

**ELEVEN MILE CREEK BASIN  
DUE DILIGENCE UPDATED REPORT  
OCTOBER 2023**



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## **1. INTRODUCTION**

Escambia County is conducting an evaluation of potential locations for regional detention ponds within the Eleven Mile Creek basin in western Escambia County near Nine Mile Rd and Interstate 10. The Bristol Park and Ashbury Hills area has endured frequent inundation of roadways and homes from high flow events and suffered vast damage to private property because of historic flooding that occurred in April 2014. Previous stormwater master plan studies of the area have identified locations recommended for consideration of regional stormwater management facilities. More specifically the 1999 Eleven Mile Creek Stormwater Master Plan completed by CarlanKillam Consulting Group, Inc. proposed eleven pond sites that if constructed together could effectively attenuate flows to reduce flooding within this portion of the basin identified as Zone 1. Recommendations included retention volume and pond size requirements, sub-basins that could be routed through the proposed ponds, and general locations for the ponds. The purpose of this report is to update the 2017 Due Diligence Report which identified properties that the County could potentially purchase for stormwater management. This report will review each of the properties identified in the 2017 report and determine if the property is still practical. If the site is no longer feasible an alternate site may be recommended.

## **2. EXISTING CONDITIONS**

Two areas of the Eleven Mile Creek basin have been considered for potential regional pond siting. Area 1 is bounded by Muscogee Road to the North, Interstate 10 to the South, and Highway 29 to the East (see Figure 2.1). Flooding has been experienced in various locations throughout the basin, the most severe and destructive flooding has occurred in the Bristol Park area near the southern extent of Area 1 directly upstream of Interstate 10. During high flow events discharges from the headwaters of the basin flow through the system quickly and converge near County Road 297A where capacity of the system becomes overwhelmed, and the creek banks overtop.

Area 2 is located South of Interstate 10 and 9 Mile Road, Northwest of the intersection of Highway 90 and Klondike Road (see Figure 2.1). Area 2 identifies a potential location for a regional pond that could reduce local flooding issues, provide treatment for runoff not currently treated, and reduce tailwater conditions for upstream portions of Eleven Mile Creek. Previous studies of this basin completed by Carlan Consulting Group, Inc. in 1994 and CarlanKillam Consulting Group, Inc. in 1999 modelled the effects of adding regional detention to the system using Interconnected Channel and Pond Routing (ICPR) software. It was shown that strategic placement of ponds throughout the system could effectively reduce flooding currently experienced. Recommendations of these studies included conceptual volume requirements and general pond placement.

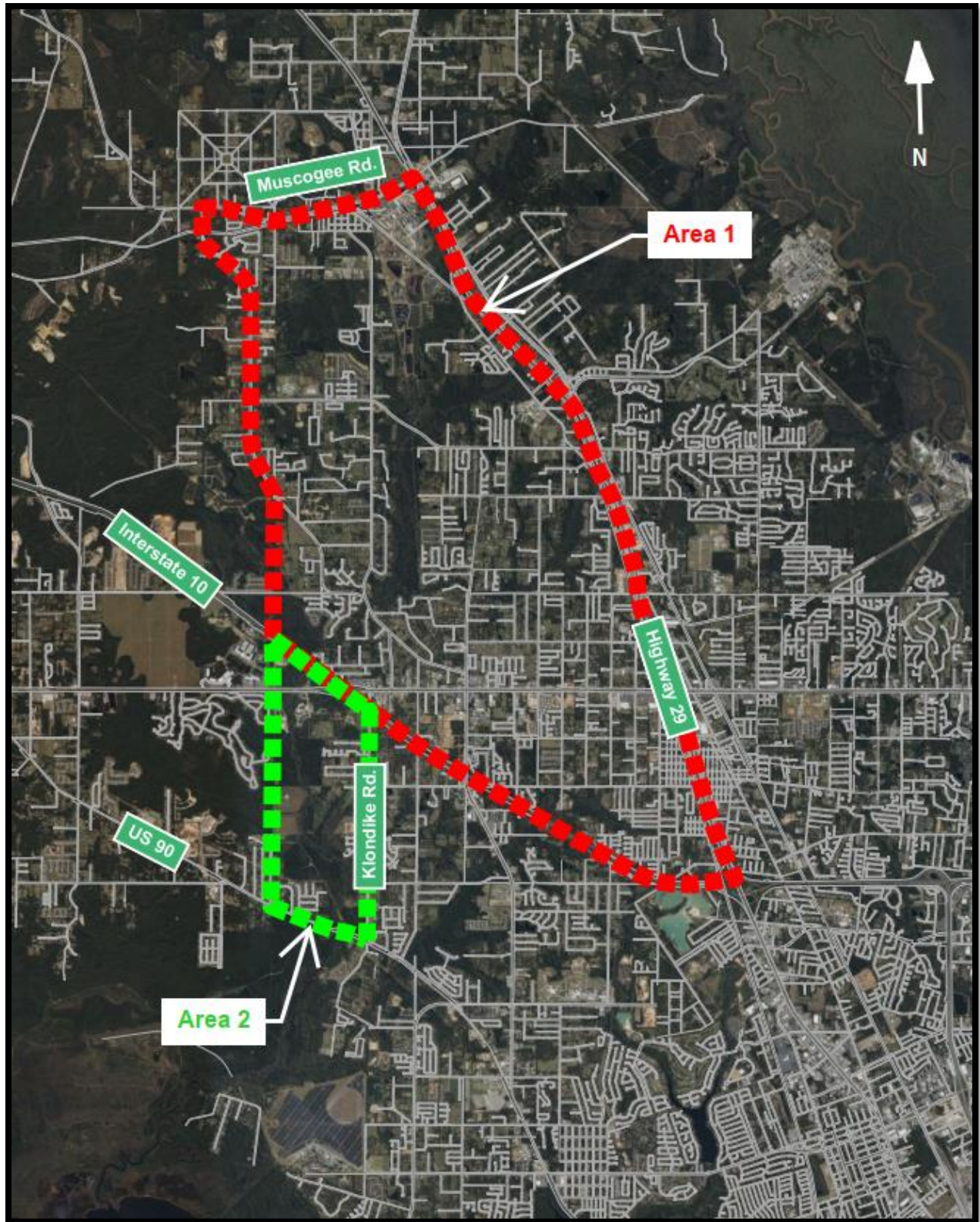


Figure 2.1 Eleven Mile Creek Basin Area 1 and Area 2

### **3. DESIGN CRITERIA**

The intent of this study is not to fully design regional detention ponds for the Eleven Mile Creek basin, but to review previous studies while taking into consideration recent development to propose viable locations for regional detention. In addition to the Eleven Mile Creek Stormwater Master Plan, sources of reference shall include aerial photography, Escambia County GIS and National Wetland Inventory (NWI) wetland shapefiles, NRCS web soil survey data (see Appendix C), Escambia County GIS and LIDAR contour/elevation data, and the Escambia County Property Appraiser for approximate parcel geometry, location, size, value, and owner information. Targeted property acquisition shall be limited to open areas away from existing homes, structures, and utilities as much as possible and shall not impact wetlands. Based upon these constraints, as directed by Escambia County, achieving the respective pond volumes recommended in the stormwater master plan(s) was not considered mandatory. These areas will then be evaluated for usefulness regarding constraints from elevation differential, required tie back slopes, and the ability to effectively capture runoff. This analysis will consist of exhibits showing proposed pond locations and parcels affected, tabulated pond area and property acquisition requirements, and general notes detailing benefits and/or difficulties that each site presents.

### **4. DATA ANALYSIS**

Data and figures from the 1994, 1999, and 2017 studies were reviewed, and previously proposed pond locations were evaluated for current availability of open land. A map showing general locations of proposed ponds from the 1999 report is included as Figure 4.1. These original locations were mapped with current aerials and Escambia County GIS watershed data to further refine potential placement of the ponds. Since 1999, areas corresponding to ponds P-1, P-5, P-7, and P-9 from Figure 4.1 have experienced substantial residential development; therefore, space for regional detention has become limited or unavailable.



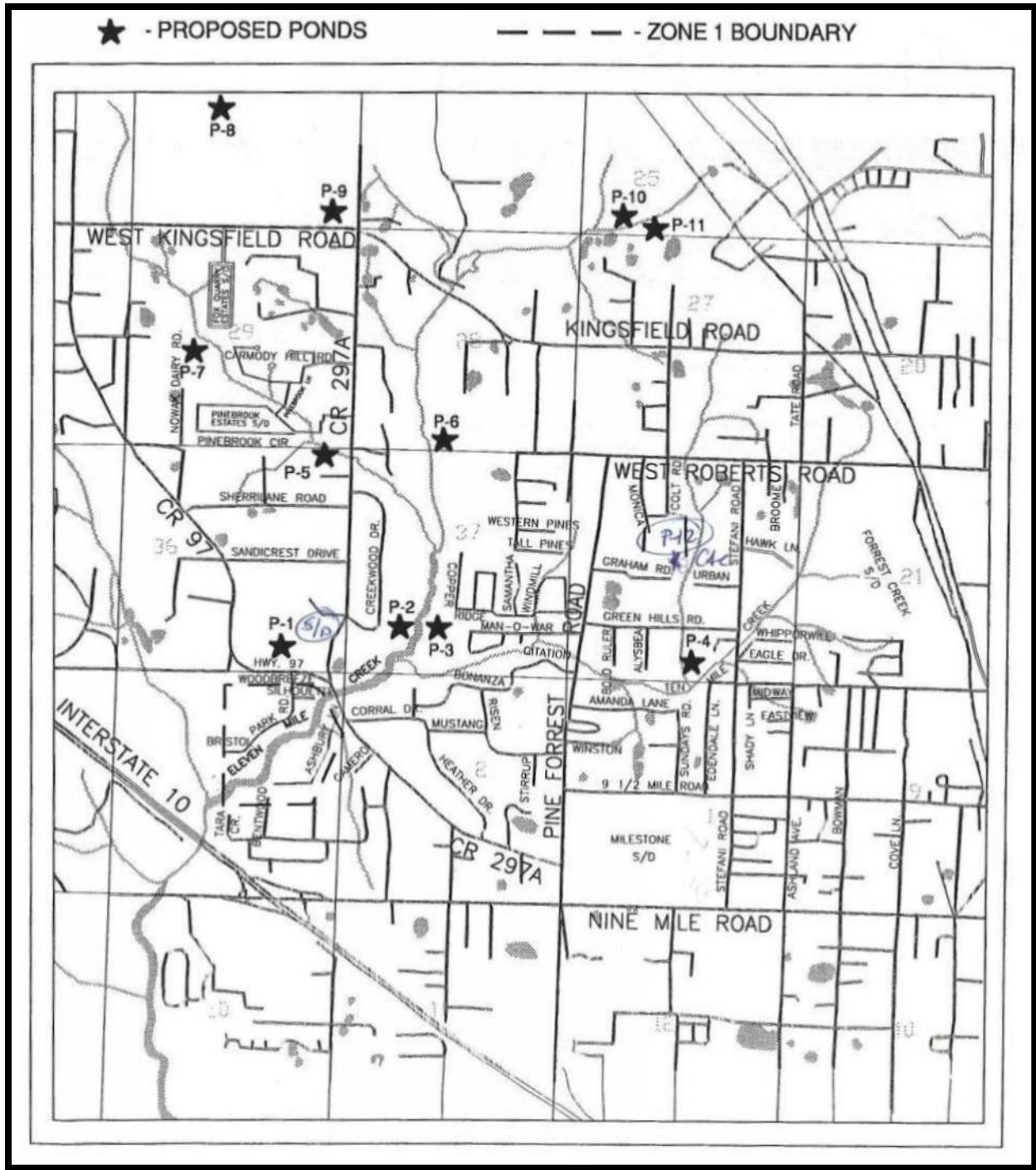


Figure 4.1 Proposed Ponds from the 1999 Report

The 2017 Due Diligence Report identified several alternate pond sites due to the original site being developed or no longer practical for stormwater purposes. Figure 4.2 depicts the 2017 proposed stormwater sites.



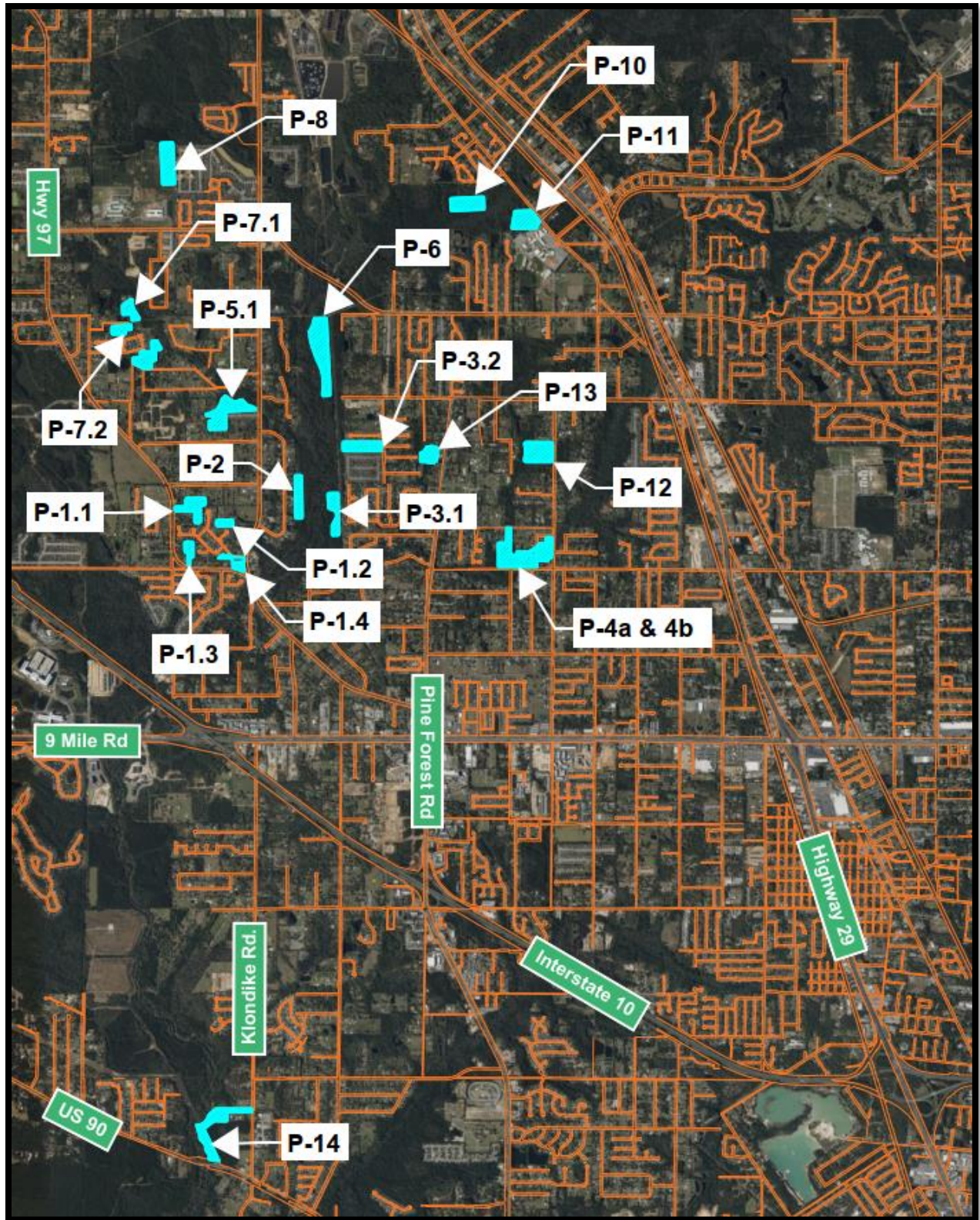


Figure 4.2 2017 Proposed Ponds from the 2017 Report

The 2017 pond sites were re-evaluated to determine if each location was still a viable property. A review of current information found that Pond 1.2 and 5.1 has been developed. Alternative pond sites for these locations (Pond Site 1.2A and 5.1A) were selected based on available property, basin area, and lidar data. Alternate P-1.5 was added as another potential option as a regional pond site. Ponds 7.1, 7.2 and 7.3 were resized based on current development and permitting documentation. Alternate P-7.4 was identified to provide additional stormwater capacity due to the pond changes to P-7.1, 7.2, and 7.3. Figure 4.3 depicts the 2023 pond sites modified or added. A detailed Maps of pond locations are included in Appendix A.



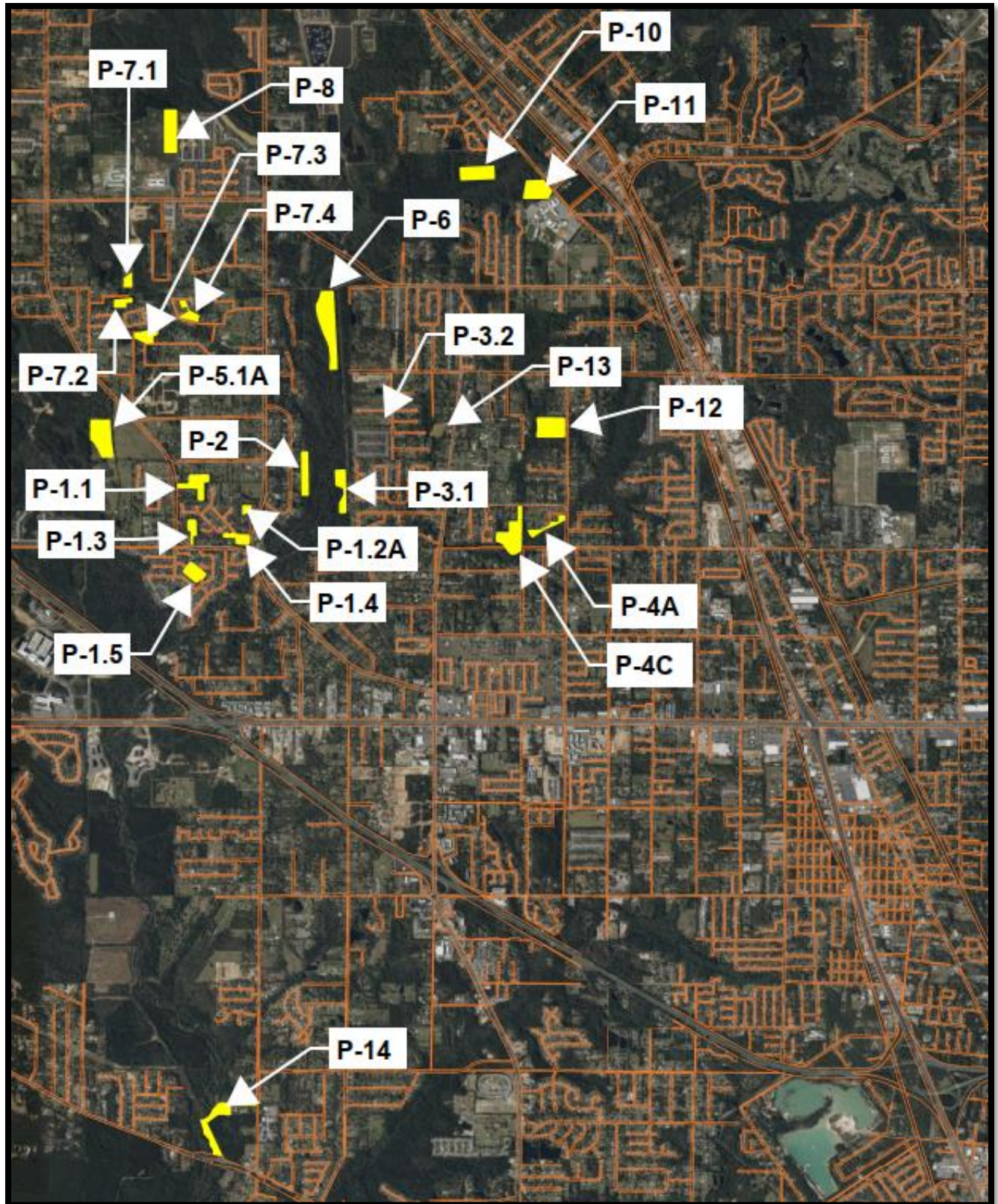


Figure 4.3 2023 Modified or Added Proposed Ponds Sites

#### **4.1. Location P-1**

Areas near P-1 were considered in efforts to provide detention similar to the original P-1 pond. Four new pond locations have been proposed for the P-1 area; however, the aggregate area provided by these ponds does not match the 1999 P-1 pond. Size and position of these ponds within the sub-basin may not provide the capability to capture all discharges accounted for in the 1999 study. Pond P-1.1 has the most upstream location and may allow capture of ditch flows diverted from CR 97 as well as overland flow. Pond P-1.2 is no longer a pond option due to a newly developed residential dwelling on most of the lot. Alternative Pond P-1.2A is located on a portion of 2 residential parcels and will collect piped runoff from Highway 297A and some overland flow. Pond P-1.3 is located near CR 97 South of P-1.1 and can capture some overland flow as well as ditched/piped flow directed from the CR 97 ditch, which can be attenuated and then routed back to the CR 97 ditch. P-1.3 volume will be determined by balancing critical berm elevation with footprint required to tie slopes back into existing terrain. Pond P-1.4 is located at the Northwest corner of the intersection of CR 97 and CR 297A. This pond will provide additional treatment and attenuate flows from the Glenmoor Trail subdivision. The County has acquired the rights to a portion of this parcel and is currently being designed. Construction of this pond is anticipated in early 2024. Pond P-1.5 is in the Bristol Ridge Subdivision on a large vacant parcel owned by the County. The parcel is identified as being in a wetland jurisdiction area. This pond may collect runoff from Highway 97 and the subdivision. The pond could provide additional treatment and attenuate before discharging back into the existing drainage system.

#### **4.2. Location P-2**

The original P-2 pond has not developed since the early studies and is still available for use. The proposed pond is located on International Paper Company land. The proposed pond location has significant elevation differential from west to east. The pond shape will be governed by existing terrain in attempts to provide adequate storage volume while still allowing reasonable tie-in slopes. A long, narrow pond located near Eleven Mile Creek would be considered in efforts to avoid impacting houses, power company facilities, and wetlands. The proposed pond will capture most of the runoff from basins identified in the 1999 report, but existing terrain, utility easements, and wetlands will limit pond placement and not allow complete collection from all basins.

#### **4.3. Location P-3**

The 1999 report placed pond P-3 directly east of P-2 and Eleven Mile Creek on International Paper Company land. The proposed pond will collect runoff from several basins stretching from Man O War Circle to West Roberts Road. Collection of all basins would require a very long narrow pond; however, existing grades and apparent wetlands will not allow this approach. The 2017 report identified two new pond locations (P-3.1 and 3.2) to capture stormwater in the vicinity of the original 1999 basins. The proposed pond P-3.1 is located east of P-2 and encounters some of the same difficulties as P-2. Elevation changes, utility infrastructure, and apparent wetlands will require resizing of the pond to maximize useable volume and may require further breakdown into multiple ponds due to extensive wetlands in one location. The P-3.1 pond(s) should be capable of capturing a portion of the runoff from the southerly 1999 basins. Pond P-3.2 was designed and constructed in 2022 to capture runoff from the more northern 1999

basin including portions of West Roberts Road. The pond provides some treatment and attenuation before discharging into the Paper Company land and ultimately into Eleven Mile Creek.

#### **4.4. Location P-4**

The basin identified in 1999 for the P-4 site is relatively large for the area and connectivity currently available for pond siting. Avoiding structures and wetlands narrows usable property to a wooded area south of Cool Creek Road. Two alternative pond sites (P-4A and P-4B) were identified as potential pond locations in the 2017 report. Pond P-4B has been eliminated due to Escambia County's concerns about environmental impacts, construction ability, and feasibility of securing grant funding for the pond site. Mott MacDonald proposes Pond P-4C, which lies in the vicinity of Pond P-4B but would have less environmental, construction ability concerns, and could be a viable option for grant funding. Pond P-4A location would require a balance of elevation differential with berm tops to create storage and may require multiple ponds due to locations where available area narrows. Some storage could be created with P-4A, but this strategy will only be able to capture runoff within the original basin north of Ten Mile Creek and would not capture any runoff from the original basin south of Ten Mile Creek. Pond P-4C would provide storage for runoff north of Ten Mile Creek while allowing for runoff to enter Ten Mile Creek upstream. This strategy could provide more storage and collect runoff from a larger portion of the original 1999 basin.

#### **4.5. Location P-5**

Pond location P-5 was originally identified in the 1999 report in the area southwest of the intersection of CR 297A and the tributary to Eleven Mile Creek located north of Sherrilane Drive. The 1999 report specifies 21 acres available for the pond site but the actual lot size is less. The 2017 report identified Pond P-5.1 as the preferred stormwater facility for this area. However, majority of the pond site is no longer available due to the Bradfield subdivision that was recently developed. Alternate Pond 5.1A was identified as the new pond for this area. The proposed pond would be located adjacent to Highway 97 on a large agricultural parcel. The proposed pond location has some elevation changes from east to west. The pond shape will be governed by existing topography, wetlands, and Highway 97. The pond would collect ditch runoff from Highway 97 and provide treatment/attenuation before discharging into adjacent woods/wetlands,

#### **4.6. Location P-6**

The original P-6 pond site has not developed since the early studies and is still owned by International Paper Company. The proposed pond site is situated not to impact the utility infrastructure and wetlands. The site has significant elevation differential which will govern the pond shape in attempts to provide adequate storage volume while still allowing reasonable tie-in slopes. Considering this restrictive shaping and efforts to not impact utilities or wetlands, collection of runoff from basins specified in the 1999 report will be hindered. A long, narrow pond located near Eleven Mile Creek would be required to capture all runoff from basins identified in the 1999 report, but existing terrain, wetlands, and utility corridors will likely not allow this configuration. Dividing P-6 into multiple ponds could potentially maximize use of available open area depending on existing terrain.

#### **4.7. Location P-7**

Pond P-7 in the 1999 report is no longer a viable property due to development. In the 2017 report, three new pond locations (P-7.1, 7.2, and 7.3) were proposed for the P-7 area. Pond P-7.1 was revised based on current information from the 2017 report to avoid known wetlands. The pond is situated on 1 residential parcel but may have some wetlands within the wooded area of the site. Further investigation will be required to determine any wetland impacts. This pond may capture overland flow from the surrounding residential areas. Pond P-7.2 is situated on 1 residential parcel and 1 undeveloped parcel. This pond site was revised based on current information from the 2017 report to avoid additional parcel impacts. Pond P-7.2 can capture area through overland flow and could potentially be merged with the existing stormwater pond for the Dunleith Subdivision to expand storage capabilities of the existing pond. There is a potential for wetlands located on this site. Further investigation will be required to determine any wetland impacts. Pond P-7.3 was revised based on current information from the 2017 report to residential homes. The proposed pond is located near the headwaters of a tributary to Eleven Mile Creek and could capture overland flow from residential areas. A utility easement is located within the proposed pond site and will need to be relocated when the pond is constructed. P-7.3 will also require acquisition of multiple properties and should be further investigated for proximity to potential wetlands. Pond 7.4 was added to offset the reduction in pond area from P-7.1 and P-7.3. Pond P-7.4 is located on Carmody Hills Road and is situated on three undeveloped parcels. This pond could collect runoff from the surrounding neighbourhood before ultimately discharging back into the Eleven Mile Creek Tributary. A review of the Development Services information found that in 2016 plans for six residential homes were approved by the County on this pond site. However, no development has begun at the time of this report. The aggregate pond area provided by these ponds is slightly less than the 1999 P-7 pond size. Size and position of these ponds within the sub-basin may not provide the capability to capture all discharges accounted for in the 1999 study.

#### **4.8. Location P-8**

The original location for P-8 proposed in the 1999 report lies on Kingsfield Elementary School property in an open field. The existing terrain and the amount of space available should allow for adequate configuration of a pond to meet detention requirements set forth in the 1999 report. A review of the County Developmental Services data found that in an environmental center building was submitted in 2017/2018 for a portion of the site. Additional coordination with the School Board would be required to determine the status of the environmental center and any future development plans for the site. P-8 is situated along the eastern property line but satisfying basin capture set forth in the 1999 report may require impacting two parcels. The shape and location presented in this report is for reference only and could be altered during actual design of the pond.

#### **4.9. Location P-9**

Development of the Bentley Oaks subdivision since the 1999 report has severely limited open area available for regional detention in the original P-9 location. Additionally, recent developments immediately northwest of the intersection of CR297A and W Kingsfield Rd have occupied the remainder of this area. Therefore, placement of a pond near the original P-9 location is no longer a viable option.



#### **4.10. Location P-10**

Pond P-10 is located on an undeveloped parcel south of the Grande Oaks Farms Subdivision and north of the wetlands associated with the tributary of Eleven Mile Creek. The undeveloped parcel appears to have adequate acreage available to match the pond size specified in the 1999 report. However, the existing topography of the land has significant elevation differential. The proposed pond configuration presented in this report will likely require reshaping to integrate the pond into existing terrain and provide original design storage volume. However, avoidance of wetlands may hinder collection of stormwater runoff from basins identified in the 1999 report.

#### **4.11. Location P-11**

Pond P-11 is located on the same undeveloped parcel as P-10. The proposed pond site is situated on the south of the tributary to Eleven Mile Creek adjacent to Tate High School. The proposed pond area is limited due to the proximity of the wetlands and the school. The usable pond acreage available is adequate to match the pond size specified in the 1999 report. However, this area experiences significant elevation differential. The pond configuration presented in this report will likely require reshaping to integrate the pond into existing terrain and may not provide original design storage volume. Also, the proposed location may limit collection of stormwater runoff from basins identified in the 1999 report due to conflicts with apparent wetlands.

#### **4.12. Location P-12**

Pond P-12 was not included in the 1999 report but had been proposed in the 2017 report. This pond is located on a residential parcel and an undeveloped parcel along Stefani Road near Valkyry Way. The pond would impact an existing residential building. P-12 would require some balancing of existing terrain due to the grade difference across the parcel. The pond tie-backs could be used to maximize storage volume and collect overland flow from the north and south, as well as ditch flow from Stefani Road. Property acquisition discussions already held between the County and the property owner as part of the 2017 report. The property owner indicated that they were willing to negotiate sale of the property.

#### **4.13. Location P-13**

Pond P-13 was not part of the 1999 report. This pond was added to the 2017 report. P-13 was an existing County Pond commonly known as the Blue Pit. The pond is located south of West Roberts Road and has been expanded as part of an Escambia County stormwater improvement project. The project relieves flooding near the intersection of West Roberts Road and Crockett Drive with additional conveyance features installed routing runoff south along an existing easement to the Blue Pit.

#### **4.14. Location P-14**

Pond P-14 was not included in the 1999 report but was incorporated into the 2017 report. This part of the County has experienced flooding issues previously and generates runoff that currently enters Eleven Mile Creek untreated. Previous reports recommend improving the crossdrain structure under Klondike Road which currently routes stormwater to the proposed pond site. The 2017 report indicated that the cross drain shall be improved, and a conveyance system be installed within a new drainage easement. The proposed pond is located within transmission powers and most likely would not be allowed by the power



company for a pond site. This pond would provide treatment of the contributing basin, address local flooding issues, and reduce tailwater conditions for upstream areas. The site also provides potential opportunity for wetland restoration. Though not located in the main area of focus near Bristol Park and Ashbury Hills, a pond in this location could benefit all upstream areas through the reduction in tailwater it could provide.

## 5. IMPROVEMENTS PRIORITIZATION

Recommendations and prioritization from the 1999 and 2017 report were considered along with the updated pond locations and input from the County to develop a pond siting matrix for this study. This list should be considered as a recommendation based on available data and would need to be re-evaluated further in the design phase of the entire regional detention effort. This study has identified potential locations for regional detention ponds and provides a summary of parcels that would be affected. Ponds P-3.2, and 13 are currently under design or have been or will be constructed. Ponds P-1.2, 4B, and 5.1 are no longer viable properties. All these ponds were not included in the Pond Siting Matrix.

The 1999 report indicated that construction of all proposed ponds would be required to effectively attenuate 100-year flows and reduce flooding within the basin. While construction of individual ponds would presumably benefit isolated areas within the system, all ponds proposed in this study should be pursued as a holistic approach to address flooding within the basin.

## 6. SCORING CRITERIA

The scoring criteria considers several factors at each individual pond site and assigns a score from 1-5 for each, with a score of 5 being the most favourable and score of 1 being the least favourable. The total scores for each pond were compared to generate a basic ranking of proposed pond sites considering the given parameters. Table 5.1 below shows the decision matrix and point ranking.

Table 5.1 Scoring Criteria

| Eleven Mill Creek Regional Ponds |        |
|----------------------------------|--------|
| Decision Criteria                | Points |
| Property Acquisition Complexity  | 0 - 5  |
| Level of Basin Development       | 0 - 5  |
| Permitting                       | 0 - 5  |
| Constructability                 | 0 - 5  |
| Infrastructure Required          | 0 - 5  |
| Permitting                       | 0 - 5  |

The project criteria and point system is described below:

**A. Property Acquisition Complexity**

Property Acquisition Complexity is the ease or difficulty for the County to obtain the land required for the stormwater pond site. Some factors that could make property acquisition difficult are number of parcels required, and property owner. The criteria for this ranking is as follows:

- 0 – 1 Multiple parcel owners and/or developed. Utility Company owned site.
- 2 – 3 Several parcel owners and/some development.
- 4 – 5 One or two parcel owners or County owned with no or very little development.

**B. Level of Basin Development**

The level of basin development is defined as the development density of the land within the stormwater basin which could be routed to the pond site. The criteria for this ranking is as follows:

- 0 – 1 Undeveloped or low-density drainage basin. 0 to 10% of the area is developed.
- 2 – 3 Medium density drainage basin. 20 to 60% of the area is developed.
- 4 – 5 High residential or commercial density drainage basin. 60 to 100% of the area is developed.

**C. Constructability**

The constructability criteria ranks the ease or difficulty of building the pond facility based on existing topography, adjacent building/structures, and creeks/wetlands.

- 0 – 1 Very difficult to construct the pond facility due to grades, close proximity of structures, or environmental concerns.
- 2 – 3 Slightly difficult to build the pond facility. Speciality equipment or construction sequencing may be required.
- 4 – 5 Not difficult to construct the pond facility. General construction techniques can be used for this project.

**D. Infrastructure Required**

The criteria for the infrastructure required is the ease or difficulty to route runoff to the stormwater pond. Stormwater runoff can be piped, ditched, or sheet flow into the pond. The criteria for this ranking is as follows:

- 0 – 1 Requires numerous inlets and large drain pipes to collect and convey the runoff to the pond.
- 2 – 3 Minor stormwater conveyance system needed to collect and convey the runoff to the pond.
- 4 – 5 Minimal to no stormwater piping required.

**E. Permitting**

Permitting is defined as the ease or difficulty to obtain County, State, and Federal permits allowing for the construction of the stormwater pond. The criteria for this ranking is as follows:

- 0 – 1 Requires permitting with many environmental impacts.
- 2 – 3 Standard permitting required. No major environmental impacts.
- 4 – 5 No permitting required.

**7. RANKINGS**

Table 5.2 denotes the scores associated to each pond site, total score, and ranking. The ranking provided in Table 5.2 is an initial prioritization which should be constantly re-evaluated as changes occur within the basin and County.

Table 5.2 Pond Siting Matrix

| Pond No. | Property Acquisition Complexity | Level of Basin Devel. | Construct-ability | Infrastructure Required | Permitting | Total Score | Ranking |
|----------|---------------------------------|-----------------------|-------------------|-------------------------|------------|-------------|---------|
| P-1.4    | 5                               | 4                     | 4                 | 4                       | 4          | 21          | 1       |
| P-5.1A   | 5                               | 2                     | 4                 | 4                       | 4          | 19          | 2       |
| P-12     | 4                               | 3                     | 4                 | 3                       | 4          | 18          | 3       |
| P-1.2A   | 4                               | 3                     | 4                 | 3                       | 4          | 18          | 4       |
| P-10     | 4                               | 4                     | 2                 | 3                       | 3          | 16          | 5       |
| P-1.1    | 1                               | 3                     | 4                 | 3                       | 4          | 15          | 6       |
| P-8      | 2                               | 2                     | 4                 | 3                       | 4          | 15          | 7       |
| P-11     | 4                               | 3                     | 2                 | 3                       | 3          | 15          | 8       |
| P-7.4    | 2                               | 2                     | 4                 | 3                       | 4          | 15          | 9       |
| P-1.5    | 5                               | 3                     | 4                 | 2                       | 1          | 15          | 9       |
| P-1.3    | 2                               | 3                     | 2                 | 3                       | 4          | 14          | 10      |
| P-3.1    | 2                               | 3                     | 2                 | 3                       | 3          | 13          | 11      |
| P-7.3    | 2                               | 3                     | 3                 | 3                       | 2          | 13          | 12      |
| P-2      | 2                               | 3                     | 2                 | 2                       | 3          | 12          | 13      |
| P-4C     | 3                               | 3                     | 2                 | 2                       | 2          | 12          | 14      |
| P-7.2    | 2                               | 2                     | 3                 | 3                       | 2          | 12          | 15      |
| P-4A     | 2                               | 3                     | 2                 | 2                       | 2          | 11          | 16      |
| P-6      | 2                               | 3                     | 2                 | 2                       | 2          | 11          | 17      |
| P-7.1    | 3                               | 1                     | 3                 | 1                       | 3          | 11          | 18      |
| P-14     | 1                               | 3                     | 2                 | 3                       | 1          | 10          | 19      |

To provide further information for the proposed pond sites, Table 5.3 lists each proposed pond, required parcel area, details on parcels affected and cost opinion data. The values for affected parcels were referenced from the Escambia County Property Appraiser website and represent the land values only since proposed ponds were sited away from structures. A per acre value was calculated to estimate the property acquisition cost when only partial parcels were required. Also, when acquisition affected multiple parcels a weighted per acre land value was calculated and multiplied by the total parcel area required to estimate the property acquisition cost. It should be noted that these property acquisition

estimates only consider land values from the property appraiser website and do not include any other fees associated with property acquisition, such as appraisal costs, legal fees, etc. An opinion of probable cost for construction including design costs was also prepared and included in Appendix B. These figures are based on conceptual design requirements and should be re-evaluated in the actual design phase of the respective ponds. Table 5.3 provides a total cost to include land acquisition and project costs for each proposed pond.

Table 5.3 Pond Site Cost Estimates

| <b>Pond No.</b> | <b>Pond Acreage</b> | <b>No. of Parcels</b> | <b>Estimated Cost of Pond Land</b> | <b>Estimated Construction Cost</b> | <b>Total Cost</b> |
|-----------------|---------------------|-----------------------|------------------------------------|------------------------------------|-------------------|
| <b>P-1.4</b>    | 2.8                 | 2                     | \$0.00                             | \$919,330.40                       | \$919,330.40      |
| <b>P-5.1A</b>   | 18.1                | 2                     | \$199,985.00                       | \$4,121,267.29                     | \$4,321,252.29    |
| <b>P-12</b>     | 14.3                | 2                     | \$199,985.00                       | \$4,121,267.29                     | \$4,321,252.29    |
| <b>P-1.2A</b>   | 2.5                 | 2                     | \$51,967.27                        | \$1,388,301.30                     | \$1,440,268.57    |
| <b>P-10</b>     | 10.7                | 1                     | \$26,036.27                        | \$5,102,886.40                     | \$5,128,922.67    |
| <b>P-1.1</b>    | 5.6                 | 5                     | \$190,524.62                       | \$471,878.17                       | \$4,909,311.79    |
| <b>P-8</b>      | 13.0                | 1                     | \$26,036.27                        | \$5,102,886.40                     | \$5,128,922.67    |
| <b>P-11</b>     | 10.8                | 1                     | \$17,783.51                        | \$4,219,786.27                     | \$4,237,569.78    |
| <b>P-7.4</b>    | 5.7                 | 3                     | \$241,945.00                       | \$2,223,123.05                     | \$2,465,068.05    |
| <b>P-1.5</b>    | 4.0                 | 1                     | \$25,401.83                        | \$1,991,306.36                     | \$2,016,708.19    |
| <b>P-1.3</b>    | 4.1                 | 3                     | \$80,269.07                        | \$1,978,833.48                     | \$2,059,102.55    |
| <b>P-3.1</b>    | 6.0                 | 1                     | \$612.70                           | \$4,372,637.72                     | \$4,373,250.43    |
| <b>P-7.3</b>    | 6.4                 | 4                     | \$96,065.34                        | \$4,157,400.07                     | \$4,253,465.41    |
| <b>P-2</b>      | 6.0                 | 1                     | \$612.70                           | \$4,383,214.50                     | \$4,383,827.20    |
| <b>P-4C</b>     | 13.3                | 7                     | \$109,427.17                       | \$5,147,212.90                     | \$5,256,640.07    |
| <b>P-7.2</b>    | 4.0                 | 2                     | \$56,565.81                        | \$1,496,433.44                     | \$1,552,999.25    |
| <b>P-4A</b>     | 5.2                 | 3                     | \$29,501.19                        | \$1,258,113.61                     | \$1,287,614.80    |
| <b>P-6</b>      | 20.0                | 1                     | \$2,042.34                         | \$9,854,614.49                     | \$9,856,656.83    |
| <b>P-7.1</b>    | 3.1                 | 1                     | \$69,875.01                        | \$1,772,492.83                     | \$1,842,367.84    |
| <b>P-14</b>     | 12.9                | 2                     | \$36,784.93                        | \$4,083,089.03                     | \$4,119,873.96    |

## 8. CONCLUSIONS AND RECOMMENDATIONS

This report has reviewed multiple resources in efforts to confirm pond siting locations identified in the 1999 Eleven Mile Creek Stormwater report and the 2017 Due Diligence report. New pond locations were evaluated if land use has changed since these reports. Original pond locations were compared to aerial imagery to evaluate extents of new development in relation to the pond locations. Also, aerial imagery was used to estimate open area available for pond construction that would have minimal impact on existing structures and wetlands. Since the previous reports, Pond P-1.2, 5.1 and 9 locations have been developed to the extent that a pond in this location is no longer feasible. Pond P-4B was removed due to County concerns. Alternative Pond Site 1.2A, 4C and 5.1A were developed as an optional location as part of this report. Ponds 1.4, 3.2 and 13 are currently in design or construction. Most of the remaining proposed locations still provide valid area for regional detention. The constraint of avoiding existing

structures and wetlands limited available pond area in some locations, resulting in multiple ponds in some cases or regional detention acreages smaller than previous reports. A prioritization matrix has been provided, but regional detention efforts should aim to achieve complete build out of all ponds meeting design requirements to provide attenuation of the 100-year flows within the basin. Availability of funds and the potential of securing necessary properties for pond siting will likely govern the selection and construction of ponds proposed and re-evaluated in this study.



## **APPENDIX A**

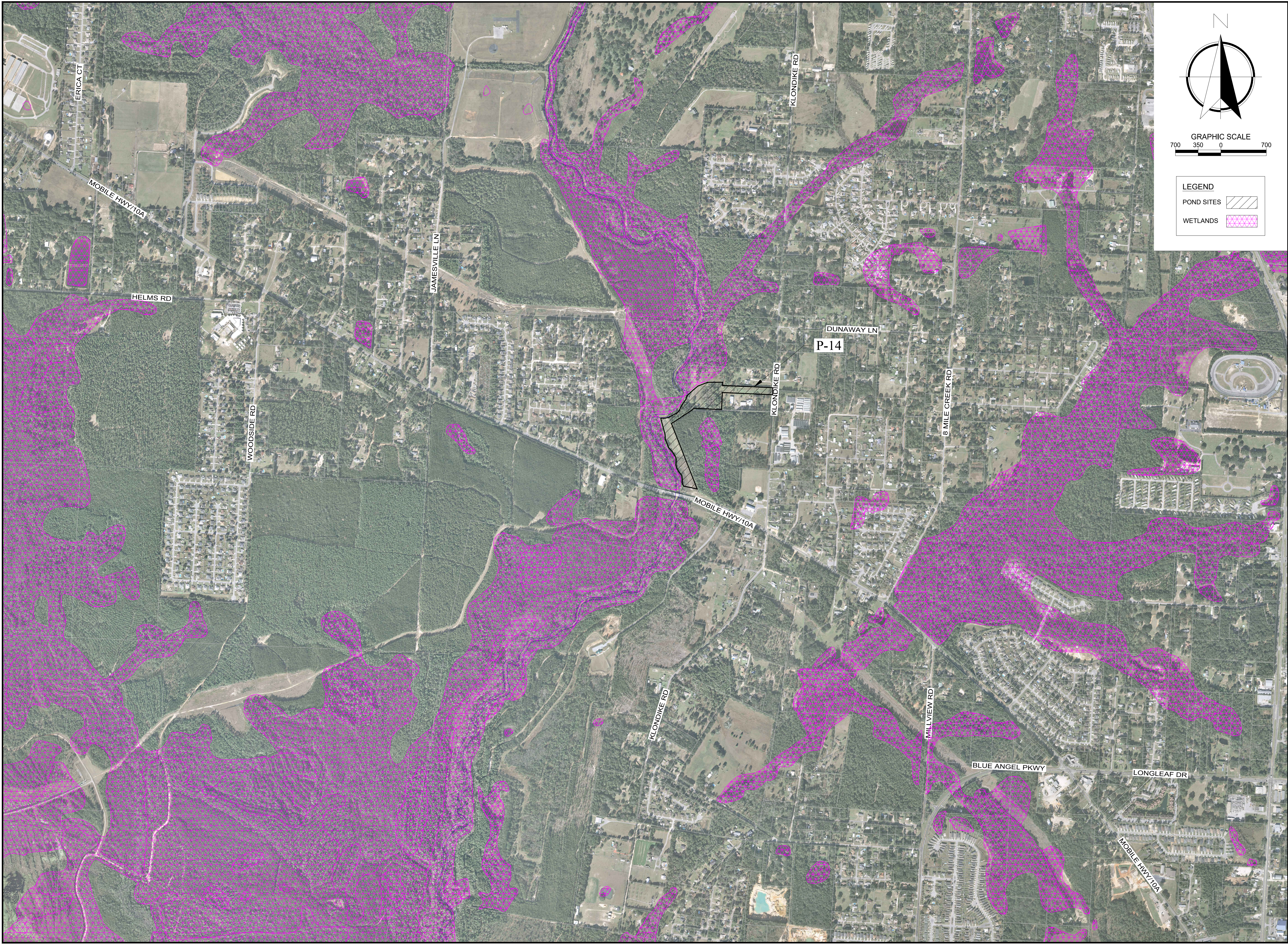
### **PROPOSED POND LOCATION MAPS**







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Plot File Name:



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| JUNE 2023 | J. POWELL |                      |
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SHEET TITLE:  
PROPOSED  
POND  
LOCATION MAP  
AREA 2

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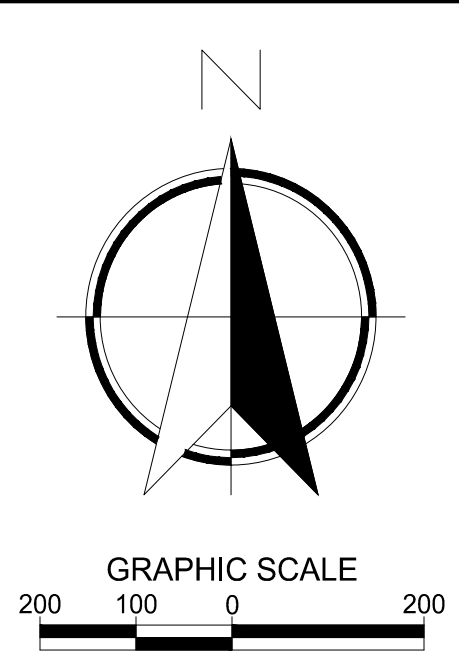
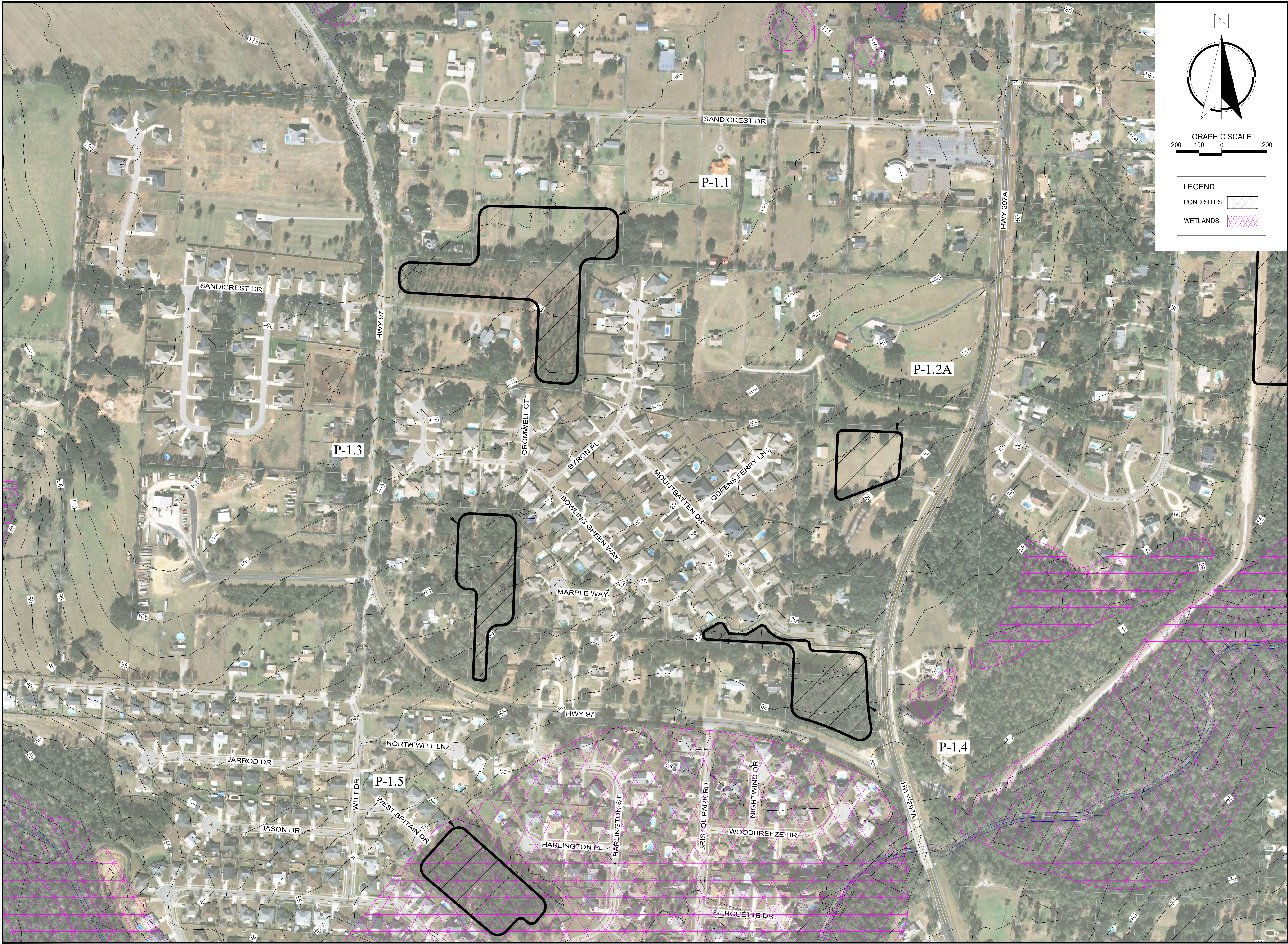
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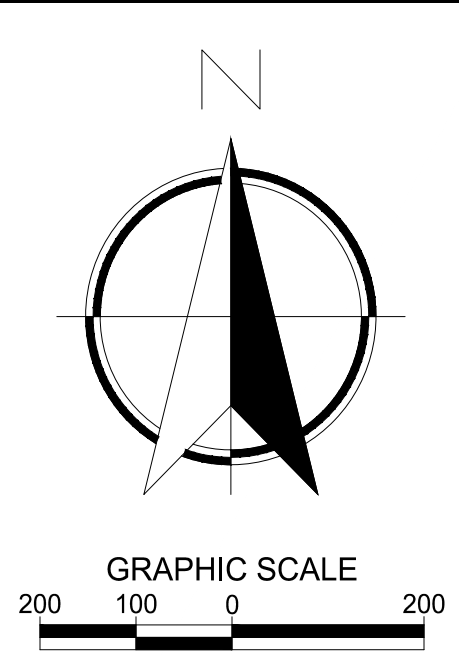
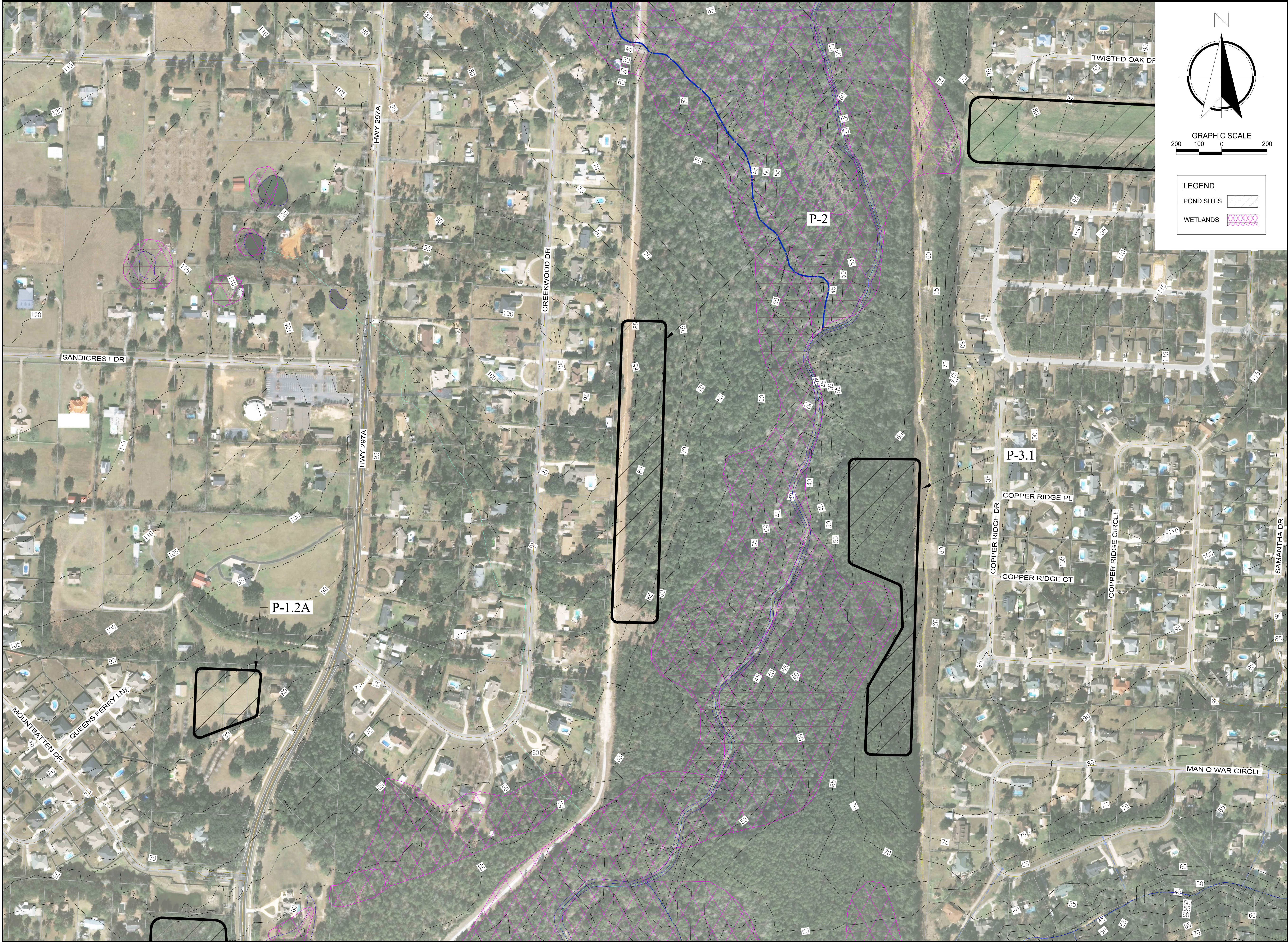
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SITE P-1

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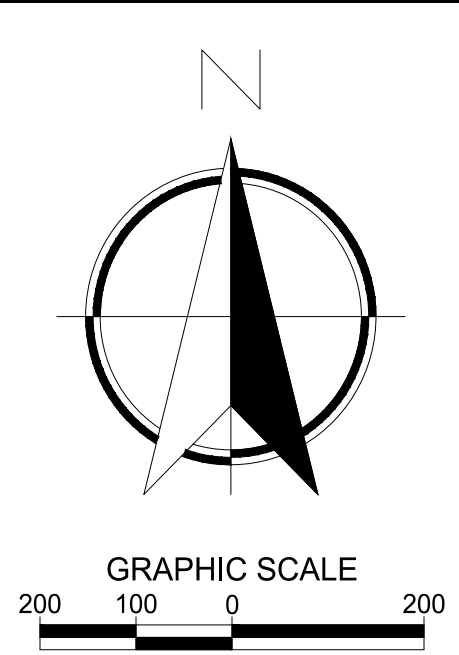
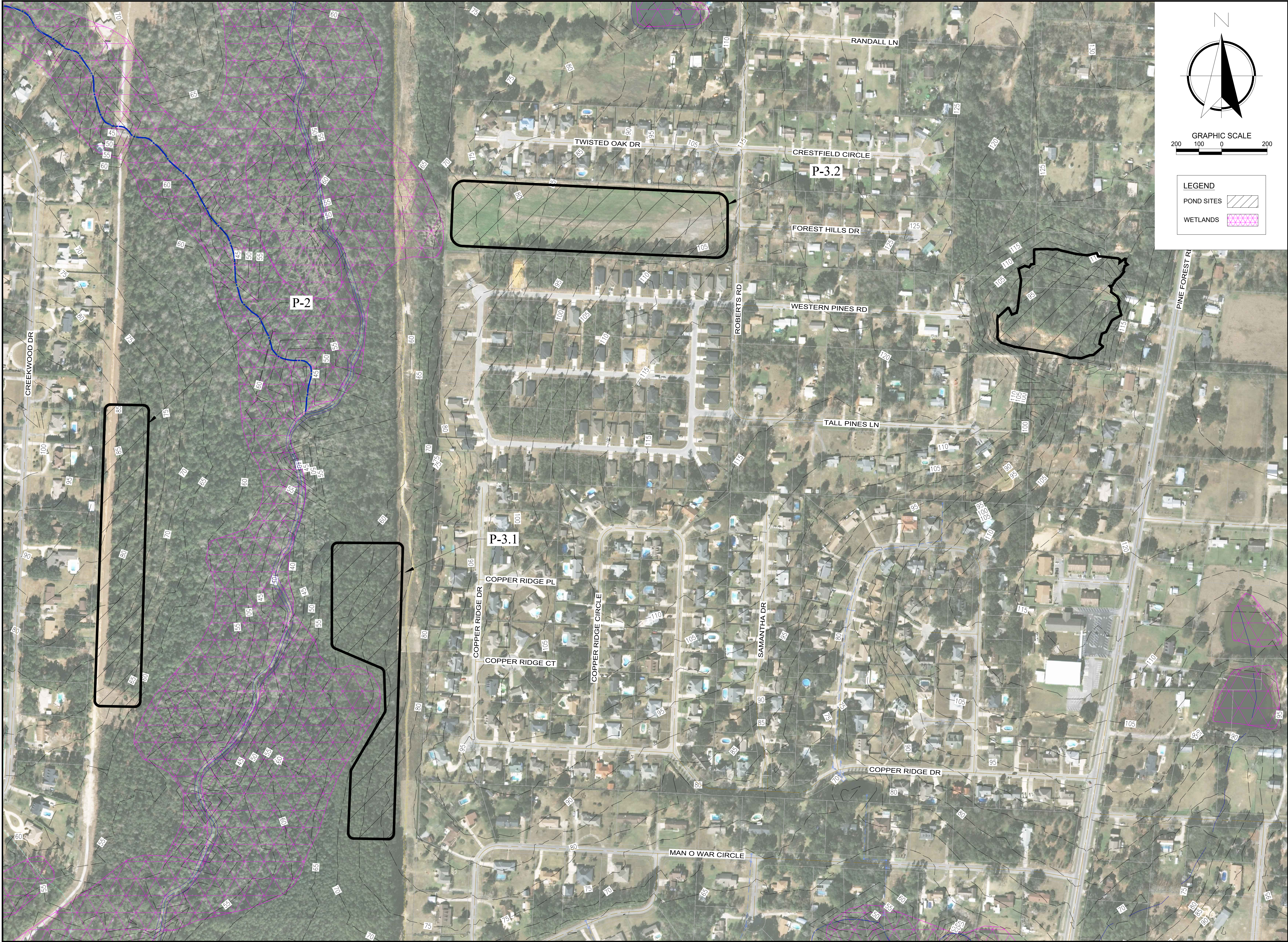
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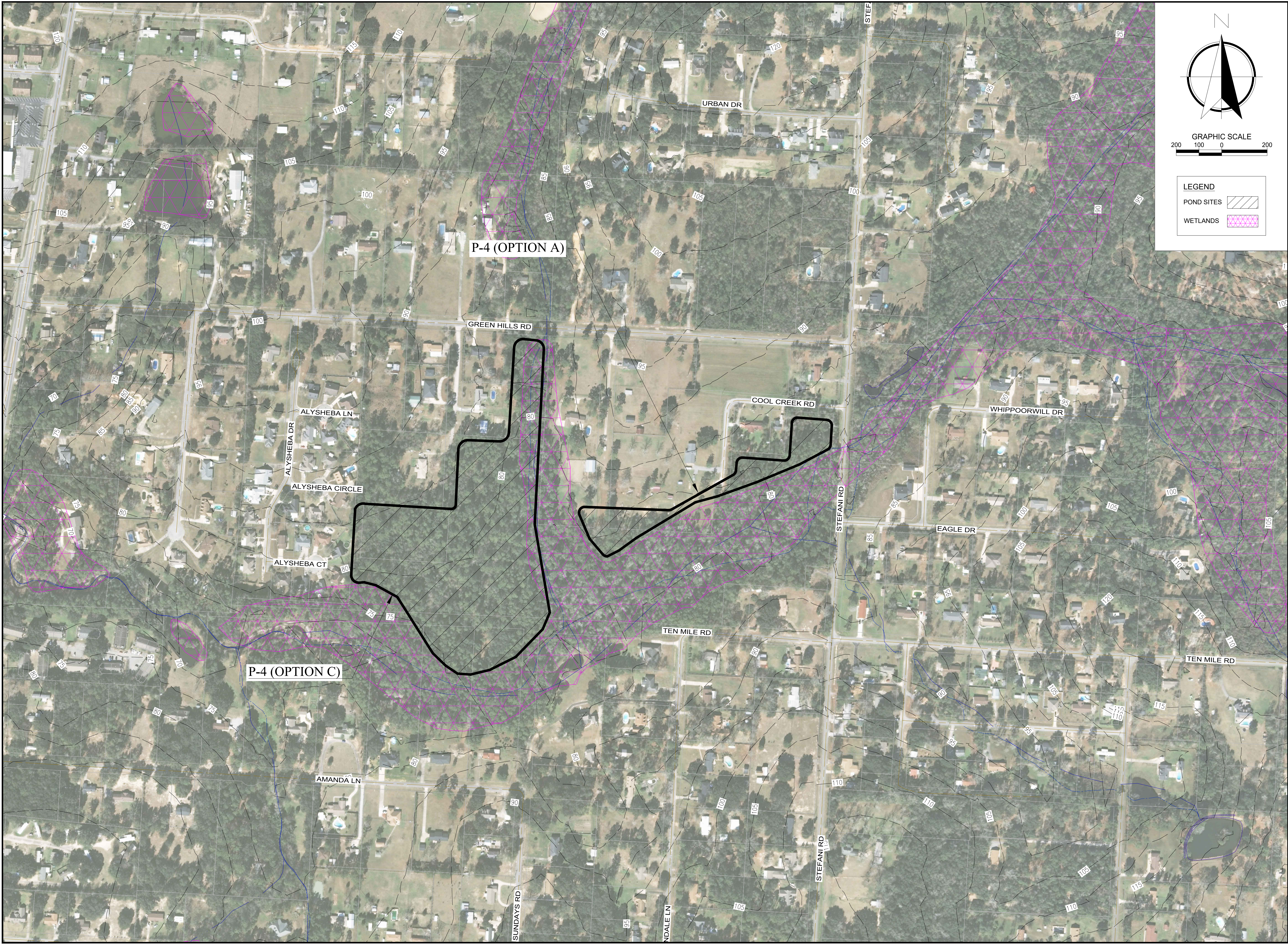
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SITE P-4

SHEET NUMBER:  
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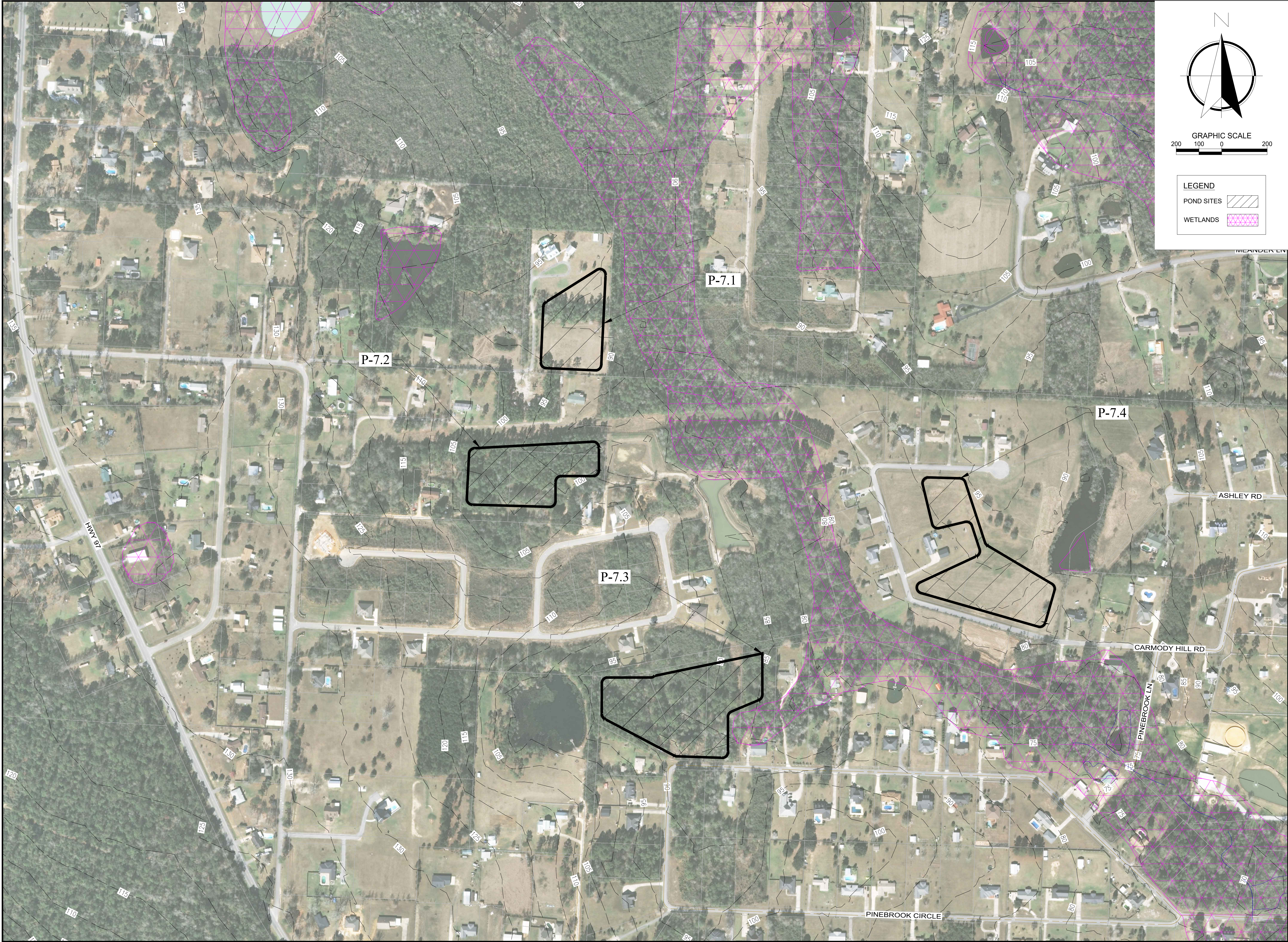


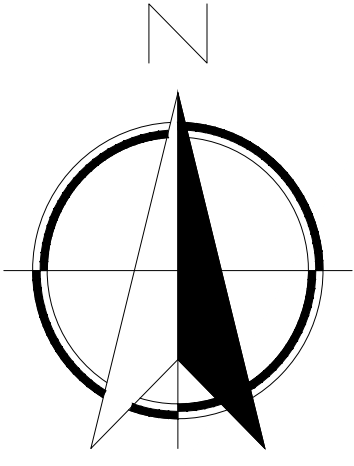








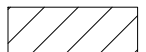




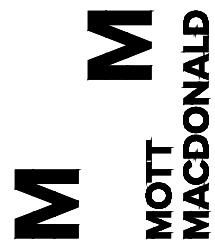
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PROJECT MANAGER: K. MORGAN

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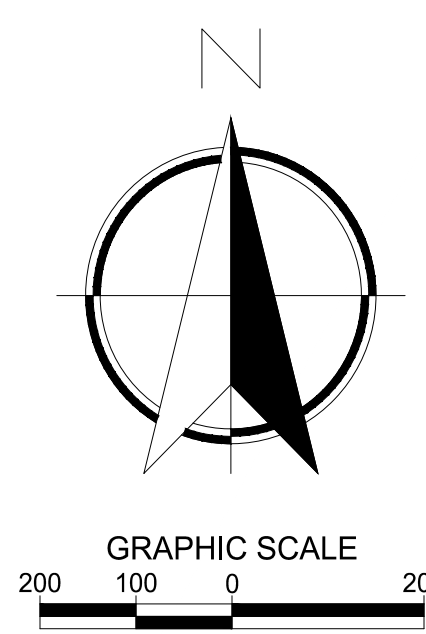
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LOCATION MAP

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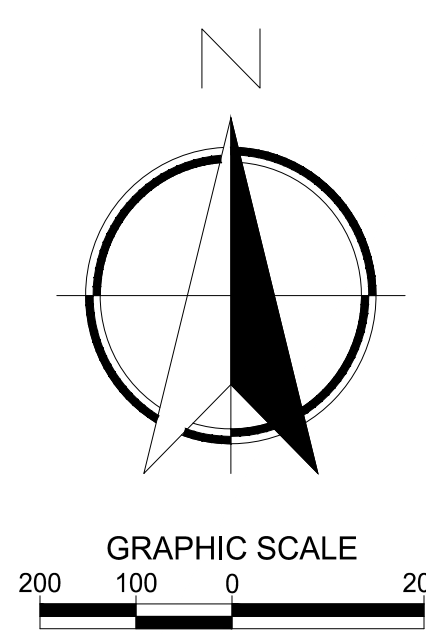
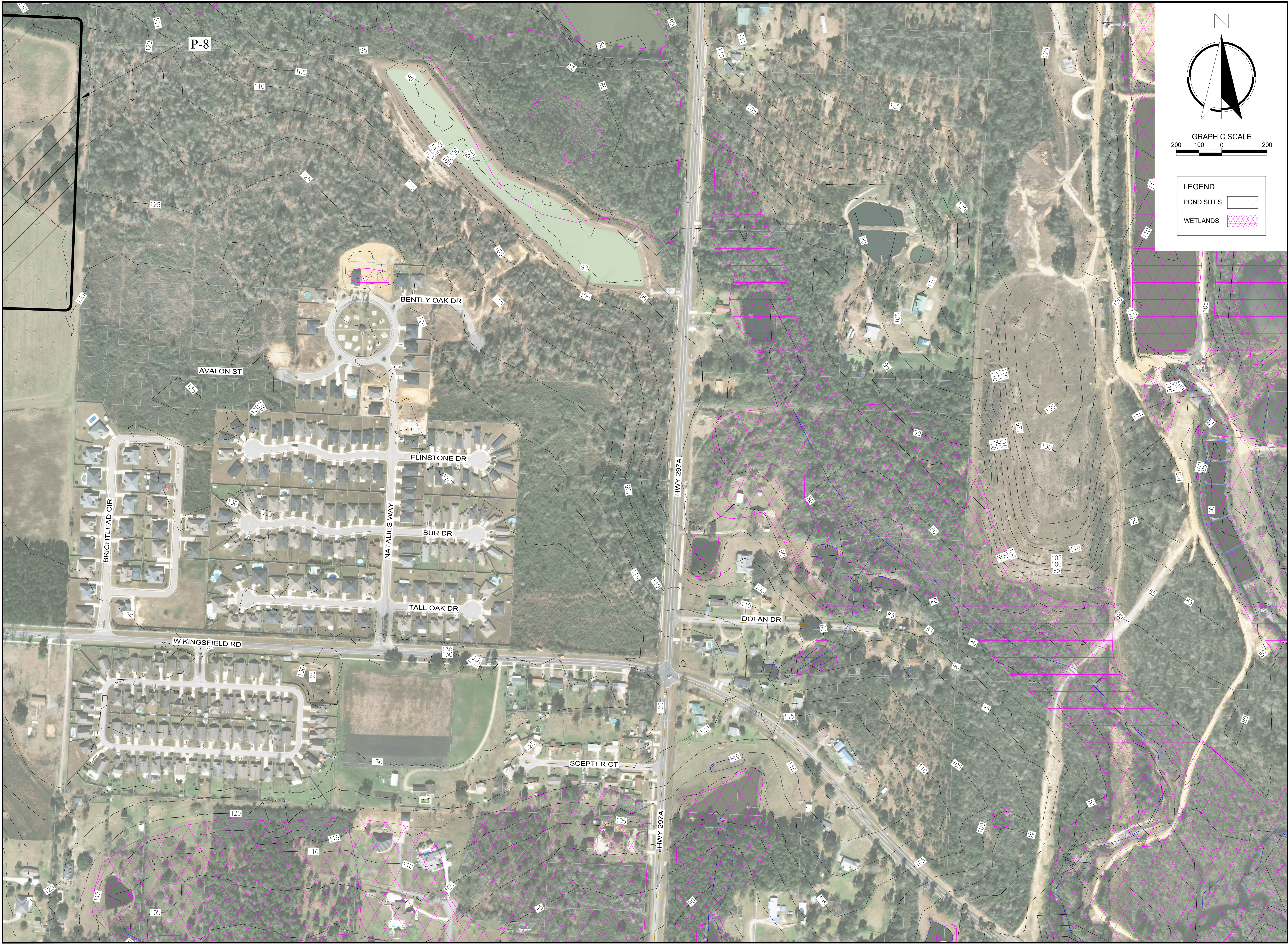
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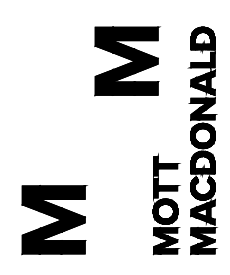




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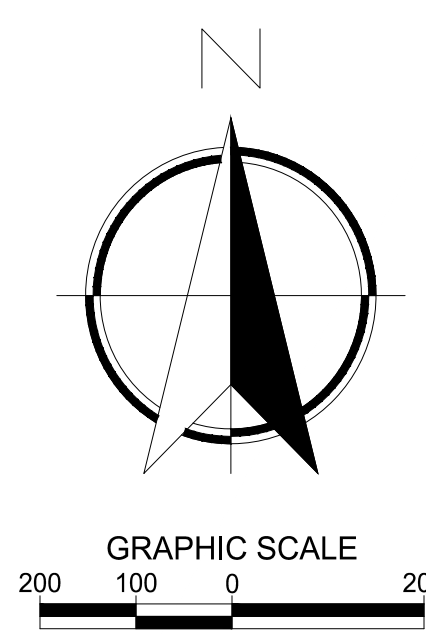
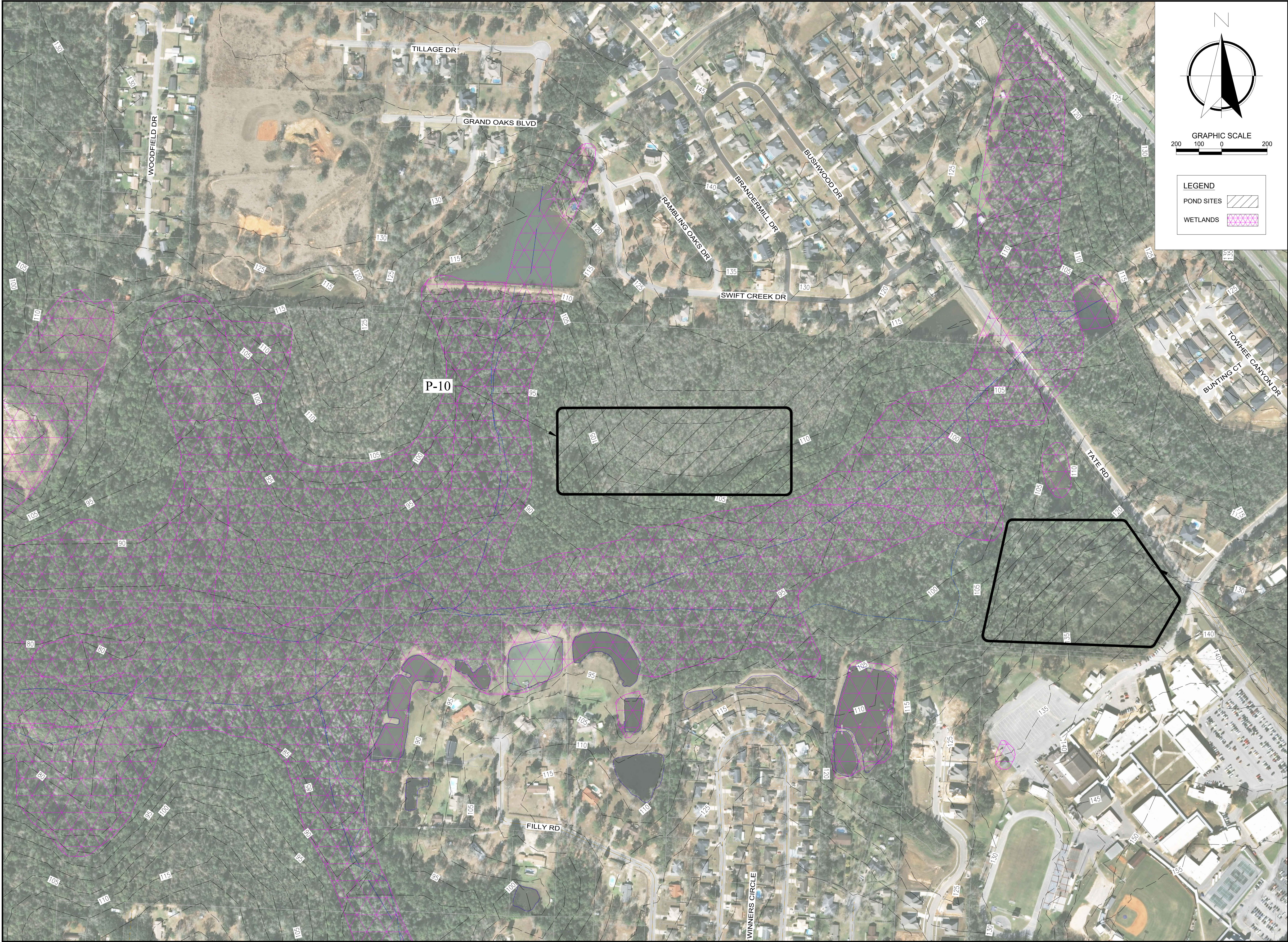
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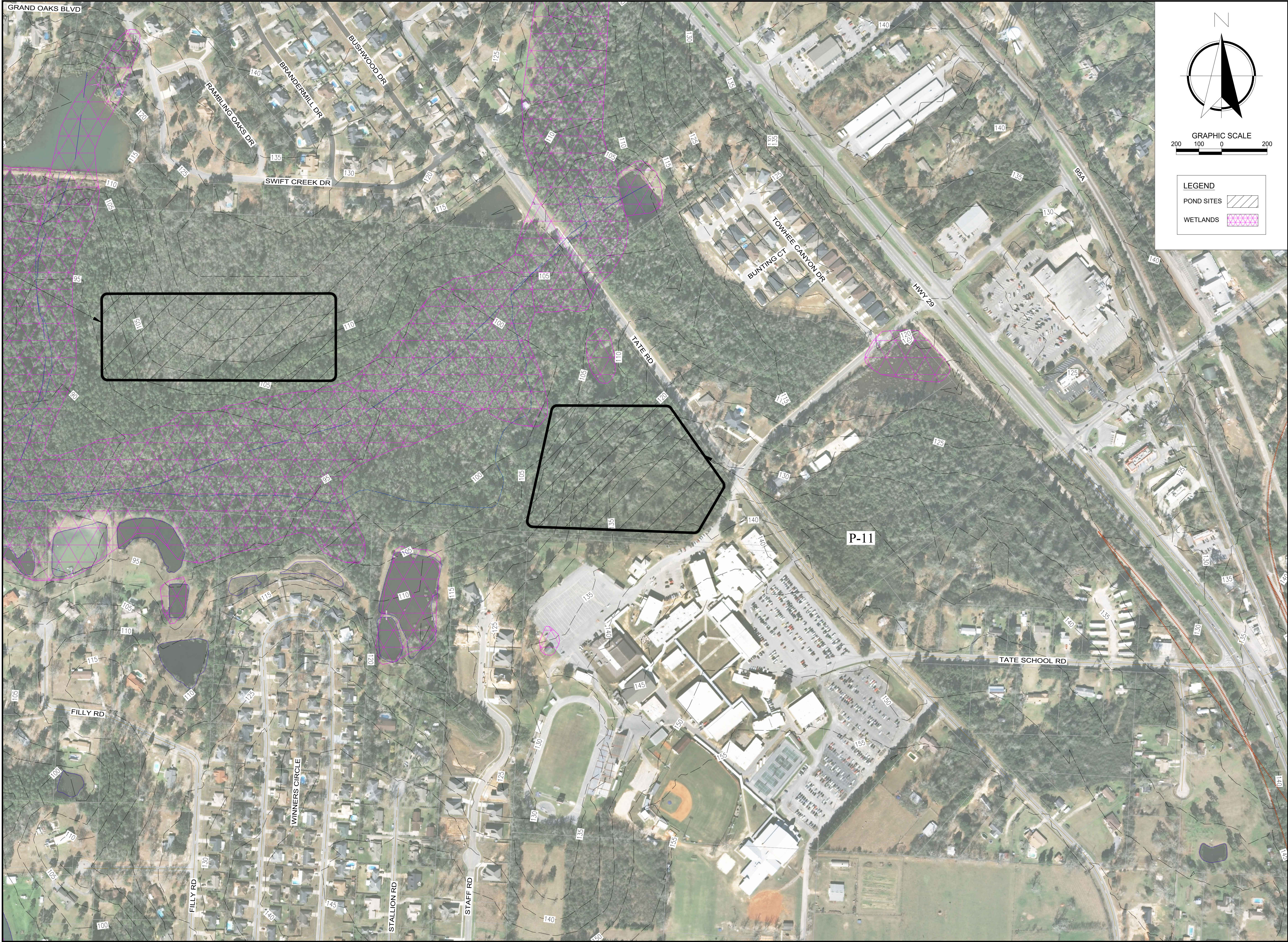
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PROJECT MANAGER: K. MORGAN  
M.M. PROJECT NUMBER: 502101118

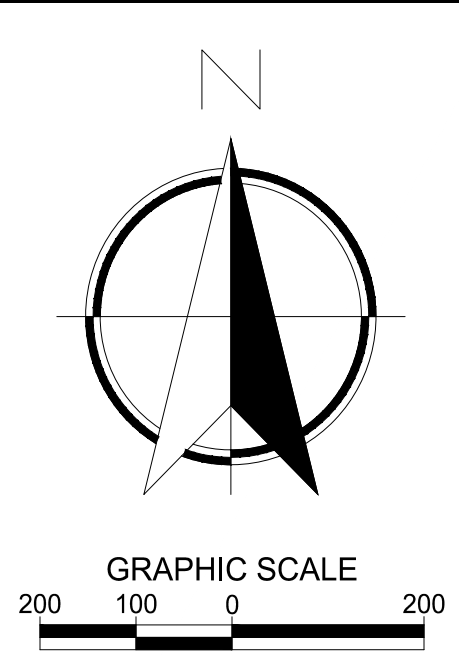
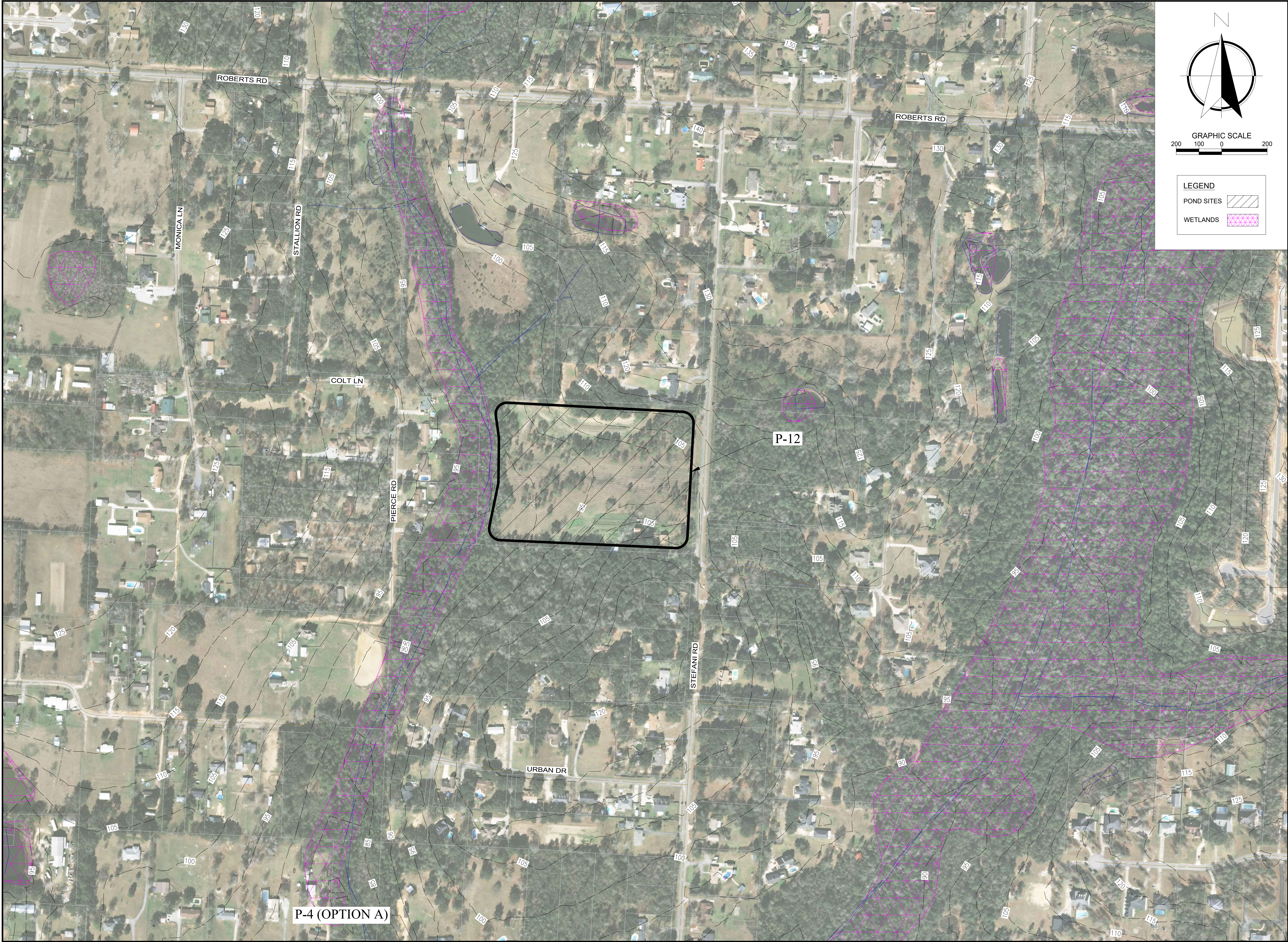
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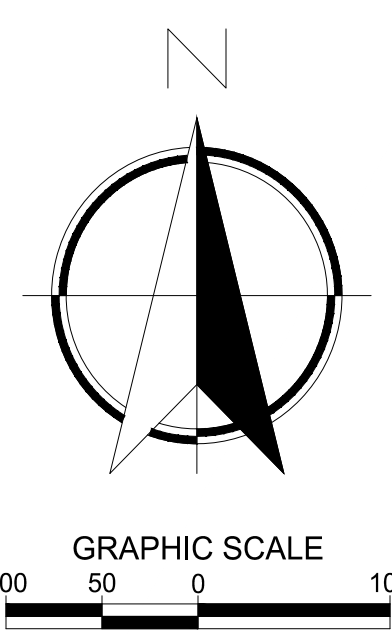
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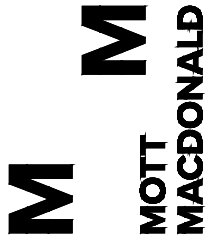




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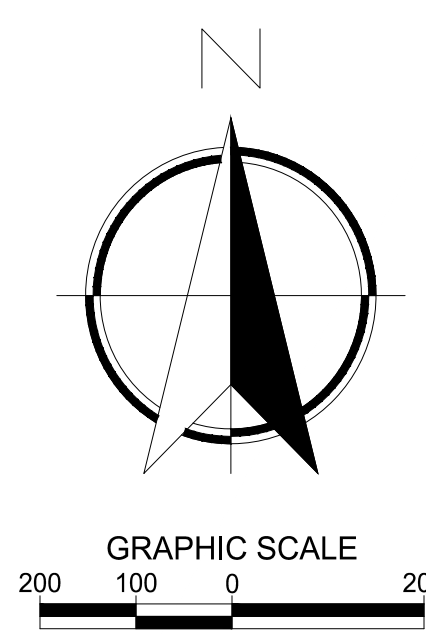
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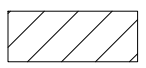
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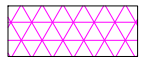
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| DATE:                | JUNE 2023 |
| DESIGNED BY:         | J. POWELL |
| DRAWN BY:            | J. POWELL |
| PROJECT ENGINEER:    | K. MORGAN |
| PROJECT MANAGER:     | K. MORGAN |
| M.M. PROJECT NUMBER: | 502101118 |

THIS DRAWING IS  
NOT FOR  
CONSTRUCTION

SHEET TITLE:  
PROPOSED  
POND  
LOCATION MAP

SITE P-14

SHEET NUMBER:  
**EXHIBIT**

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**APPENDIX B**  
**OPINIONS OF PROBABLE COST**



| Eleven Mile Creek Regional Pond Property Acquisition Plan<br>Opinion of Probable Construction Costs<br>June 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                       |          |       |                 |               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------|-------|-----------------|---------------|
| MM Project No. 502101118                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                       |          |       |                 |               |
| Basis: Property Acquisition Plan Concept - Pond P-1.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                       |          |       |                 |               |
| Item No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Description                                                                                           | Quantity | Unit  | Unit Price      | Amount        |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Mobilization @ 5% (of subtotal not including mobilization)                                            | 1        | LS    | \$ 26,387.35    | \$ 26,387.35  |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | NPDES, NOI, and NOT (including SWPPP and monitoring), for use only with disturbed areas over 1.0 acre | 1        | LS    | \$ 2,767.08     | \$ 2,767.08   |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Maintenance of Traffic                                                                                | 1        | LS    | \$ 17,898.34    | \$ 17,898.34  |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Clearing and Grubbing, per County Specifications 2230                                                 | 1        | LS    | \$ 48,629.07    | \$ 48,629.07  |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Dewatering                                                                                            | 1        | LS    | \$ 39,995.94    | \$ 39,995.94  |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Construct Stabilized Construction Entrance                                                            | 93       | SY    | \$ 18.05        | \$ 1,678.65   |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Silt Fence Type III                                                                                   | 766      | LF    | \$ 4.28         | \$ 3,278.48   |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | BSRF Priority 2 Silt Fence                                                                            | 455      | LF    | \$ 12.94        | \$ 5,887.70   |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Earthwork Excavation By Machine (including haul off and disposal)                                     | 5,470    | CY    | \$ 19.54        | \$ 106,883.80 |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Earthwork Excavate, Haul and Place On-Site                                                            | 690      | CY    | \$ 8.99         | \$ 6,203.10   |
| 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Earthwork Establishing Grade, County Specs 2300                                                       | 9,201    | SY    | \$ 2.37         | \$ 21,806.37  |
| 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Borrow for Clay Core for Pond Berm                                                                    | 2,530    | 32.33 | \$ 23.34        | \$ 59,050.20  |
| 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Pond Bottom Filter Sand                                                                               | 245      | CY    | \$ 22.95        | \$ 5,622.75   |
| 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Remove and Replace Unsuitable Materials                                                               | 500      | CY    | \$ 24.87        | \$ 12,435.00  |
| 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Grade Pond Slopes                                                                                     | 5,120    | SY    | \$ 2.05         | \$ 10,496.00  |
| 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | FDOT Type D Inlet, <10' (S-1)                                                                         | 1        | EA    | \$ 8,869.10     | \$ 8,869.10   |
| 17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | FDOT Mitered End Section (18") (MES-1)                                                                | 1        | EA    | \$ 2,742.73     | \$ 2,742.73   |
| 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 6" Perf. ADS N-12 with sock                                                                           | 758      | LF    | \$ 21.76        | \$ 16,494.08  |
| 19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 12" ADS N-12 WT                                                                                       | 67       | LF    | \$ 30.84        | \$ 2,066.28   |
| 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 18" RCP, 0'-6' bury                                                                                   | 118      | LF    | \$ 184.46       | \$ 21,766.28  |
| 21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 6" Clean-outs                                                                                         | 15       | EA    | \$ 669.23       | \$ 10,038.45  |
| 22                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Install Wood Trash Rack/Skimmer at Outfall                                                            | 1        | EA    | \$ 1,775.83     | \$ 1,775.83   |
| 23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 12" Stabilized Subgrade, County Spec 2300, over 1000sy                                                | 2,360    | SY    | \$ 21.37        | \$ 50,433.20  |
| 24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | FDOT Type Reinforced Concrete Ditch Paving w/ Weep Holes,FDOT Index 524-001 Min 3.5" thick            | 23       | SY    | \$ 134.63       | \$ 3,096.49   |
| 25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Miscellaneous Concrete                                                                                | 20       | CY    | \$ 514.62       | \$ 10,292.40  |
| 26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Remove and Replace Damaged 24" Mitered End Section                                                    | 1        | EA    | \$ 4,532.04     | \$ 4,532.04   |
| 27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 6' Chain Link Fence                                                                                   | 419      | LF    | \$ 31.58        | \$ 13,232.02  |
| 28                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 6' Wood Privacy Fence                                                                                 | 122      | LF    | \$ 32.72        | \$ 3,991.84   |
| 29                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Remove and Reinstall Rip Rap Rubble                                                                   | 60       | SY    | \$ 142.95       | \$ 8,577.00   |
| 30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Pond Access Ramp, 5" GAB w/ Fabric, LDC 4.04.13.A                                                     | 130      | SY    | \$ 22.70        | \$ 2,951.00   |
| 31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Argentine Bahia Sod, Staked                                                                           | 5,120    | SY    | \$ 2.89         | \$ 14,796.80  |
| 32                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Argentine Bahia, Seeding and Mulch (70lb Per Acre)                                                    | 60       | LB    | \$ 157.65       | \$ 9,459.00   |
| Mott MacDonald does not guarantee that proposals, bids, or actual costs will not vary from its opinions of cost. Mott MacDonald does not control the cost of labor, materials, equipment or services furnished by others, methods of determining prices, or competitive bidding or market conditions. Therefore any opinions rendered as to costs, including but not limited to opinions as to the costs of construction and materials, shall be made on the basis of Mott MacDonald's experience and only represents Mott MacDonald's opinion as an experienced and qualified professional, familiar with the industry. |                                                                                                       |          |       | Sub-total       | \$554,134.37  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |          |       | 40% Contingency | \$221,653.75  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |          |       | Project Total   | \$775,788.12  |

| <div>Eleven Mile Creek Regional Pond Property Acquisition Plan</div> <div>Opinion of Probable Construction Costs</div> <div>June 2023</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                      |          |      |                            |                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|----------|------|----------------------------|----------------|
| MM Project No. 502101118                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                      |          |      |                            |                |
| Basis: Property Acquisition Plan Concept - Pond P-1.4 - Additive Alternate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                      |          |      |                            |                |
| Item No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Description                                                          | Quantity | Unit | Unit Price                 | Amount         |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Pond Bottom Filter Sand                                              | 160      | CY   | \$ 22.95                   | \$ 3,672.00    |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30 Mil PVC Liner                                                     | 580      | SY   | \$ 22.50                   | \$ 13,050.00   |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Bold and Gold CTS Perviou Filter Media                               | 160      | CY   | \$ 422.06                  | \$ 67,529.60   |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Filter Fabric                                                        | 541      | SY   | \$ 5.45                    | \$ 2,948.45    |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | #57 Stone                                                            | 193      | CY   | \$ 72.26                   | \$ 13,946.18   |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 6" Perf. ADS N-12 with Filter Sock                                   | 1080     | LF   | \$ 21.76                   | \$ 23,500.80   |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 12" ADS N-12WT                                                       | 67       | LF   | \$ 30.84                   | \$ 2,066.28    |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Deduct Standard Pond Bottom Filter Sand                              | -245     | CY   | \$ 22.95                   | \$ (5,622.75)  |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Deduct Standard Pond Bottom Filter 6" Per. ADS N-12 with Filter Sock | -758     | LF   | \$ 21.76                   | \$ (16,494.08) |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Deduct Standard Pond Bottom Filter 12 ADS N-12WT                     | -67      | LF   | \$ 30.84                   | \$ (2,066.28)  |
| Mott MacDonald does not guarantee that proposals, bids, or actual costs will not vary from its opinions of cost. Mott MacDonald does not control the cost of labor, materials, equipment or services furnished by others, methods of determining prices, or competitive bidding or market conditions. Therefore any opinions rendered as to costs, including but not limited to opinions as to the costs of construction and materials, shall be made on the basis of Mott MacDonald's experience and only represents Mott MacDonald's opinion as an experienced and qualified professional, familiar with the industry. |                                                                      |          |      | Sub-total                  | \$102,530.20   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                      |          |      | 40% Contingency            | \$41,012.08    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                      |          |      | Additive alternate 1 Total | \$143,542.28   |



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P-1.1

| Item No.                                                | Description                              | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|------------------------------------------|----------|------|---------------|------------------------|
|                                                         |                                          |          |      |               |                        |
|                                                         |                                          |          |      |               |                        |
|                                                         |                                          |          |      |               |                        |
| 1                                                       | Mobilization @10%                        | 1        | EA   | \$ 299,986.47 | \$ 299,986.47          |
| 2                                                       | Demolition                               | 1        | LS   | \$ 15,000.00  | \$ 15,000.00           |
| 3                                                       | Clearing and Grubbing                    | 10       | AC   | \$ 26,597.91  | \$ 257,999.73          |
| 4                                                       | Sodding                                  | 38,300   | SY   | \$ 4.50       | \$ 172,350.00          |
| 5                                                       | Seeding                                  | 8,456    | SY   | \$ 2.93       | \$ 24,776.08           |
| 6                                                       | Excavation Regular                       | 143,851  | CY   | \$ 10.62      | \$ 1,527,697.62        |
| 7                                                       | 24" Class III RCP                        | 4,600    | LF   | \$ 154.92     | \$ 712,632.00          |
| 8                                                       | 24" U-type Endwall with Baffle           | 1        | EA   | \$ 4,240.00   | \$ 4,240.00            |
| 9                                                       | FDOT Type D Ditch Bottom Inlet           | 1        | EA   | \$ 7,442.14   | \$ 7,442.14            |
| 10                                                      | Manhole FDOT 4' Dia. Type P Bottom, <10' | 15       | EA   | \$ 7,842.77   | \$ 117,641.55          |
| 11                                                      | Cut and Patch Asphalt Roadway (2)        | 25       | SY   | \$ 74.25      | \$ 1,856.25            |
| 12                                                      | Sediment Barrier                         | 8,200    | LF   | \$ 2.39       | \$ 19,598.00           |
| 13                                                      | 6' Chain Link Fence Type B               | 3,600    | LF   | \$ 38.02      | \$ 136,872.00          |
| 14                                                      | 12" Double Swing Gate                    | 1        | EA   | \$ 1,759.33   | \$ 1,759.33            |
|                                                         |                                          |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                          |          |      |               | <b>\$ 3,299,851.17</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                          |          |      |               | <b>\$ 329,985.12</b>   |
| <b>Total Project Cost</b>                               |                                          |          |      |               | <b>\$ 3,629,836.28</b> |
| <b>30% Contingency</b>                                  |                                          |          |      |               | <b>\$ 1,088,950.89</b> |
| <b>Total Estimated Costs:</b>                           |                                          |          |      |               | <b>\$ 4,718,787.17</b> |

Notes:

- 1 Unit costs from Items 3-10 and 12-14 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P-1.2A

| Item No.                                                | Description                              | Quantity | Unit | Unit Price   | Amount                 |
|---------------------------------------------------------|------------------------------------------|----------|------|--------------|------------------------|
|                                                         |                                          |          |      |              |                        |
|                                                         |                                          |          |      |              |                        |
|                                                         |                                          |          |      |              |                        |
| 1                                                       | Mobilization @10%                        | 1        | EA   | \$ 86,296.90 | \$ 86,296.90           |
| 2                                                       | Demolition                               | 1        | LS   | \$ 15,000.00 | \$ 15,000.00           |
| 3                                                       | Clearing and Grubbing                    | 2.55     | AC   | \$ 26,597.91 | \$ 67,824.67           |
| 4                                                       | