



Connecting to Improve Stormwater Management

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Special points of interest:

- Message from Moss Point Mayor Billy Knight
- Projects in Moss Point
- Projects in Pascagoula
- What is Green Infrastructure?

Inside this issue:

- Moss Point Drain Improvements 2
- Stormwater Resilience Green Infrastructure 2
- Pascagoula Drain Improvements 3
- USM Builds Partnerships 3
- What is Green Infrastructure 4

Networking For Success

The City of Moss Point, Pascagoula, Jackson County and the Grand Bay National Estuarine Research Reserve have teamed up to create a stormwater management networking group for the cities of Moss Point and Pascagoula. Recently, there has been an influx of federal and state dollars for projects along the Gulf Coast. This is especially exciting news for Moss Point. Much of the funding coming to Moss Point is earmarked for flood mitigation projects. As a result, an uptick in flood relief projects is occurring.

The focus of the networking group is communication! The objective is to provide a



space for stormwater professionals to come together to discuss ongoing and potential future projects. Hopefully, by getting everyone in the same room and talking about projects, conflicts are avoided and resources will not be wasted by

replicating work already being done.

Our first meeting was August 24th, 2023, and it was well attended. Inside this issues you will learn about the city and county projects that are currently underway or soon to begin.

Message From the Moss Point Mayor

As Mayor of the City of Moss Point and always thinking of effective leadership, I believe that our cities and county can be more effective when we all work collaboratively together.

My motto is "We are all in this together" so, this is why in my opinion, it is so important and gratifying that this networking group consisting of Pascagoula, Moss Point, Jackson County and Grand Bay National Estuarine Research Reserve have agreed to come together. It will be a win-win for all to collaborate to be sure that both cities and county are on the same page

when discussing the best approaches to solving our flooding problems as well as the best funding approach to solve each problem related to storm water in each city and the county.

This networking group, we hope will help to avoid interfering with other projects within each city or county as well as avoid creating additional problems that we are not aware of. At the same time, this collaboration will allow us the opportunities to share resources through these partnerships. This we hope will also show other cities and counties, especially our state

legislators, that city and county leaders if working together comprehensively can solve many common storm water problems that will benefit all citizens within the county. I am happy to represent Moss Point as part of this wonderful and much needed collaborative group. This type of collaboration is well overdue.





Drainage ditch that no longer functions and needs to be upgraded

“The team will also use this as a teaching moment for the kids. They will learn how they fit into the stormwater management story”



River Birch is an excellent native plant to include in rain gardens or bioswale.



Concept art of the 170' bioswale prepared by the Gulf Coast Community Design Studio.

Together County and Moss Point Work to Alleviate Drainage Problems

In 2017 the County created a drainage plan identifying flooding hotspots in the Kreole area of the city. This includes Leo St. west to Gautier St. and north to Grierson St. You will see work along MLK Blvd between Gautier and Donovan too. The County has identified five drainage channels contributing to the flooding in the area. They are making improvements to several ditches and culverts in the area, replacing box culverts that cross Grierson and potentially widening segments of the main channels. It is possible that these segments will allow for additional stormwater parks, trails or other nature-based improvements.

The County continues ongoing dredging projects. This includes dredging in Dutch Bayou, northside of the Escatawpa River, Catherine Roberts Bayou where there are issues with invasive plant species and north of I-10 at

Brickyard Bayou to help improve flows, Other projects include Bayou Ave to Verlon Ave. This project will start at West Bayou Ave cross MLK, flow across Molden St. and Verlon Ave along Peral St. and across the different drainage channels flowing through the area. Some of these culverts were replaced a few years ago but more work needs to be done to clear overgrown ditches, replace culverts and box drains.

More work is planned for the Macphelah Rd where it crosses Jefferson Ave., Main Street, and the railroad. This should benefit Moss Point and Pascagoula. The culverts north of, and under Jefferson Ave will be replaced, and culverts will be added through and downstream of the Macphelah Cemetery. The County will also add box culverts to the crossing at Telephone Rd and future improvements downstream at

the RR crossing may occur.

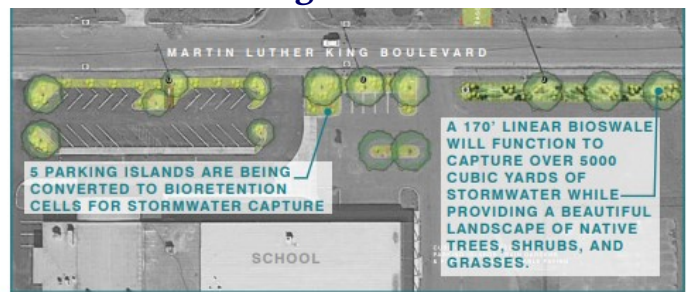
A three phase drainage improvement is already underway on Rhodes Bayou to replace the Magnolia Street culver north of the Middle School and a roads department project to install box culverts at Bay Ave and Union St. will be ready for bids later this year.

