

Landscape Management Plan

Marks Community Park

Marks, MS

LA 8721 Spring 2021

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Marks Community Park Management Report

Introduction- Marks Community Park

Known to the community as “The Mule Train” Park it is actually unnamed currently. This park is located at the corner of Highway 6 and Highway 3 just before entering the city of Marks, MS. The property is owned by the Mississippi Department of Transportation from which the city leases the park space to Marks at an annual fee. The park space is managed by the city of Marks.



Objectives

The Marks Community Park landscape is currently maintained by city crews under a landscape foreman that primarily involves turf management and litter control. With the proposed plan there will be a need for additional management goals to keep this park working successfully in the long term.

This development has two primary objectives:

Objective 1: To create a plan that defines the best management practices of all existing and new vegetation as proposed by the revised park master plan.

Objective 2: To create a plan that manages new interactive elements proposed wet pond, walking trails, interpretative signage, existing buildings, and existing site furnishing (seating & trash receptacle).

These recommended main objectives embodies the enclosed research and recommendations in order to provide the best horticultural core for Marks Park. Suitable plantings required, appropriate techniques, and recommended schedules for the maintenance of the plant material.

Recommendations will be made regarding outdoor features such as existing site furnishings, and proposed features that will require proper care. This document should be revised periodically as new conditions or changes occur.

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Section 1- Landscape Plan

Velma Wilson, Quitman County Economic and Tourism Director, reached out to the Landscape Architecture department at Mississippi State University. Initially the goal was to enhance the entry sign coming into Marks, which turned into a whole design for the entire park. The parks biggest constraint is the flooding and how long the water resides there post-storm event.

A. Existing Landscape - Figure 1

The existing landscape on this property has not had many changes from it's original design and construction. There is evidence of this due to the mature trees that are currently being managed on site and the current plan of weekly mowing.

B. Proposed Plan - Figure 2

Figure 2 is the proposed plan that was developed by Ryan Sanchez, a graduate student at Mississippi State University in Landscape Architecture. Figure 2 reflects the existing landscape as well as some proposed. Details include invasive species management, proposed pond/oxbow lake, interactive trails, and using open space for event parking and learning garden space.

C. Management Zones - Figure 3

The park is divided into 5 zones

Zone 1- Pecan Woodland, this zone includes an overhead structure, restroom, and multiple picnic tables.

Zone 2- Vegetated Swale, this zone is where a lot of stormwater re-enters the Cassidy Bayou.

Zone 3- Existing Riparian Area, this zone is prone to flooding with high waters but is home to a diverse native Bottomland Hardwood plant community.

Zone 4- Open Turf, this zone includes the ROW (Right of Way) that is maintained by MDOT as well as the parks open turf.

Zone 5- Wet Pond, this is a proposed feature to help aid in the flooding that currently exists during storm events.

