Theme 4. Establish minimum standards for quality water, sewer, and storm water services in all neighborhoods.

One of the most visible signs of economic distress is failing or inadequate infrastructure. An adequate physical system of roads, sidewalks, water and sanitary sewer lines is an essential part of any planned growth and revitalization strategy. Conversely, introducing excess infrastructure capacity into undeveloped areas may draw growth toward environmentally sensitive lands and open spaces.

Issue: Some neighborhoods, particularly in the Traditional Building Area and older Suburban Area, lack sanitary sewer.

Policy: Promote the ongoing extension of centralized sewer services.

***Option*:** Coordinate with the JEA/City Task Force to determine priorities for the extension of centralized wastewater treatment into septic-dependent areas.

Issue: The introduction of centralized sanitary sewer capacity may induce additional growth in the Rural Conservation Area.

Policy: Promote the delivery of appropriately sized wastewater treatment capacity.

***Option*:** Coordinate with JEA to service planned residential growth in the Rural/Conservation Area with wastewater treatment package plants.

Issue: Residents want improved storm water drainage.

Policy: Promote aesthetically pleasing, functional, and appropriate methods of storm water management throughout Northwest Jacksonville.

Implementation Options:

These options are intended to ensure that infrastructure is not only functional, but minimizes negative impacts to the environment and provides the community with attractive new amenities.

Option 1: Make the Traditional Building Area storm water friendly

Roof tops, roads, parking lots, sidewalks and other hardened surfaces all combine to increase the amount of storm water runoff. This fact means that developed areas of Northwest Jacksonville generate significantly more runoff than rural areas, thus creating a bigger challenge for the existing drainage infrastructure. Low-impact development (LID) techniques include a variety of land planning and engineering design practices that can reduce the impacts of water moving through the built environment. The following practices can be particularly useful for urbanized areas:

- design rain gutters that flow into collection barrels, so that captured runoff can be used as graywater
- direct storm water from parking lots to green spaces, where layers of soil capture pollution as runoff sinks
- create "rainwater" gardens planted with native species designed to collect and soak up rainwater
- use porous pavements in parking lots and sidewalks

The City can support green building practices by rating site plans for their use of storm water friendly and environmentally sensitive measures and then rewarding green designs with a density bonus or similar incentive.

Low impact development techniques include the use of porous surfaces where possible

Option 2: Make storm water retention an amenity in the Traditional Building, Suburban, and Rural/Conservation Areas

This strategy recommends developing design and aesthetic guidelines for storm water management areas, such as retention ponds. The following design elements can transform water retention into an attractive recreational opportunity for the community:

- provide usable open space
- provide pedestrian access to shallow pool areas with vegetation
- provide gentle side slopes of 3:1 or flatter to avoid the need for fencing
- create flat areas overlooking the pond for viewing and seating
- add walking or jogging trails
- include fountains or waterfall design features
- add clusters of trees or shrubs

Option 3: Keep storm water natural in the Rural/ Conservation Area

This option would promote the use of natural storm water management west of the Cary-Jennings connector, to protect the environment and maintain natural site conditions. Examples of rural stormwater practices would include:

- use of open swales and other non-structural methods

- use of sensitive site planning techniques, such as limitations on clearing and grading, reductions in the amount of paved surfaces

- preservation of as much natural vegetation and trees on the site as possible

Storm water systems that are part of the natural landscape

Swales along the road manage storm water while preserving rural character

Option 4: Link natural restoration with economic revitalization in the Traditional Building and older Suburban Areas

While individual on-site management practices can help control the effects of storm water runoff, the City should also explore opportunities to develop larger-scale watershed based retention ponds that can be shared among multiple developments and neighborhoods.

Deteriorating sewer and storm water infrastructure is often linked with the social and economic conditions of surrounding communities. Restoring the physical and natural infrastructure of an area is an essential part of a broader policy of economic revitalization. The City can, as an example, create master storm water collection areas that form parks, landscapes, beautified streets, recreational amenities, and wildlife habitat. These features then generate economic value for the community and act as a catalyst for neighborhood renewal.

Under this approach, a neglected park might be redesigned to store and treat storm water from adjacent residential blocks. Drainage from nearby roofs and streets in surrounding residential areas would disconnect from existing storm sewers and runoff would flow into swales in and around the park.

A constructed wetland, series of swales, pond or other natural feature could act as an amenity, anchoring a new public space at the park.

The park could also connect to other nearby rehabilitated recreational and cultural facilities, forming a network of environmentally based amenities for the community.

Examples of constructed wetlands serving as urban park space