Finally, the County will be overseeing the development of two management plans one is a watershed management plan that will include mitigation planning and a resiliency plan for all of Jackson County. This plan will be looking at river flooding, erosion and identify areas that are most vulnerable to sea level rise.

The city received funding to conduct a detailed city-wide drainage study. If emergency repairs are identified they will be repaired, otherwise the remaining funds will be used to address future projects identified by the study

Stormwater System Resilience Through Green Infrastructure

The Grand Bay National Estuarine Research Reserve (GNDNERR) partnered with the City of Moss Point, MSU's Gulf Coast Community Design Studio and the Kreole Primary Elementary School to create a demonstration site using nature to reduce flooding at the school and improve water quality. Runoff from the school building, parking lot, and the street will be directed into these bioretention cells known as rain gardens or bioswales. Each of these are planted using native plants. Once water flows into these cells the water slowly seeps through the roots and the soil to filter out pollutants



and improve the quality of the water before it eventually flows into the municipal stormwater system and out into the bayous and rivers. Capturing some of this runoff will reduce the pressure on the stormwater system and alleviate flooding in the area. By working with teachers and school staff the team will also

use this site as a teaching moment for the kids. They can learn how they fit into the stormwater management story, the importance of using native plants and good water quality. The project is in its second year of a three year project. The installation work is going out to bid soon.

City of Pascagoula Busy Making Infrastructure Repairs

Working with the county, the City of Pascagoula has identified areas within the city that needs improvement. One project includes dredging Comynie Bayou, Lake Yazoo and channels in harbor basin and replacing a bulkhead. Another project that is sure to benefit the area neighborhood, is opening up a new drainage out-let that runs between the west end of Community Ave to Canty St. This project is already under design and should help with localized flooding resulting from rain events. Other projects include replacing the wooden bulkheads with steel ones at Chicot Bayou from Ingalls Ave to Washington Ave. Dredging and removing debris from the channel to open and add capacity to the channel is underway and will take another year to complete.

Using state and GOMESA funding the county will improve two main outfalls, one at Buffet Bridge and the other west of the city park. Bulkheads there are caving in and no longer function, which will require that they be replaced.

The county is also partnering with the US Army Corps to add 60 feet of dunes on the beach. There is a section that is boxed in with bulkheads that currently do not have dunes. The goal is to limit sand loss and provide habitat for nesting birds.

There are several City drain-

age projects that have recently been completed:

- Briarwood Drainage Improvements - excavation & widening existing ditches serving the Briarwood Estates Subdivision to increase storm water capacity & provide drainage relief.

- Live Oak Drainage Improvements - replacement of existing drainage infrastructure including the installation of reinforced concrete pipe and inlets to improve drainage servicing Live Oak Ave.

- Boxwood Drainage improvements - removal of existing drainage pipe & structures, removal & replacement of asphalt and concrete roadways, installation of new reinforced concrete drainage piping, inlets, & junction boxes, water and sewer main relocation, seeding and sodding.

- South Buena Vista Drainage Improvements - drainage & utility improvements on Buena Vista south of Washington Ave.

The following projects are in the design phase:

- Buena Vista Neighborhood Drainage, Water & Sewer Improvements - undersized/existing drainage & sewer gravity mains will be replaced with appropriate sizes, while a new water line is installed on Washington Ave. Affected streets will be repaved.

- Buena Vista Neighborhood Drainage & Water Improvements - undersized/existing drainage will be replaced with appropriate sizes at Washington Ave, Pascagoula St. and Farnsworth Ave, while new water lines are installed on Washington Ave and Pascagoula St to increase water pressure. Affected streets will be repaved.

- Old Mobile Highway Drainage Improvements - replacement of existing drainage infrastructure including the installation of reinforced concrete pipe, curb & gutter and curb inlets along Old Mobile Highway.

- Hilltop St Drainage Improvements - installation of reinforced concrete pipe and inlets to provide drainage to Hilltop St.

- Oakland St Drainage Improvements - projects includes replacement of existing infrastructure on Oakland St connecting to Orchard Rd including installation of reinforced concrete pipe, curb & gutter, and curb inlets.

Pascagoula City Council and staff have made providing drainage improvements throughout the entire community a top priority. We appreciate the great partnerships with Jackson County and the State of Mississippi in helping us address these infrastructure projects.



Improvements being made in Pascagoula.

“The project is already underway and should help with localized flooding resulting from rain events”



Trouble spot on Rose Drive in Moss Point.

University of Southern Mississippi Beginning to Build Partnerships

The University has been working to build partnerships with the County and Cities of Pascagoula and Moss Point in order to look at flooding issues and habitat restoration through a scientific lens. They have also partnered with the Grand Bay Research Reserve on a couple of projects. One modelling

project was to look at the potential installation of green infrastructure in areas north of Rose Drive. As most Moss Point residents know, the Rose Drive neighborhood is historically inundated regularly with runoff resulting in flooding. Part of the project was to see what type, size and number of

nature-based projects could make an impact on reducing flooding in the area. Another project funded by the National Fish and Wildlife Federation will be to determine the best area to install a living shoreline. One potential locations is Rhodes Bayou near the... (continued on page 4)

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**We will be on the
web soon**

Believe!

Networking for Positive Outcomes!!

The **Connecting to Improve Stormwater Management (CISM)** group is focused on bringing people together to find ways to tackle the flooding problems in Moss Point and Pascagoula. There is a range of different issues that need to be addressed; undersized and crumbling culverts, ditches that are overgrown with vegetation or just filled with trash. These issues combined with changing rain events, create more flooding in our neighborhoods. Stormwater management is all our responsibilities, let's work together to fix it!

University of Mississippi continued.....

Pascagoula River Audubon Center. Enhancing the wetlands and shorelines in this area will protect it from erosion. There may be a possibility to tie in with the work that the county is doing near the Magnolia Middle School. It is hoped that this project, as well as others, will include water quality monitoring. Monitoring water quality is not currently being done with the county or city projects.

Finally, the university is also looking at insurance pricing analysis for Moss Point to determine if the residents could benefit from participating in the Community Rating System, a program within the National Flood Insurance Project (NFIP). Currently, the city is not participating in the NFIP. This is a FEMA program that requires cities to undertake specific

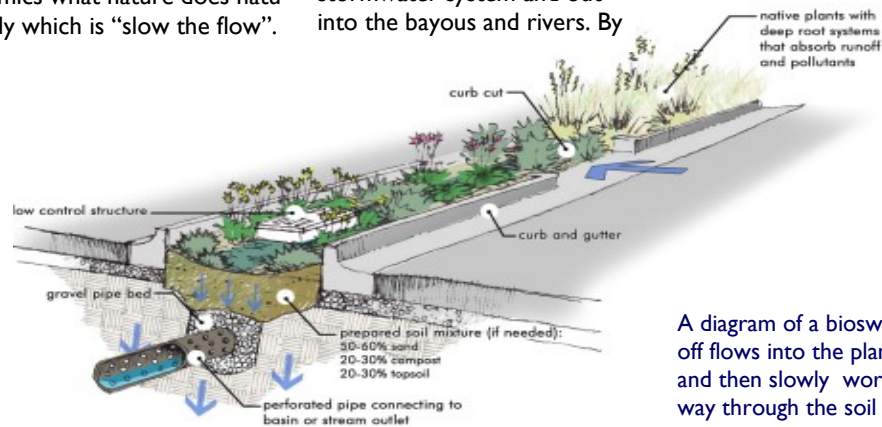
actions, (including documenting these actions), that could help reduce flooding and increase resilience. There are 10 levels. Each level reached results in a percentage off of flood insurance policy premiums. Incorporating science into projects can help to determine if they will be effective steps in reducing flooding in the area.

What is Green Infrastructure??

Green Infrastructure, (GI) also known as Nature-based Solutions (NBS) is a method for managing stormwater that incorporates vegetation into the stormwater infrastructure. It is designed to capture runoff from hard surfaces such as parking lots and roads. When runoff flows across these hard surfaces it picks up pollutants. Using plants in the design mimics what nature does naturally which is "slow the flow".

This slowing helps to prevent the traditional "gray" infrastructure from being overwhelmed and drain normally to handle the flow as designed. Once water flows into these cells the water slowly seeps through the plants and soil to filter out pollutants and improve water quality before it eventually flows back into the municipal stormwater system and out into the bayous and rivers. By

diverting runoff to the bioretention cells pressure on the stormwater system is alleviated. This helps to prevent overflowing ditches and flooding. All diverted water slowly flows back into the system. Native plants are used because they are best suited to the local environmental stressors and weather conditions.



A diagram of a bioswale. Runoff flows into the planted area and then slowly works its way through the soil and out the pipe.

Let's fix it together!!