Figure 1- Existing Landscape

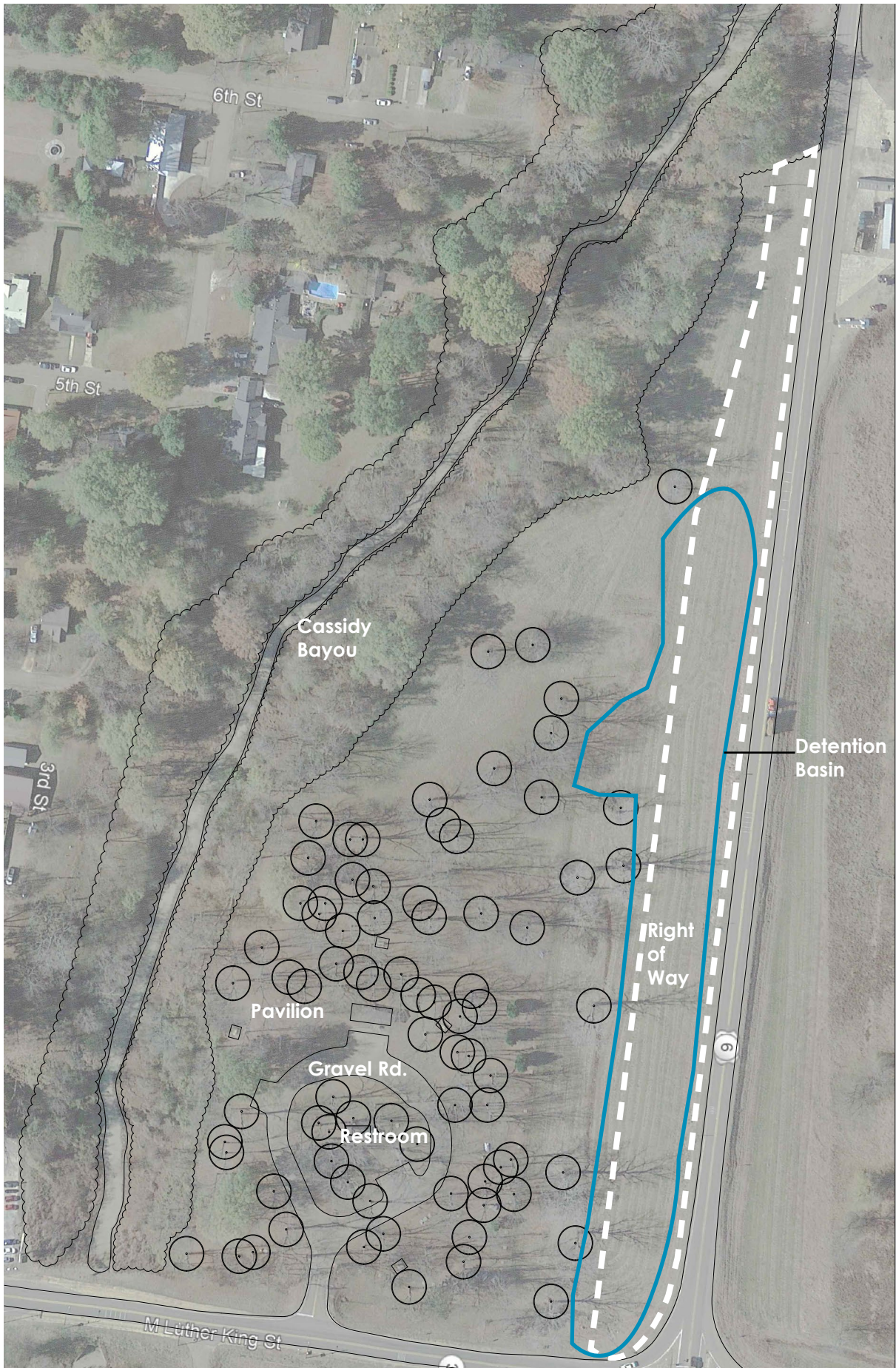


Figure 2- Proposed Master Plan Revision

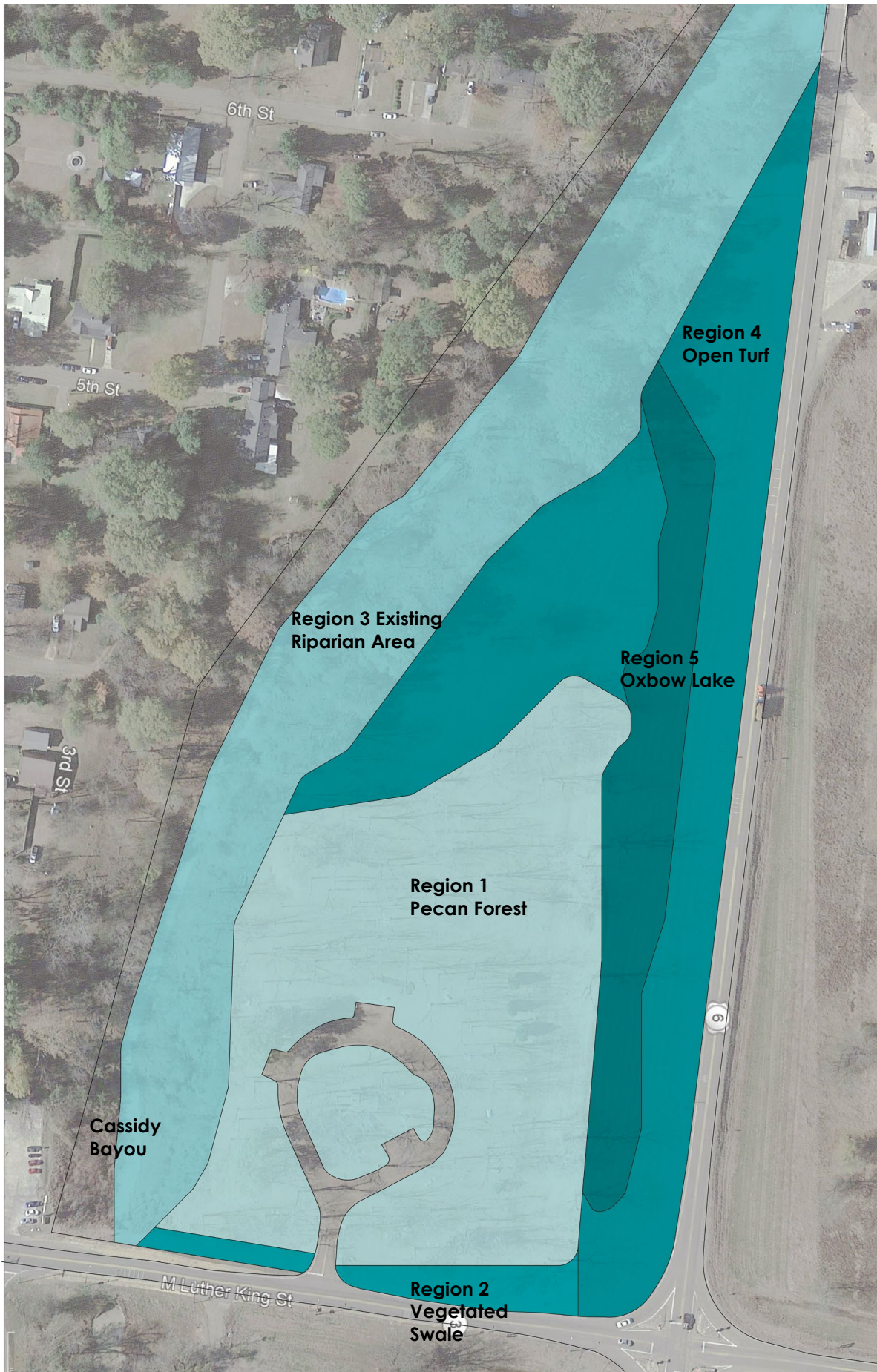
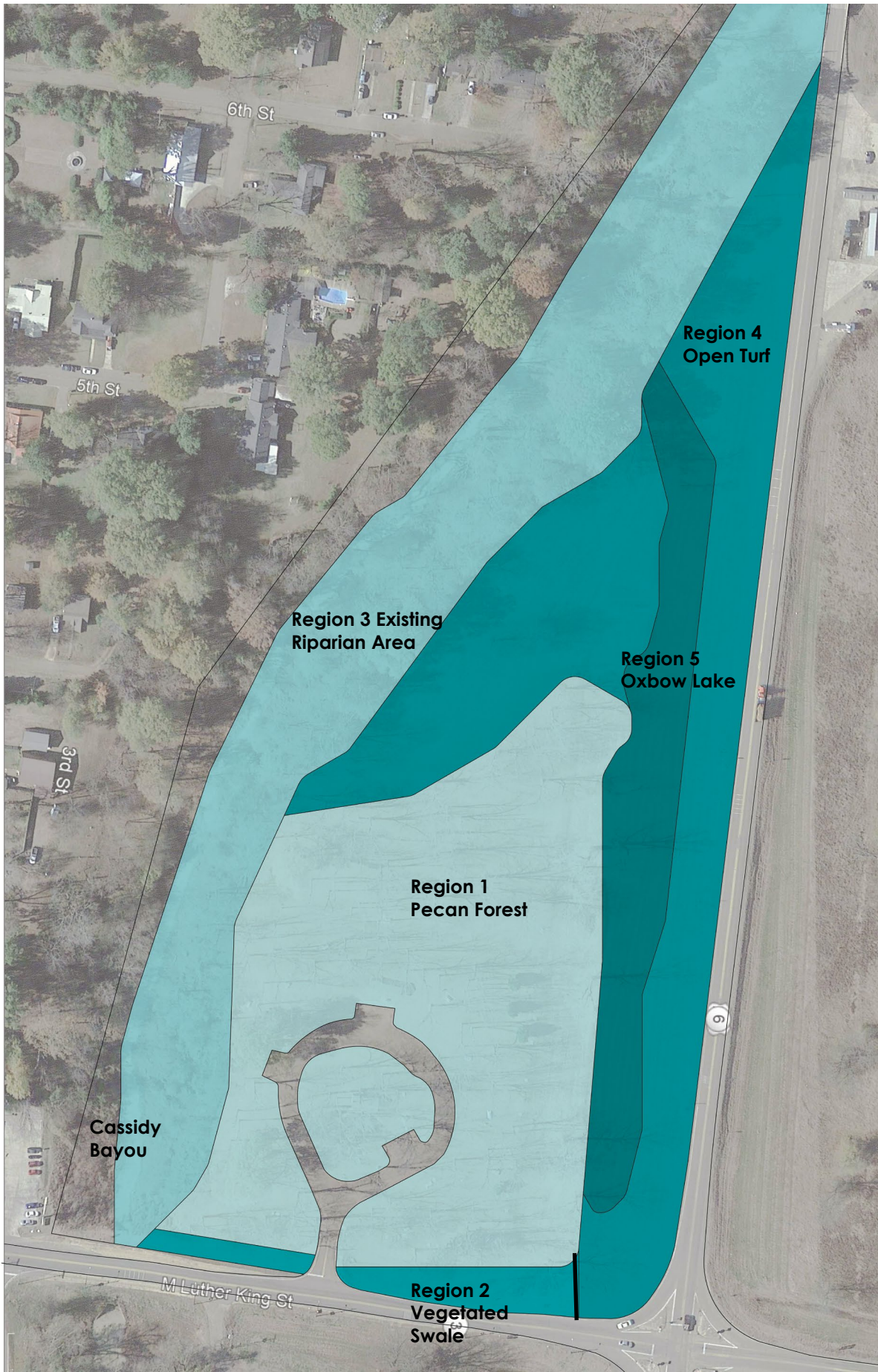


Figure 3- Management Zones



Section 2- Park Landscape Management Areas

Section 2 includes the following information regarding each zone.

- Inventory on existing plant communities, condition, and recommendations.
- Inventory on existing infrastructure, condition, and recommendations.
- Analysis and recommendations on proposed plantings.

Section 2a- includes the existing plant communities in each region, their condition, and recommendations. (Figure 2)

Section 2b- includes existing site elements, condition, and recommendations (Figure 2)

Section 2c-- includes proposed site elements with recommendations (Figure 3)

Section 2a		
Region 1 (Species)	Condition	Recommendation
Pecan (<i>Carya illinoensis</i>)	Good	General care
Arborvitae (<i>Thuja occidentalis</i>)	Average	Keep for screening
Eastern Redbud (<i>Cercis canadensis</i>)	Good	General care
Greenbriar (<i>Smilax</i> spp.)	Average	General care
Muscadine (<i>Vitis rotundifolia</i>)	Average	General care
Region 2 (Species)		
Turf	Average	
Hackberry (<i>Celtis occidentalis</i>)	Good	General care
Eastern Redbud (<i>Cercis canadensis</i>)	Poor	Remove
Region 3 (Species)		
Buttonbush (<i>Cephalanthus occidentalis</i>)	Good	General care
Hackberry (<i>Celtis occidentalis</i>)	Good	General care
Native Bamboo (<i>Arundinaria tecta</i>)	Good	General care
Privet (<i>Ligustrum</i> spp.)	Poor	Remove
Hibiscus (<i>Hibiscus Lasiocarpus</i>)	Good	General care
Sagittaria spp.	Good	General care
Deciduous Holly (<i>Ilex decidua</i>)	Good	General care
Boxelder (<i>Acer negundo</i>)	Good	General care
Bald Cypress (<i>Taxodium distichum</i>)	Good	General care

Region 4 (Species)	Condition	Recommendation
Turf	Average	General care
Cherrybark Oak (<i>Quercus pagoda</i>)	Good	General care
Region 5 (Species)		
Pecan (<i>Carya illinoensis</i>) (5)	General care	General care, 2 are marked that need to be removed

(Figure 2)

Section 2b		
Region 1 (Site Elements)	Condition	Recommendation
Restroom	Poor	Address visual aesthetics, redo plumbing, update windows, doors, and water fountain
Benches (10)	Poor, Scattered through Zone 1	General care
Pavilion	Average, Zone 1	General care, repaint, updated broken wood
Lighting	Poor	Updated outdoor lighting and relocate
Fence around utility box	Poor	Remove, and replace
Region 4 (Site Elements)		
Wooden Fence	Poor	Remove, it is not blocking anything

Section 2c	
Region 1 (Proposed Site Elements)	Recommendation
Stage	Move-able, store when not in use
Mule Wagon Planter	General care, maintain upkeep of seasonal perennials
Walking Trail	General care
Benches	Follow construction documents for updated materials
Region 2 (Proposed Site Elements)	
Wetland Species	General care
Existing Marks Sign	Following planting plan, and maintenance schedule
Region 3 (Proposed Site Elements)	
Walking Trail	General care
Signage (Educational, Interpretive)	Located in Zone 1, 3, and 5

Region 4 (Proposed Site Elements)	Recommendation
Learning Garden	Annual maintenance, general care
Natural Play Area	General care
Interpretative Signage	General care
Region 5 (Species)	
Stormwater Pond with Fore-bay	Annual general care, and 5 year sediment clean out

Section 3- General Management Recommendations

3a-General Public Areas- Listed below are recommendations for the vegetation indicated. More specific techniques can be found in the appendices.

- **Trees**

In the fall at leaf fall there is no need to rake up the leaves. Fallen limbs should be removed as needed. There needs to be caution when mowing to not damage any trunks, mulching will aid in this (see appendices, pg 14). Large trees (Region 1,2,4) need to be pruned by professionals, nothing more than removing deadwood and trimming low hanging branches. Region 3, invasive trees and or shrubs (Privet, Honeysuckle) will need to be removed. Larger trees in region 3 should only be addressed by professionals if causing a hazard throughout the area. Small trees in region 3 can be managed by the regular maintenance crew and can use the appendices (pg, 14) as a reference. Monitoring trees for signs of insects or decay is vital for safety and health of the plant community. Pecan trees are highly susceptible to “scab” which attacks the new, and young leaves.

