff cannot be adequately attenuated, increasing the likelihood of localized flooding.

In combination, constrained conveyance capacity and limited storage or infiltration performance contribute to periodic ponding and localized flooding within the Little Lake Jackson AAA, especially during high-intensity rainfall events.

Recent and ongoing floodplain modeling efforts by the Southwest Florida Water Management District (SWFWMD)[8] evaluate flood risk in Sebring based on watershed-scale hydrology and multi-day rainfall events, including 100-year storm scenarios that reflect regional rainfall patterns and system response. These modeling efforts provide a more dynamic understanding of flood extents, including areas that may experience flooding due to prolonged rainfall, system capacity limits, or soil saturation.

Federal Emergency Management Agency (FEMA) flood mapping, by contrast, is primarily intended for regulatory and insurance purposes and focuses on identifying Special Flood Hazard Areas (SFHAs)[9] associated with the 1-percent annual chance (100-year) flood. While FEMA maps remain an important regulatory tool, they do not capture all flood mechanisms or localized conditions identified through SWFWMD's watershed-based modeling or local flood hazard data. Together, SWFWMD modeling, FEMA flood maps, and local flood history indicate that flood risk in Sebring extends beyond mapped SFHAs, highlighting the importance of risk-based planning approaches.

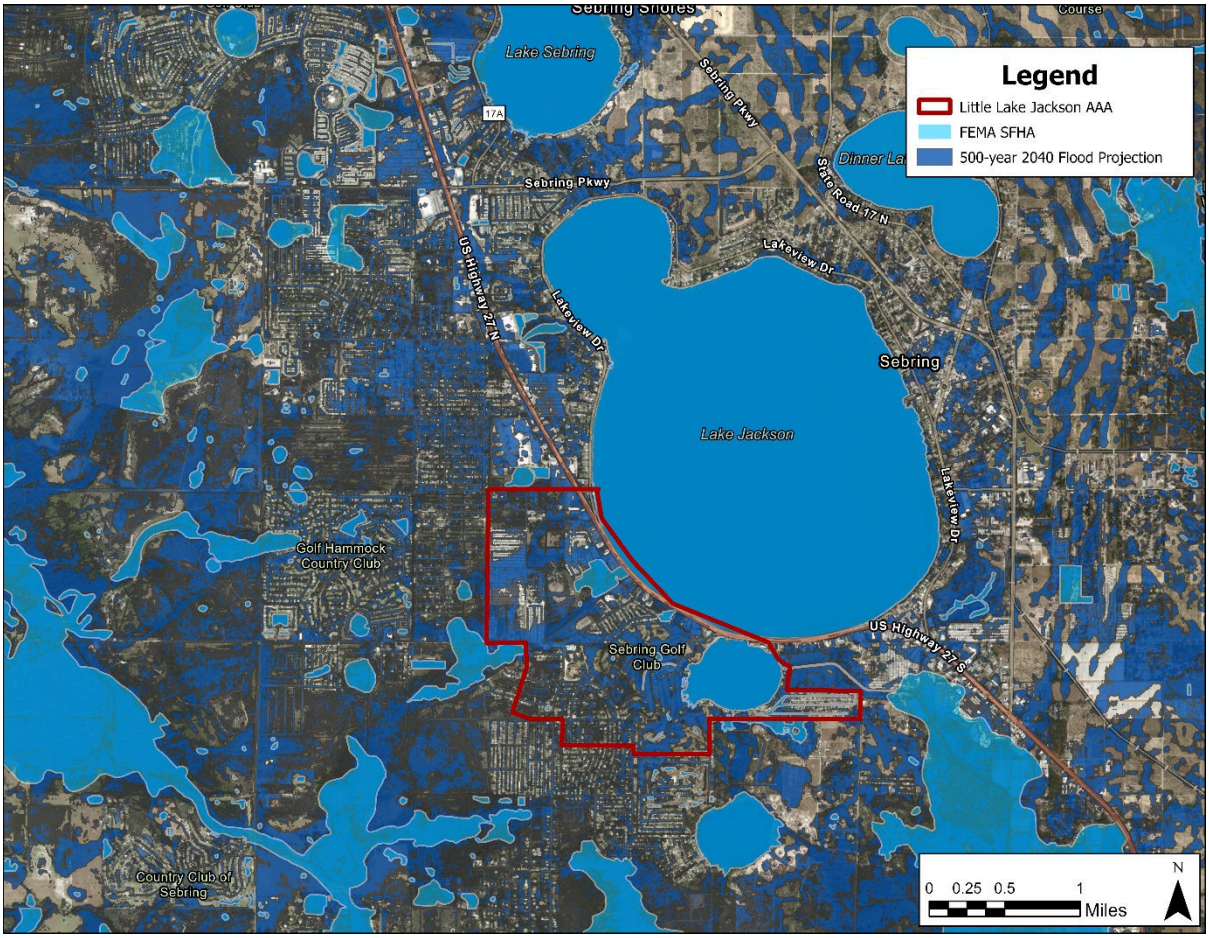


Figure 2: Little Lake Jackson AAA and FEMA Special Flood Hazard Areas

2.3 Community Input

The Little Lake Jackson AAA received five location-specific public comments identifying areas that experience recurring flooding during rainfall events. These comments generally align with mapped low-lying areas and known drainage constraints near the Lake Jackson shoreline, Little Lake Jackson basin, and adjacent residential streets.

Public input highlights localized flooding concerns along key transportation corridors and neighborhood roadways, including areas near US Highway 27 and Ryant Boulevard, where ponding can affect roadway passability and access. Residents noted that flooding can occur during high-intensity rainfall events as well as during prolonged storm periods, when drainage systems are slow to recover and water levels remain elevated.

3. Adaptation Strategies

3.1 Policy Recommendations

Policy and regulatory strategies can play a critical role in supporting long-term flood risk reduction and resilience, particularly when applied within designated AAAs. The following recommendations focus on aligning land use policies, capital investments and development standards with identified vulnerabilities to guide future growth and reinvestment in a manner that reduces risk to people, property, and critical infrastructure. As the Little Lake Jackson AAA is located within the City of Sebring, these strategies may apply to both Highlands County and the City of Sebring.

Explore Transfer of Development Rights (TDR)

Evaluate the use of Transfer of Development Rights programs to shift development away from flood-prone areas while preserving property value and directing growth toward safer locations.

Integrate Resilience into Comprehensive Plan Updates

Update comprehensive plan policies to incorporate flood risk reduction, climate adaptation, and resilience considerations, ensuring that future land use, infrastructure, and development decisions support long-term community resilience.

Incorporating AAAs into Capital Improvement Program

Integrating AAAs into Capital Improvement Programs helps prioritize infrastructure investments in locations facing the greatest current and future flood risk, supporting more resilient and cost-effective planning.

Adopting Stormwater and Drainage Design Standards

Updating stormwater and drainage design standards ensures new and improved infrastructure accounts for rainfall-driven flooding, groundwater conditions, and future climate stressors, reducing flood impacts and improving long-term system performance.

3.1.1 Adoption of Adaptation Action Areas into Existing Plans and Ordinances

The designation of AAAs within existing Highlands County and the City of Sebring plans and ordinances would establish a clear policy framework for reducing flood risk in the most vulnerable areas. Incorporating AAAs into the Comprehensive Plan, Capital Improvement Program (CIP), hazard mitigation plan, and related policies would support the prioritization of infrastructure investments, help guide redevelopment decisions, and align public funding

with established resilience objectives. Formal incorporation of AAAs may also strengthen eligibility and competitiveness for state and federal resilience and hazard mitigation funding, while promoting consistency across land use, infrastructure planning, and emergency management decisions. In addition, integrating AAAs into the CIP would enable the prioritization of roadway drainage and stormwater improvement projects in flood-prone areas, including targeted investments that address recurring infrastructure and access challenges.

3.1.2 Stormwater Design Standards

Highlands County and the City of Sebring currently rely on stormwater design criteria established by the Florida Department of Environmental Protection (FDEP) and the applicable Water Management Districts (WMDs) which have established the standards required for new and retrofit developments with the intent of managing flooding and protecting water resources and infrastructure. The City of Sebring and portions of Highlands County fall within the Southwest Florida Water Management District (SWFWMD), while other areas of the County are served by the South Florida Water Management District (SFWMD).

In general, local governments should avoid adopting enforceable stormwater design standards that conflict with state permitting requirements; however, they may establish more stringent or supplemental criteria where appropriate to address local conditions, provided these remain consistent with applicable state frameworks. Therefore, it is not recommended broadly to apply enhanced stormwater design requirements beyond current state standards without coordination and technical justification.

Instead, the City and County can work collectively with the local Water Management Districts (WMDs) to identify flood hazard areas and inform where additional floodplain storage may be warranted. Additionally, the City and County can develop more rigorous storm sewer conveyance design requirements for both open channel and closed systems, including considerations for storm frequency, freeboard, erosion control, and maintenance, as these criteria are typically not fully defined by FDEP or the WMDs.

Stormwater Basin Definitions

- **Open Basin System**: A drainage area where rainfall and runoff can flow to a natural outlet, such as a creek, canal, lake, or other downstream drainage feature. In these areas, water has a clear path to move away from roads and developed properties. Under current WMD criteria, open basin stormwater systems are typically designed to manage a 25-year, 24-hour rainfall event.
- **Closed Basin System**: A drainage area or watershed with no surface outfall for rainfall events up to and including the 100-year, 24-hour flood stage. Runoff is retained within the basin and dissipates through infiltration, evaporation, or engineered controls such as pumping or storage. Because water cannot discharge off-site, sufficient storage must be provided to manage stormwater until levels recede. Accordingly, WMD criteria require these systems to be designed for the 100-year, 24-hour rainfall event.

3.1.3 Zoning and Land Use Regulations

Zoning and land development regulations offer an opportunity to reflect localized flood risk within designated AAAs and to guide development toward more resilient outcomes. The use of AAA overlay districts or similar planning tools could allow local governments to apply tailored standards within the most vulnerable areas. These standards may include measures such as limiting increases in density or intensity in flood-prone locations unless appropriate mitigation is provided.

Specific zoning and land use to consider for AAAs may include:

- Preservation of natural drainage features,
- Reducing the allowable impervious surface area amount,
- Incorporation of green infrastructure strategies.

For critical facilities located within or serving AAAs, zoning and development regulations could encourage development in lower-risk areas where feasible and promote enhanced flood protection measures when relocation is not practicable. Together, these approaches would support resilience objectives while maintaining flexibility in local land use decision-making.

3.1.4 Building Codes, Development Guidelines, and the Relationship Between AAAs and SFHAs

Highlands County and the City of Sebring have adopted strong flood-resistant construction standards through the Florida Building Code (FBC), which established a statewide minimum, as well as locally adopted Floodplain Management Ordinances that exceed these requirements, including freeboard standards greater than the National Flood Insurance Program (NFIP) minimums. These regulations provide important protection for development located within mapped SFHAs. However, the effectiveness of SFHA-based regulations is influenced by the inherent limitations of Federal Emergency Management Agency (FEMA)

flood mapping, which is primarily designed to support insurance and regulatory programs and may not fully capture localized drainage constraints, rainfall-driven flooding, infrastructure conditions, or evolving future conditions.

There are areas of localized flooding within Highlands County and the City of Sebring that are driven by factors beyond the riverine or lake flooding which is the primary flooding source shown on the current FEMA maps (effective date 11/18/2015). Localized conditions, including elevated groundwater, intense or prolonged rainfall, lack of runoff storage, constrained or aging drainage infrastructure, limited system maintenance, removal or modification of drainage features, and land cover changes, can contribute to flooding both within and outside mapped SFHAs. These locally observed conditions, combined with projected changes in rainfall intensity, highlight the importance of incorporating localized knowledge and multiple flood mechanisms into planning and decision-making.

AAAs help address these gaps by identifying areas vulnerable to flooding from multiple mechanisms that may not be fully reflected in FEMA flood maps, including rainfall-driven flooding, drainage limitations, infrastructure performance, groundwater conditions, and other climate-related stressors identified through local and regional analyses. As a result, AAAs provide a planning framework that emphasizes observed and anticipated flood risk in addition to FEMA floodplain designation.

Within this context, the County and City may consider whether certain development standards traditionally applied only within SFHAs, such as minimum finished floor elevations, freeboard, floodproofing techniques, use of flood-resistant materials, and site design considerations, could be encouraged, incentivized, or selectively applied within designated AAAs. Applying enhanced standards within AAAs, without formally reclassifying these areas as SFHAs, allows local governments to proactively reduce flood risk while maintaining regulatory flexibility. This approach avoids triggering mandatory flood insurance requirements or formal floodplain designation changes, while still supporting risk-informed development and long-term resilience goals.

3.1.5 Public Engagement Programs

Within the Little Lake Jackson AAA, opportunities for public engagement and education are more closely tied to transportation corridors and nearby community areas rather than large institutional campuses. While the critical assets identified in this AAA, such as the City of Sebring Fire Department Station 15 and key evacuation routes, have limited open space for large-scale retrofits, there are still opportunities to incorporate smaller-scale green infrastructure and public education elements within adjacent rights-of-way and community spaces.

Green infrastructure practices such as roadside bioswales, enhanced roadside planting, and stormwater-friendly landscaping could be integrated along corridors like U.S. Highway 27 and

Ryant Boulevard to improve drainage performance while also demonstrating visible flood mitigation strategies. These types of improvements can serve as educational tools by showing how stormwater can be managed in everyday spaces.

Public engagement opportunities may include:

- Fire Station 15: As a critical community facility, the site could incorporate educational signage or small demonstration features (e.g., rain gardens or native landscaping) to highlight the role of stormwater management in emergency preparedness and community resilience.
- Transportation Corridors (U.S. 27 and Ryant Boulevard): Visible green infrastructure improvements along these routes provide an opportunity to educate residents and visitors on flood mitigation strategies through signage, corridor beautification efforts, or partnerships with local organizations.

3.1.6 Stormwater Asset Inventory and Data Integration

Stormwater asset inventory and data integration focus on developing a comprehensive understanding of existing drainage infrastructure to support effective stormwater management and resilience planning. These efforts compile and standardize information on system components such as inlets, pipes, conveyance systems, outfalls, and treatment facilities within a centralized database, typically supported through GIS mapping and data management tools.

Common approaches include field verification of infrastructure, consolidation of existing data sources, and integration of asset information with flood modeling and risk assessment results. By organizing stormwater infrastructure data in a consistent and accessible format, communities can better identify system constraints, prioritize retrofit and maintenance needs, and coordinate improvements across facilities and service areas.

Within AAAs, a comprehensive stormwater asset inventory provides a critical foundation for implementing adaptation strategies. By linking infrastructure data with observed and projected flood conditions, communities can more effectively target investments, improve system performance, and support long-term operations and maintenance. This integrated approach enables coordination across site-level and regional strategies, helping to reduce flood risk, improve water quality, and support more efficient use of public resources.

3.2 Resilience Hub

The Urban Sustainability Directors Network[10] (USDN) describes resilience hubs as physical spaces that address both physical and social goals, offering opportunities to strengthen emergency management, reduce climate-related risks, and enhance community resilience. These hubs are designed to support communities before, during and after flooding events while also providing ongoing benefits during normal conditions.

3.2.1 Resilience Hub Considerations

Ideally, resilience hubs are located outside areas subject to current and future flood risk, including areas projected to experience flooding under 100-year and 500-year rainfall scenarios. Locating hubs in lower-risk areas can help ensure that facilities remain operational during flooding events and reduce the need for extensive floodproofing measures.

However, in some cases, locating a resilience hub within or near a flood-prone area may be both necessary and appropriate to ensure access for vulnerable populations. If a resource is located too far from the community it is intended to serve, particularly populations with mobility constraints or limited transportation options vulnerability, it may not function as an effective resilience hub. In these situations, fortifying an existing asset within a flood-vulnerable area to improve its resilience and functionality can be a more practical and justifiable approach.

Within flood-prone areas, resilience hubs function as multi-purpose community assets that integrate emergency response capabilities, essential services, and flood-resilient design. In the Little Lake Jackson AAA, resilience hub planning should prioritize facilities that can continue serving residents during disruptive events while reinforcing long-term resilience.

Resilience hub facilities within the Little Lake Jackson AAA should:

- Remain accessible and functional during localized flooding and heavy rainfall events.
- Be capable of operating independently during power outages or extreme rainfall.
- Provide safe, well-identified locations for emergency staging, public information delivery, distribution of resources, or post-event recovery support.

Potential resilience hub strategies include:

- Enhancing existing public or community-serving facilities (e.g., community centers, public works yards, or emergency service facilities) with flood-resilient site design, building retrofits, and elevation or floodproofing where appropriate.
- Co-locating flood mitigation features, including stormwater storage, green infrastructure, permeable surfaces, or groundwater recharge systems, with hub facilities to reduce localized flooding impacts while providing functional community amenities.

- Ensuring resilience hub locations are supported by reliable and resilient transportation access, clear signage, and visibility during flood events to facilitate safe access for residents and emergency responders.
- Incorporating flexible interior and exterior spaces that can support day-to-day community use and transition quickly to emergency or recovery functions during flood and extreme rainfall events (Figure 3).

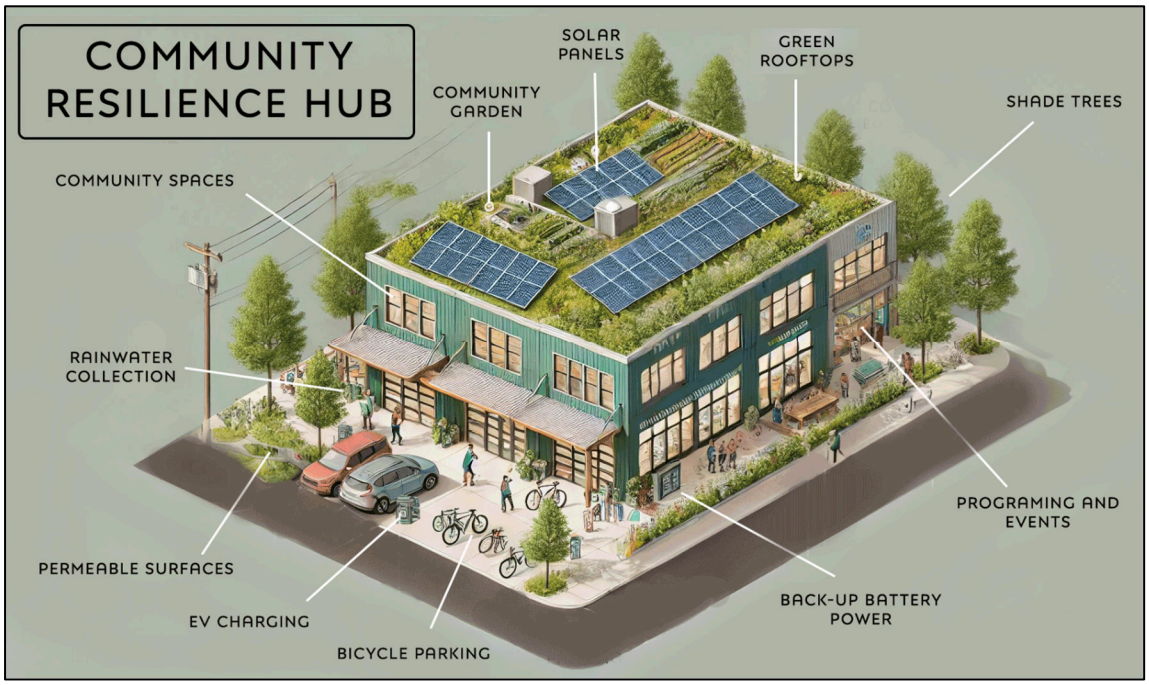


Figure 3: Conceptual resilience hub illustrating flexible space designed for both everyday community use and emergency operations[11].

3.2.2 Little Lake Jackson Resilience Hub

Sebring Fire Station 15, located within the Little Lake Jackson AAA, represents a strong candidate for resilience hub planning due to its role as a critical emergency service facility and its ability to support response and recovery during flooding and extreme rainfall events. As an established public safety asset, the station provides a reliable foundation for expanded resilience hub functions that can benefit the surrounding community.

As part of the Little Lake Jackson AAA, resilience hub enhancements at or near Fire Station 15 could support residents by providing:

- A safe, reliable location for emergency coordination and community support during localized flooding, severe storms, or emergency events.
- Access to backup power, communication systems, and essential services during power outages or service disruptions.

- A staging area for emergency operations, including coordination of first responders and the distribution of information, emergency supplies, and post-event recovery resources. Space for emergency operations, including the distribution of information, emergency supplies, and post-event recovery resources.

In addition to emergency response functions, Fire Station 15 could support resilience year-round during “blue sky” conditions through uses such as:

- Community outreach and preparedness education, including flood risk awareness and seasonal readiness activities.
- A designated location for disseminating information on emergency preparedness, evacuation planning, and available assistance programs.
- Partnerships with local agencies and organizations to support periodic resource distribution or public safety initiatives.

Potential strategies for advancing Sebring Fire Station 15 as a resilience hub include:

- Retrofitting the facility to enhance resilience hub capabilities, such as expanding backup power capacity, hardening critical infrastructure, and improving site drainage and flood protection.
- Enhancing on-site and nearby infrastructure to improve access, including maintaining passability of surrounding roadways during rainfall events.
- Coordinating with County emergency management, public works, and community partners to integrate the facility into broader hazard response and community resilience efforts.

3.3 Infrastructure Improvements

The proposed infrastructure improvements provided for the Little Lake Jackson AAA focus on addressing localized flooding driven by high-intensity rainfall rates and total rainfall volumes, shallow groundwater conditions, and drainage systems that function as closed or semi-closed basins at the site and neighborhood level. While portions of the AAA are located within a broader open basin that ultimately discharges to Lake Jackson, many roadways and critical assets do not have drainage conveyance systems to convey the water to this outfall. In these locations, flooding is largely controlled by the inability of the local system to store stormwater, convey runoff, and to efficiently infiltrate stormwater into the ground between rainfall events. Unlike coastal areas where flooding is governed by tidal conditions and downstream outfall constraints, flooding in the Little Lake Jackson AAA is primarily influenced by local stormwater storage and the groundwater interactions which enable this storage to recover between.

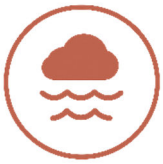
Existing drainage infrastructure in the area was largely designed based on historical rainfall patterns and groundwater conditions. As rainfall events occur in closer succession, available

storage and system recovery are increasingly constrained. Stormwater systems rely on time between storms for pond levels to draw down and soils to drain. When events occur in rapid succession, storage features may already be partially full and soils saturated. This reduces overall system capacity and increases the likelihood of localized flooding.

In response, infrastructure adaptation strategies within the Little Lake Jackson AAA should prioritize enhanced stormwater storage, improved conveyance efficiency, and groundwater-aware design practices to maintain roadway functionality, reduce repetitive flooding, and support long-term resilience. The infrastructure approaches outlined in this section emphasize incremental and scalable improvements that can be implemented individually or coordinated with planned roadway projects, drainage retrofits, and routine maintenance activities.

Individually, these improvements can provide localized reductions in flood risk; when implemented in combination, they can further reduce peak flood elevations, shorten flood duration, and improve the reliability of critical transportation corridors and drainage infrastructure serving the Little Lake Jackson AAA.

The following recommendations introduce key resilience concepts applicable to the area, with select strategies discussed in greater detail in subsequent sections of this report.



Localized Stormwater Management Enhancements

Implement site-scale and neighborhood-scale stormwater improvements to reduce localized flooding, manage runoff, and minimize impacts from heavy rainfall events.

Groundwater Awareness Design

Incorporate design approaches that account for high groundwater levels to reduce flood risk and improve long-term performance of public and private developments.

Expand Green Spaces

Increase and enhance parks, open spaces, and landscaped areas, including the acquisition of flood-prone properties, to preserve open land so that it would not be developed while providing stormwater storage, reducing runoff, and improving infiltration where feasible. Expanded green spaces also support improved water quality and provide co-benefits such as heat mitigation, habitat enhancement, and expanded community amenities.

Promote Low-Impact Development

Encourage development practices that minimize impervious surfaces and preserve natural hydrology, including permeable pavements, rain gardens, and on-site infiltration, to reduce flooding and support sustainable growth within AAAs.

Elevate Critical Equipment

Raise essential mechanical, electrical, and communications equipment above anticipated flood levels to reduce damage, maintain functionality during flood events, and support rapid post-event recovery.

Update Building and Roadway Standards

Revise building and roadway design standards to account for current and future flood conditions to reduce damage and maintain access during flood events.

3.3.1 Local Stormwater Management Enhancements

Where closed-basin drainage conditions occur within the Little Lake Jackson AAA, infrastructure strategies focus on storing stormwater on site, managing how water moves through the system, and allowing sufficient time for water levels to prioritize on-site storage, controlled conveyance, and system recovery time. Key approaches include:

- Implement stormwater retrofits, which may include expanding existing pond capacity and modifying or upgrading existing drainage systems to improve storage efficiency, conveyance, and overall system performance.
- Incorporate passive stormwater features, such as conveyance-oriented swales (including bioswales designed to maintain or enhance flow capacity), enhanced roadside drainage, and shallow storage areas, to improve stormwater movement while providing additional temporary storage where feasible.
- Improving inlet spacing, conveyance continuity, and maintenance access to reduce localized bottlenecks.

3.3.2 Groundwater-Awareness Design

Rising groundwater levels reduce the effectiveness of infiltration-based systems which are prevalent in the closed-basin areas of the AAA. Future infrastructure improvements within these areas should:

- Account for seasonal high and long-term groundwater elevations in drainage and roadway design.
- Use lined or partially lined stormwater storage systems designed to remain dry under normal conditions, such as systems that rely on subsurface filtration layers beneath

the pond bottom. Liners prevent groundwater intrusion while allowing these systems to function effectively for stormwater filtration, controlled drawdown, and storage recovery.

- Incorporate controlled discharge strategies, including pumping systems with defined operating controls consistent with County or State regulations, where gravity outfall is not feasible.

3.3.3 Roadway and Transportation Resilience

Roadways within the AAA experience flooding that can disrupt access and emergency response, even when structural damage is minimal. Adaptation measures include:

- Targeted roadway elevation increases in areas with repetitive flooding.
- Designing road profiles that safely convey shallow flooding without damaging pavements or adjacent properties.
- Coordinating roadway improvements with underground drainage and utility upgrades to maximize long-term benefits.

4. Proposed Adaptation Strategies

4.1 Concept Designs

4.1.1 Roadway Stormwater Retrofits

Roadway stormwater retrofits enhance the resilience of existing transportation corridors by improving drainage capacity and managing runoff more effectively during heavy rainfall events. These improvements are typically implemented within existing rights-of-way and can be coordinated with routine roadway maintenance or safety projects.

Common retrofit strategies include raising low-lying roadway segments, adding or upgrading stormwater inlets, and incorporating nature-based features such as rain gardens or bioretention areas along medians, shoulders, or adjacent corridors. Together, these measures reduce roadway flooding, improve water quality, and limit downstream impacts by increasing stormwater capture, storage, and infiltration.

Within AAAs, roadway stormwater retrofits help maintain critical access, support evacuation routes, and reduce flood risk while providing flexible, cost-effective resilience upgrades to existing infrastructure. Figure 4 includes examples of different types of roadway stormwater retrofits.

Figure 4: Examples of Roadway Stormwater Retrofits

4.1.2 Site-Level Stormwater Retrofits

Site-level stormwater retrofits improve flood resilience at County-owned facilities, including County offices, schools, and public community centers, by reducing on-site flooding to protect these critical assets. These retrofits focus on managing stormwater close to where it is generated and are particularly effective for mitigating localized flooding impacts within developed areas.

Common retrofit measures include raising or hardening critical infrastructure, installing or upgrading stormwater inlets and conveyance, and incorporating green infrastructure such as rain gardens, bioretention areas, permeable pavement, and enhanced drainage controls. These improvements help capture, store, and treat runoff while reducing peak flows and runoff volumes to downstream systems.

Within AAAs, site level stormwater retrofits help ensure the continued operation of essential public services during and after rainfall events. By protecting buildings that serve emergency, educational, and community functions, these strategies enhance public safety, reduce repair and maintenance costs, and support long-term resilience of public assets. Figure 5 illustrates examples of different types of site-level flood protection and stormwater retrofits.

Figure 5: Examples of Site-Level Flood Protection Stormwater Retrofits

4.1.3 Open Space and Nature-Based Solutions

Open space and nature-based solutions leverage parks, school grounds, community centers, and other publicly accessible lands to manage stormwater while delivering environmental and community co-benefits. These strategies use natural systems and landscape features to slow, store, and treat runoff, reducing flood risk and improving water quality within developed areas.

Common approaches include rain gardens, bioretention areas, vegetated swales, expanded green space, and permeable walkways or plazas that intercept stormwater from roofs, sidewalks, and parking areas. When integrated into schools and community centers, these features can also support passive recreation, urban cooling, and outdoor learning opportunities.

Within AAAs, open space and nature-based solutions provide flexible, scalable flood mitigation that complements traditional infrastructure. By restoring or enhancing natural hydrologic functions, these strategies help reduce localized flooding, increase neighborhood resilience, and improve quality of life while supporting long-term adaptation goals. Figure 6 includes examples of different types of open space and natural-based solutions for public spaces.

Figure 6: Examples of Open Space and Nature-Based Solutions

4.1.4 Regional and Interconnected Solutions

Regional and interconnected stormwater solutions focus on managing runoff at a broader watershed or multi-facility scale, rather than solely within individual parcels or corridors. These systems typically serve multiple contributing areas and public facilities, such as county offices, libraries, schools, and community centers, through shared stormwater infrastructure designed to reduce flood risk and improve systemwide performance.

Common regional strategies include regional stormwater ponds, centralized treatment and detention facilities, and coordinated drainage networks that accept runoff from nearby roadways, parking areas, and developed sites. By consolidating stormwater storage and control into fewer, strategically located facilities, regional systems can more effectively attenuate peak flows, improve water quality, and reduce downstream flooding impacts.

Within AAAs, regional and interconnected stormwater solutions provide a scalable and efficient approach to resilience planning. These systems are particularly well-suited for redevelopment areas and publicly owned lands, where coordinated planning can maximize benefits while minimizing maintenance complexity. Regional facilities also offer opportunities for integration with open space and passive recreation, supporting both flood mitigation and community goals. By shifting from isolated, site-by-site solutions to coordinated regional infrastructure, communities can improve long-term flood resilience, reduce cumulative impacts, and make more effective use of limited public resources. Figure 7 illustrates an example of a regional and interconnected stormwater management system for public facilities.

Figure 7: Example of a Regional Stormwater Management System

4.2 Conceptual Capital Improvement Projects

This section presents a series of conceptual capital improvement projects intended to illustrate potential adaptation strategies within the Little Lake Jackson AAA. These concepts are provided to demonstrate how resilience-focused design approaches may be applied to address localized flooding, drainage limitations, and long-term infrastructure performance. The associated visuals are conceptual and were generated using artificial intelligence (AI) tools to support high-level planning discussion. Images may not fully reflect existing site conditions and may depict elements or modifications that are beyond the scope of the proposed improvements. These visuals are intended for illustrative purposes only and should not be interpreted as final design recommendations.

4.2.1 City of Sebring Fire Station #15

Estimated Project Cost: $2.5M – $4.5M

Lead Agency: City of Sebring

Supporting Agencies: Highlands County, South Florida Water Management District (SFWMD), Florida Division of Emergency Management (FDEM)

Anticipated Implementation Timeframe: Mid-Term (3–7 Years)

Project Overview

Existing Conditions

Fire Station #15 is located within an area subject to localized flooding driven by heavy rainfall, flat topography, and limited conveyance capacity. The site includes a high percentage of impervious surfaces, resulting in rapid runoff and inadequate on-site storage. Existing drainage systems provide limited attenuation and are influenced by elevated groundwater levels, reducing their effectiveness during rain events. Critical equipment, including electrical and mechanical systems, may be vulnerable to flood exposure due to their current elevation.

Figure 8: Existing Conditions of City of Sebring Fire Station #15

Figure 9: Existing Conditions of City of Sebring Fire Station #15c

Adapted Conditions

Under adapted conditions, the fire station site is reconfigured to better manage stormwater, reduce flood exposure, and maintain operational continuity. Drainage improvements increase on-site storage and conveyance capacity while accounting for groundwater constraints. Green infrastructure and low-impact development features reduce runoff and promote infiltration. Critical infrastructure is elevated above anticipated flood levels, ensuring continued functionality during rainfall events and enabling rapid recovery.

Figure 10: Adapted Conditions of City of Sebring Fire Station #15

Figure 11: Adapted Conditions of City of Sebring Fire Station #15

Proposed Improvements

Localized Stormwater Management Enhancements: Install upgraded inlets, conveyance systems, and on-site retention/detention to reduce ponding and improve stormwater routing and onsite storage.

Groundwater-Aware Design: Incorporate underdrain systems, lined or partially lined storage features, and adjust design elevations to maintain functionality in high groundwater conditions.

Expand Green Spaces: Introduce landscaped areas, bioswales, and vegetated buffers to provide additional stormwater storage, improve water quality, and reduce heat island effects.

Promote Low-Impact Development: Remove hardened structures, such as the curb and gutter system that restricts and channelizes runoff along the eastern side of the property, to restore natural sheet flow toward the adjacent low-lying area. Integrate rain gardens and distributed infiltration practices to minimize runoff and preserve existing hydrologic conditions.

Elevate Critical Equipment: Raise electrical panels, generators, communication systems, and other essential infrastructure above projected flood elevations to ensure resilience and continuous operation.

Project Benefits

- Maintains continuous emergency response capabilities during flood events
- Reduces localized flooding and improves site drainage performance
- Enhances long-term resilience to extreme rainfall and rising groundwater conditions
- Improves water quality and reduces runoff through green infrastructure
- Extends the service life of critical infrastructure and reduces maintenance costs
- Provides co-benefits such as heat mitigation, improved aesthetics, and community value

Preliminary Cost Estimate (Planning-Level)

Improvement Category	Estimated Cost Range
Stormwater Infrastructure Upgrades	$0.8M - $1.5M
Green Infrastructure & LID Features	$0.3M - $0.7M
Site Regrading & Drainage Modifications	$0.4M - $0.8M
Elevation of Critical Equipment	$0.5M - $1.0M
Design, Permitting, and Contingency	$0.5M - $0.8M
Estimates Total Project Cost	**$2.5M - $4.5M**

Costs include planning-level assumptions for design, permitting, and construction and will be refined during project design.

4.2.2 U.S. Highway 27 S

Estimated Project Cost: $4.0M – $7.5M
Lead Agency: Florida Department of Transportation (FDOT)
Supporting Agencies: City of Sebring, Highlands County, South Florida Water Management District (SFWMD), Florida Division of Emergency Management (FDEM)
Anticipated Implementation Timeframe: Mid-Term (3–7 Years)

Project Overview

Existing Conditions

Highway 27 South is a multi-lane arterial roadway that supports high traffic volumes and serves as a key evacuation route. The surrounding area consists of commercial development and limited available space for stormwater storage.

The corridor is influenced by flat topography and high groundwater levels associated with nearby Lake Jackson, which reduces the effectiveness of traditional drainage systems. In addition, during major rainfall events, elevated lake stages can result in backwater conditions and overtopping, contributing to flooding along portions of Highway 27 South. Existing inlets and conveyance systems are spaced widely and have limited capacity, further exacerbating localized ponding in travel lanes and along shoulders during moderate to heavy rainfall events. These combined factors can reduce roadway capacity and create hazardous driving conditions, particularly during critical evacuation periods.

Figure 12: Existing Conditions of Highway 27 S

Adapted Conditions

Under adapted conditions, Highway 27 South is supported by a combination of enhanced stormwater infrastructure and shoreline protection measures that improve resilience to both rainfall and elevated lake levels.

An improved drainage network rapidly captures and conveys stormwater away from travel lanes, even under high groundwater conditions, through increased inlet coverage and upgraded conveyance systems that do not rely on infiltration. Backflow prevention measures are incorporated to limit tailwater effects from Lake Jackson and maintain system performance during elevated lake stages.

In addition, a low-profile protective wall along the lake edge helps reduce backwater impacts and overtopping during major storm events. Together, these improvements reduce roadway flooding, allowing the corridor to remain operational during rainfall events and maintain safe travel speeds and reliable evacuation access.

Figure 13: Adapted Conditions of Highway 27 S

Proposed Improvements

Localized Stormwater Management Enhancements: Add strategically spaced inlets along roadway edges and medians to improve runoff collection. Install underground storm sewer systems with increased capacity to convey flow away from the roadway. Eliminate low points through minor roadway profiles and shoulder grading adjustments.

Corridor Drainage System Upgrades: Improve roadside conveyance to direct runoff efficiently toward inlet structures. Stabilize downstream discharge points near Lake Jackson. Retrofit existing infrastructure to increase hydraulic capacity without full roadway reconstruction.

Groundwater-Aware Design: Utilize lined or watertight conveyance systems to limit groundwater intrusion and maintain system integrity in areas with high water tables. Install backflow prevention devices at outfalls and key control structures to prevent tailwater impacts from Lake Jackson and avoid reverse flow into the drainage system during elevated lake stages. Adjust pipe invert elevations and outfall controls to support reliable gravity flow where feasible and maintain consistent system performance under varying groundwater and tailwater conditions.

Project Benefits

- Maintains reliability of a critical hurricane evacuation route
- Reduces roadway flooding and improves public safety during rainfall events
- Enhances drainage performance in high groundwater environments
- Supports emergency response and evacuation operations during extreme rainfall
- Improves stormwater quality prior to discharge to Lake Jackson
- Reduces long-term maintenance needs and system failures

Preliminary Cost Estimate (Planning-Level)

(*Normalized per Linear Foot*)

Improvement Category	Estimated Cost Range per Linear Foot (LF)
Stormwater Collection (Inlets & Structures)	($1.0M ÷ L) – ($2.0M ÷ L) per LF
Conveyance System Upgrades (Piping, Outfalls)	($1.5M ÷ L) – ($3.0M ÷ L) per LF
Groundwater Mitigation (Lining, Backflow Preventor)	($0.8M ÷ L - $1.5M ÷ L) per LF
Roadway Regrading & Drainage Improvements	($0.5M ÷ L - $1.0M ÷ L) per LF
Design, Permitting, and Contingency	($0.2M ÷ L - $0.5M ÷ L) per LF
Estimates Total Project Cost	**($4.0M ÷ L - $ 7.5M ÷ L) per LF**

***L = total project length (in linear feet)**. Costs include planning-level assumptions for design, permitting, and construction and will be refined during project design.*

4.2.3 Ryant Boulevard

Estimated Project Cost: $1.5M – $3.5M
Lead Agency:
Supporting Agencies: FDOT, Emergency Management, Local Utilities, Water Management District
Anticipated Implementation Timeframe: Mid-Term (3 – 7 Years)

Project Overview

Existing Conditions

During heavy rainfall events, the roadway and intersection is influenced by flat topography and high groundwater conditions, as well as elevated water levels within the adjacent lake system. Increased lake stages can create backwater conditions within the drainage network, reducing the effectiveness of existing inlets and limiting the ability to convey runoff away from the roadway. As a result, portions of the roadway and intersection experience localized ponding during moderate to heavy rainfall events, particularly where inlet capacity is limited and hydraulic gradients are minimal. These combined factors reduce overall drainage performance and contribute to standing water within travel lanes. The corridor currently lacks infrastructure specifically designed to maintain operational reliability under these conditions, which can reduce roadway capacity and create hazardous driving conditions, particularly during emergency response or evacuation scenarios.

Figure 14: Existing Conditions of Ryant Boulevard

Adapted Conditions

Under adapted conditions, the intersection will operate with signalized control and improved geometric design, providing controlled traffic flow, reduced conflicts, and increased throughput during evacuation and peak conditions.

Drainage enhancements and groundwater-aware design will reduce localized flooding and improve system recovery following rainfall events. Expanded landscaped areas and low-impact development features will help manage runoff onsite, while critical infrastructure components, including signal equipment—will be elevated or protected to maintain functionality during rainfall events.

These improvements collectively increase the corridor's resilience, reliability, and safety, particularly during extreme weather and evacuation scenarios.

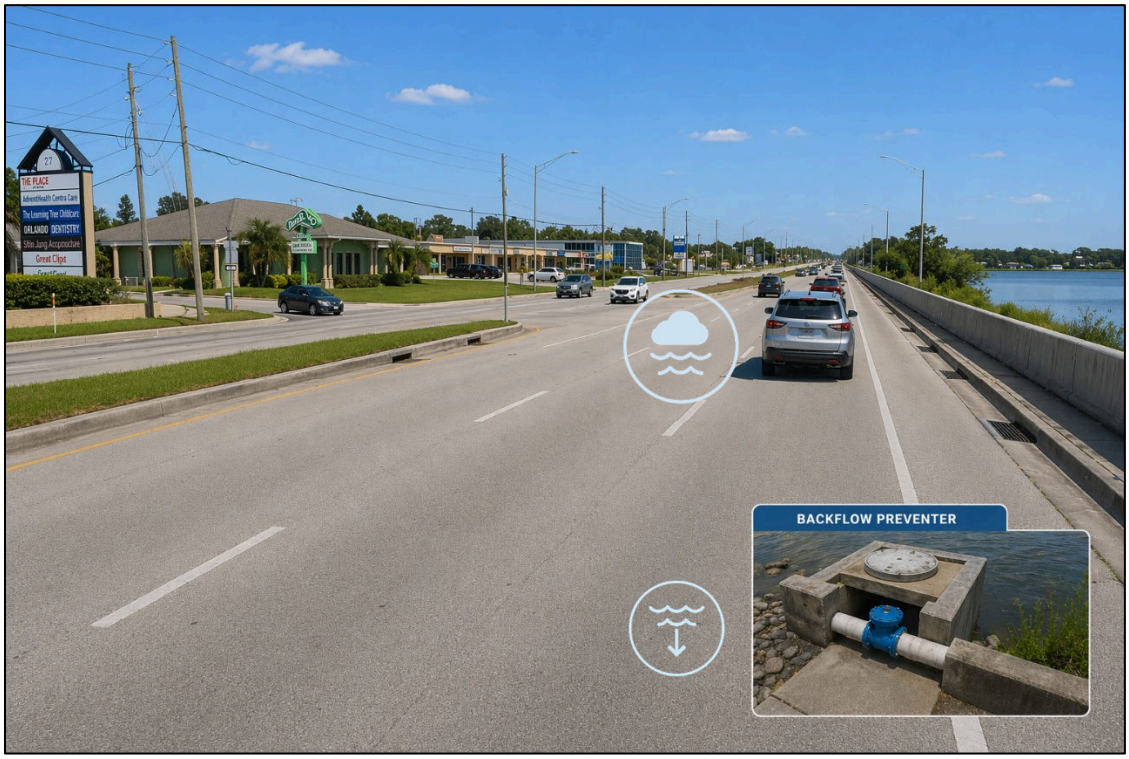


Figure 15: Adapted Conditions of Ryant Boulevard

Proposed Improvements

Localized Stormwater Management Enhancements: Localized stormwater improvements, including additional curb inlets, are recommended to increase runoff capture and reduce ponding in travel lanes and along shoulders. These enhancements target flat areas with limited drainage capacity to improve roadway safety and maintain operations during rainfall events.

Groundwater Awareness

High groundwater levels in the area reduce the effectiveness of traditional drainage systems by limiting subsurface storage and slowing system drawdown. Design approaches should account for these conditions to ensure reliable performance, particularly during periods of elevated lake stages.

Project Benefits

- Improves evacuation route reliability and reduces congestion during peak and emergency conditions
- Enhances traffic safety by reducing standing water and improving roadway operating conditions
- Reduces roadway flooding through increased inlet capacity and improved stormwater capture
- Protects the roadway from lake overtopping through installation of a low flood barrier
- Prevents backflow from the adjacent lake during high stages, improving system performance
- Increases overall corridor resilience to extreme rainfall events and elevated groundwater conditions

Preliminary Cost Estimate (Planning-Level)

Improvement Category	Estimated Cost Range
Roadway & Geometric Improvements	$300K – $900K
Stormwater & Drainage Enhancements (Inlets, Conveyance)	$600K – $1.8M
Flood Protection (Low Wall/Overtopping Barrier)	$300K – $900K
Backflow Prevention System (Outfall Improvements)	$100K – $300K
Green Infrastructure / LID Features	$100K – $300K
Utility Adjustments & Equipment Hardening	$100K – $250K
Design, Permitting, Contingency	$200K – $500K
Estimates Total Project Cost	**$1.7M – $4.9M**

Costs include planning-level assumptions for design, permitting, and construction and will be refined during project design.

4.3 Potential Funding Sources

Implementation of adaptation strategies within the Little Lake Jackson AAA may be supported through a combination of state, federal, and local funding sources, as well as partnerships with public and private entities. When a project addresses multiple benefits including flood mitigation, stormwater management, water quality, emergency access, or infrastructure resilience, they are more competitive for a variety of funding opportunities.

4.3.1 Grant and Public Funding Opportunities

Florida Department of Environmental Protection (FDEP) – Resilient Florida Program

The Resilient Florida Program provides planning and implementation grants to local governments for projects that reduce flood risk and improve community resilience to sea level rise, storm surge, and rainfall-driven flooding. Eligible projects include stormwater improvements, drainage upgrades, floodproofing, and nature-based solutions. Access to funding typically requires an adopted vulnerability assessment or adaptation plan and submittal of a competitive grant application during FDEP's annual Resilient Florida funding cycle.

FEMA Hazard Mitigation Assistance (HMA) Programs

FEMA-administered Hazard Mitigation Assistance programs—including the Building Resilient Infrastructure and Communities (BRIC), Hazard Mitigation Grant Program (HMGP), and Flood Mitigation Assistance (FMA)—support projects that reduce long-term risk from flooding. Eligible activities include stormwater infrastructure improvements, roadway elevation, protection of critical facilities, and drainage enhancements. Applications are submitted through the State of Florida as the funding applicant, and projects must demonstrate cost-effectiveness and consistency with local hazard mitigation plans.

Florida Department of Transportation (FDOT) Resilience and Drainage Programs

FDOT offers funding opportunities for resilience, drainage, and flood mitigation improvements when projects are located along or adjacent to State roadway corridors. These programs may support drainage retrofits, stormwater capacity enhancements, or roadway resilience measures that protect transportation infrastructure. Access typically occurs through coordination with FDOT District staff during project planning, inclusion in FDOT work programs, or partnership agreements when local adaptations align with state transportation priorities.

South Florida Water Management District (SFWMD)

The South Florida Water Management District provides cost-share and cooperative funding for projects that improve regional water management, drainage efficiency, flood protection, and water resource sustainability. Eligible projects may include stormwater conveyance improvements, regional drainage enhancements, or projects with benefits beyond local jurisdictional boundaries. Funding is generally pursued through SFWMD's cooperative funding programs and coordination during annual budget and work plan cycles.

EPA or FDEP Water Quality Grant Programs

Projects that provide water quality benefits—such as nutrient reduction, stormwater treatment, or green infrastructure—may be eligible for funding through U.S. Environmental Protection Agency (EPA) or Florida DEP water quality grant programs. These programs often prioritize projects that reduce pollutant loads to impaired waters or improve stormwater treatment performance. Local governments typically access these funds through competitive grant applications coordinated with DEP or regional watershed initiatives.

4.3.2 Local and Partnership-Based Funding

County and Municipal Capital Improvement Programs (CIPs)

Local Capital Improvement Programs provide a primary mechanism for funding priority adaptation projects over a multi-year planning horizon. Incorporating AAA projects into adopted CIPs can help leverage matching funds for state or federal grants and ensure long-term implementation.

Interlocal Agreements

Interlocal agreements between Highlands County, municipalities, and special districts can facilitate shared funding responsibilities and coordinated implementation for projects with cross-jurisdictional benefits, such as drainage systems or roadway corridors.

Public–Private Partnerships

Public–private partnerships may support site-specific or redevelopment-related mitigation improvements, particularly where adaptation strategies align with private investment, redevelopment plans, or infrastructure upgrades.

Developer Contributions and Mitigation

Developer contributions, impact fees, or mitigation measures associated with redevelopment projects may provide opportunities to implement stormwater, drainage, or resilience enhancements consistent with AAA objectives. Strategically packaging projects that address flood mitigation, water quality, emergency access, and community benefit can improve competitiveness across multiple funding programs and increase the likelihood of successful implementation.

4.4 Implementation Timeline

Implementation of adaptation strategies is anticipated to occur over a phased, multi-year timeline, allowing flexibility as data, funding, and partnerships evolve. Policy and regulatory recommendations supporting these actions are outlined in Section 3.1; this section focuses on the sequencing and implementation of capital, programmatic, and coordination-based strategies.

4.4.1 Near-Term (0–3 Years)

- Complete stormwater asset inventory and data integration
- Advance conceptual designs to feasibility or preliminary engineering
- Implement low-cost, high-impact site-level retrofits
- Integrate AAA priorities into local CIP planning and grant applications

4.4.2 Mid-Term (3–7 Years)

- Design and construct priority roadway and storage improvements
- Implement nature-based solutions within parks and public lands
- Coordinate drainage improvements with scheduled roadway or utility projects
- Secure implementation funding through state and federal programs

4.4.3 Long-Term (7+ Years)

- Implement regional or interconnected drainage solutions
- Continue phased upgrades tied to redevelopment and infrastructure renewal
- Reassess priorities using updated data and performance monitoring
- Adapt strategies to reflect changing rainfall patterns and groundwater conditions

5. Next Steps and Conclusion

The Little Lake Jackson AAA presents an opportunity for Highlands County and the City of Sebring to translate countywide and localized vulnerability assessment findings into targeted, implementable resilience actions. Flooding within the Little Lake Jackson AAA is primarily driven by intense and prolonged rainfall events, shallow groundwater conditions, and localized drainage constraints within a largely developed, urban environment. These conditions necessitate context-specific solutions that prioritize system storage, recovery time, and protection of critical roadways and community assets.

The strategies outlined in this plan emphasize practical, scalable actions that can be implemented incrementally and coordinated with planned roadway projects, drainage retrofits, and routine infrastructure maintenance. While many recommendations can be undertaken as standalone improvements, the greatest resilience benefits will be realized through coordinated implementation as part of a long-term, adaptive strategy. Successful implementation will depend on continued interagency coordination, integration of AAA priorities into existing planning and capital programs, and strategic leveraging of available funding sources.

5.1 Recommended Next Steps

To advance the Little Lake Jackson AAA from planning to implementation, the following actions are recommended:

- **Integrate the AAA into County and City planning frameworks** – Incorporate the Little Lake Jackson AAA into applicable Comprehensive Plan policies, Capital Improvement Programs, stormwater master plans, and hazard mitigation initiatives to ensure consistency and guide future investment decisions.
- **Advance priority projects to feasibility and design** – Identify near-term, high-impact drainage and roadway resilience improvements for feasibility evaluation or preliminary engineering to improve grant readiness and support capital programming.
- **Strengthen coordination among local partners** – Continue coordination between Highlands County, the City of Sebring, public works, utilities, emergency management, and other key stakeholders to align roles, responsibilities, and implementation pathways, particularly for shared infrastructure and facilities.
- **Pursue funding and phase implementation** – Package priority projects to align with state and federal funding opportunities, including the Resilient Florida Program, FEMA Hazard Mitigation Assistance programs, and water management district cost-share initiatives, while advancing lower-cost or maintenance-based improvements through local funding sources.

- **Monitor conditions and adapt over time** – Use updated rainfall data, drainage performance observations, and future vulnerability assessments to refine priorities and adjust strategies as conditions evolve.

Through continued investment, coordination, and adaptive management, the Little Lake Jackson AAA demonstrates how the Adaptation Action Area framework can be used to proactively reduce flood risk, support safe and reliable transportation, protect critical community assets, and strengthen long-term resilience in a developed, inland urban setting.

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