- **Shrubs**

Monitoring shrubs for signs of insect (eggs, larvae, or adults) or disease (dead spots, yellowing leaves, decayed bark, etc.) If a problem occurs contact a professional to get a solution. For newly planted plants watering throughout the first year is key, three times a week in the summer, and once or twice in winter!

- **Perennials**

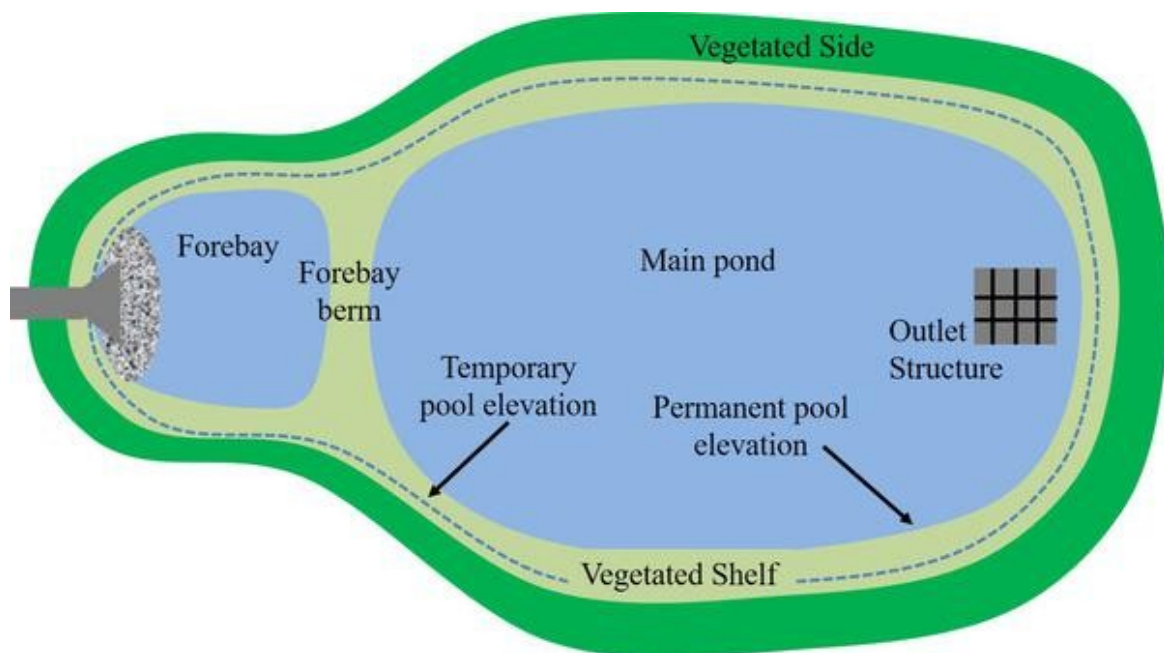
Be sure to check mulch in winter, if mulch appears to be too moist, moldy, or has insects, replace the mulch. Clip old growth off, and dispose clippings in Region 3. Carefully inspect perennials and remove/replace dead ones.

- **Lawn**

Lawn should be mowed at the normal schedule, every week. Region 4 has the Right of Way included which will be maintained by MDOT. Region 2 should be maintained on a bi-weekly schedule with a weed trimmer.

3b-Highlighted Areas

- Stormwater Management
1. Riparian Area (Region 3)- Riparian areas are often described as the 'river bank' but often include much more. They're the interface between land and water along a body of water. It includes vegetation, soils, and features from the water's edge across the flood plain to an upland area. The best approach to managing these areas is actually to do nothing, observe and nature do its job. Region 3 has a pretty well established riparian corridor, the main thing is to keep invasive species (Section 3) out and keeping the area clean of trash.
 2. Stormwater Retention Pond (Wet Ponds) (Region 5)- The maintenance of Wet Ponds is to perform to achieve four goals: hydraulic flow and pollutant removal, safety, aesthetic appeal, and mosquito control. The following activities should be performed regularly to maintain efficiency:
 - Remove sediment and unwanted solids from forebays
 - Keep water flowing
 - Clean away floating debris/trash
 - Remove unwanted vegetation that blocks inflow/outflow pipes
 - Remove invasive species: lessons the competition, mitigates dense spread
 - Mow perimeter of wet ponds where accessible and wanted (Figure 4)



Plan view of basic wet pond design elements.

Figure 4

All these activities should be done on a monthly schedule with one exception to the removal of sediment in the forebays. Forebays are located at the inlets of wet ponds, and are designed to slow incoming water, and provide a location for sediment and other gross solids (litter, trash, leaves and large coarse sediment) to settle and accumulate. To check sediment levels inside the forebay record the depth at the same time of each year. Once the forebay is half full of sediment it is time to remove sediment and gross solids (see calendar). It is worth noting to plan out where you dispose of the soil collected because it could have pollutants which would need to go to a landfill. This clean out needs to be done about every 5-7 years. The deep pool of the pond needs to be maintained as well, the biggest difference is the deep pool takes longer to fill up with sediment.

TABLE 1. STORMWATER WETLAND AND WET POND MAINTENANCE TASKS AND FREQUENCIES

Task	Frequency	Notes
Remove sediment from forebay and deep pool (dredging/ dipping).	Varies. In stable watersheds, once every 5 to 10 years is typical.	In unstable watersheds (those with active construction), the frequency increases to once a year, assuming the forebay is correctly sized.
Monitor sediment depth in forebay and deep pools.	Once a year.	In a large pond or wetland, a small boat may be needed.
Maintaining free-flowing orifice (drawdown hole).	Once per month and after every storm exceeding 2 inches.	Perform inspection regularly. Unclogging the hole when needed is simple.
Remove floating trash and debris.	Depends on design aesthetics: once a week to once a month.	Remove trash whenever the drawdown hole is being inspected. Inspect for trash more often if necessary, and remove as needed.
Remove vegetation from dam top and faces.	Once a year.	Dam top and faces should consist of mowed grass, if vegetated.
Remove invasive species (particularly cattails).	In years 1 and 2, twice a year (spring and fall). From year 2 onward, once a year (spring).	If spread of cattails is somewhat limited, use the glyphosate-wipe method.
Mow the wet pond perimeter.	Depends on design aesthetics. Ranges from every 1 to 3 weeks to once a year.	Wet ponds that are a design amenity will require more frequent mowing (every 1 to 3 weeks).
Remove muskrats and beavers.	Muskrat hole inspection and destruction should occur every time the wetland or wet pond is visited (at least once a month).	Contact a professional beaver trapper to remove beavers. Use muskrat traps to remove muskrats, or contact a professional trapper.

Wet Pond Maintenance Chart

Figure 5

- Learning/Community Garden

This garden area will mimic that materials used from Mississippi State University' Design Build class. The plants will be selected by either the community or the school for educational purposes. Some key activities thought to keep in mind for a successful garden are:

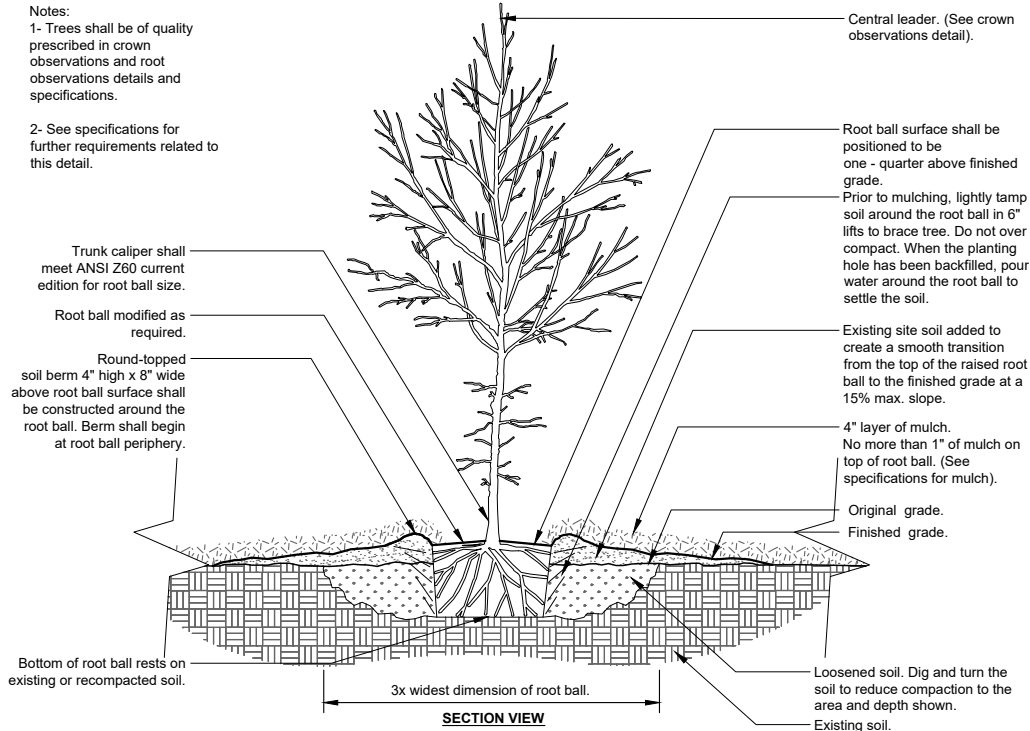
- Watering, pruning, weeding, planting
- Plant/wildlife monitoring
- Repairs, repaint supplementary structures as need (i.e. benches, signage,etc.)
- Safety inspections of site and equipment
- Maintaining and taking inventory of tools/equipment
- Coordinating projects and work days

Section 4- Conclusions

This landscape plan will serve as a guide for the city of Marks, the workers from MDOT, volunteers, as well as future employees. The management plan will not only aid in familiarizing readers with the site but it will aid in the timing and execution of maintenance tasks. A large scale management report like this helps to guide all maintenance projects and promote consistency throughout the area in mind. Management is the key to the success of a functioning public space, so following some of these simple guidelines will benefit the future.

Section 5- Planting Care & Techniques

• Tree Planting (Figure 6)

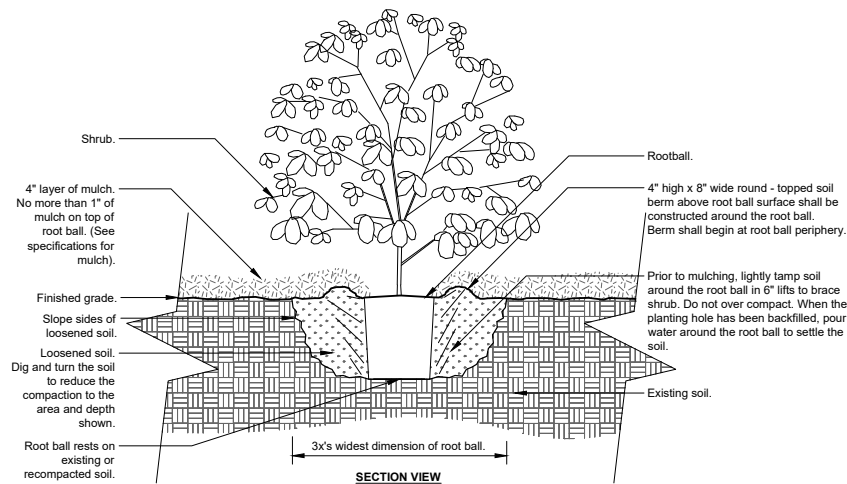


P-X TREE IN POORLY DRAINED SOIL

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Tree Planting Detail

• Shrub Planting (Figure 7)



Notes:
 1- Shrubs shall be of quality prescribed in the root observations detail and specifications.
 2- See specifications for further requirements related to this detail.

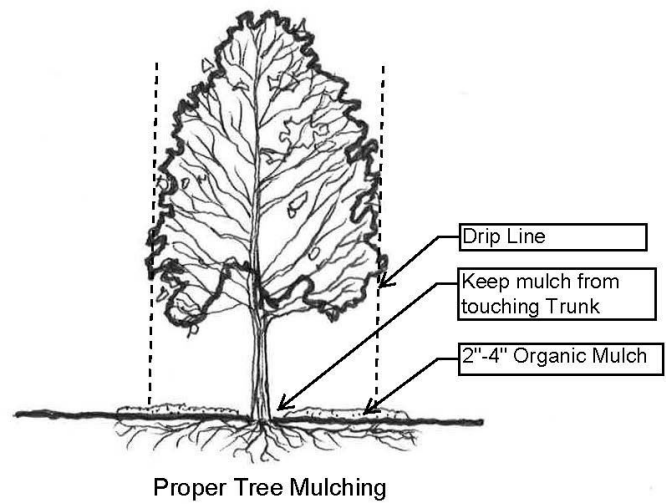
P-X SHRUB - UNMODIFIED SOIL

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Shrub Planting Detail

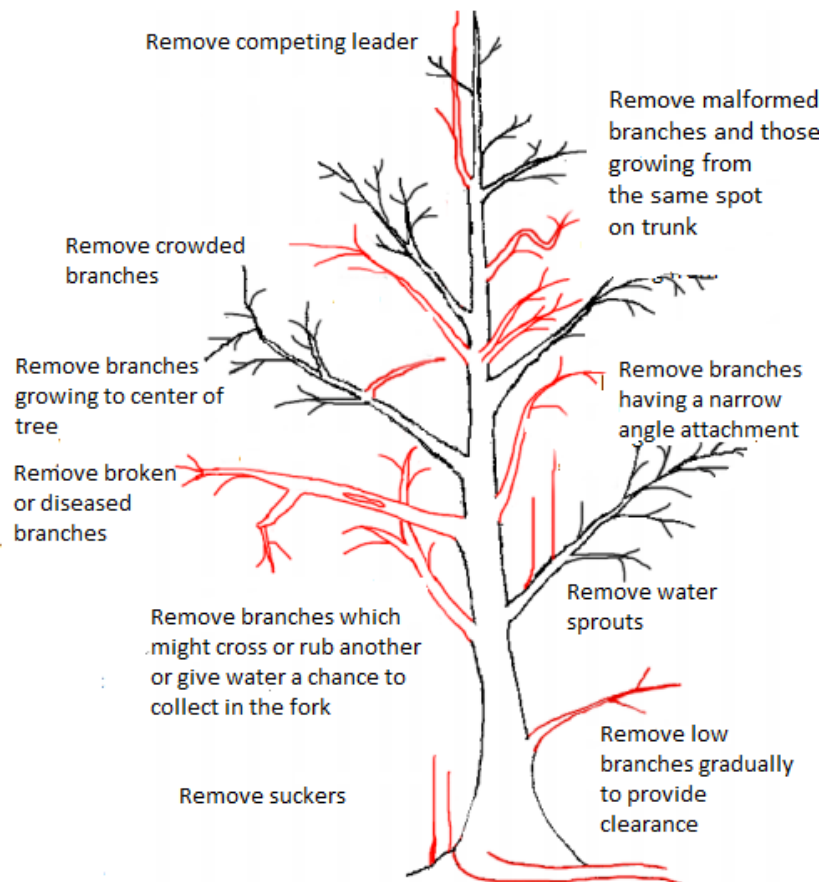
- Tree Mulching (Figure 8)

When mulching a tree, or shrub it is important to apply a layer that is the width of the canopy. The depth should not exceed 4" and it is vital to not mulch around the trunk.



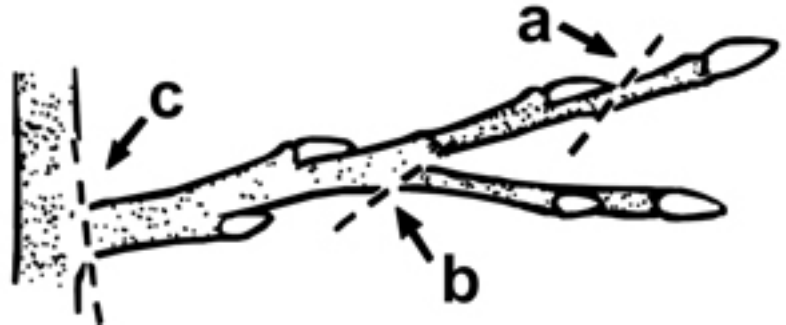
- Tree Pruning (Figure 9)

Pruning trees is vital to tree health, park aesthetics, and safety. With this plan the important technique is removing deadwood and make a clean cut. This allows the tree to compartmentalize properly.



- Shrub Pruning (Figure 10)

Always cut back to a bud (a), a lateral branch (b) or main trunk (c). Also avoid leaving a stub.



Section 6- Appendices

- Seasonal Calendar

The following monthly calendar regards the general maintenance schedule at an annual basis.

January

1. Clear all beds of debris
2. Mulch existing and proposed planting beds

February

1. Remove deadwood off trees and raise canopy's for clearance
2. Prune shrubs as recommended
3. Plant proposed new plants

March

1. Start mowing schedule weekly for turf
2. Start maintaining stormwater BMP's at a bi-weekly schedule (i.e. trimming swales, and bank edge)

April

1. Continue mowing and BMP schedule
2. Plant summer annuals

May-August

1. Continue mowing and BMP schedule
2. Prune shrubs that have early spring flower growth
3. General maintenance to keep park clean
4. Supplement water for warmer months
5. Check plants for drought stress
6. Check plant health, and address properly
7. Weed removal as needed

September

1. Remove summer annuals and plant fall annuals
2. Continue mowing and BMP maintenance

October

1. Continue mowing and BMP maintenance
2. Selective pruning towards summer blooming shrubs
3. Check all vegetation for signs of disease or insect damage

November-December

1. General maintenance clean up
2. Check Region 3 (Riparian Area) for invasive species removal
3. Plant new plants as desired
4. Continue to water newly plants throughout winter
5. Review and revise seasonal calendar as needed

Record Keeping

It is vital to keep information on the maintenance for-going in the park. This information aids in the needs of solutions, budgeting, and to help plan future work. These records should note changes in vegetation, work that has been done, and other details.

References

1. "Develop Your Summer Maintenance Plan for School Gardens." Healthy Food Choices in Schools, 13 June 2019, healthy-food-choices-in-schools.extension.org/develop-your-summer-maintenance-plan-for-school-gardens/.
2. "Develop Your Summer Maintenance Plan for School Gardens." Healthy Food Choices in Schools, 13 June 2019, healthy-food-choices-in-schools.extension.org/develop-your-summer-maintenance-plan-for-school-gardens/.
3. "Riparian Management." Welcome to Hill Country Alliance, 2015, www.hillcountryalliance.org/RiparianManagement.

University Extension Bulletins

1. University of Georgia - <https://extension.uga.edu/publications>
2. North Carolina State University - <https://brunswick.ces.ncsu.edu/wp-content>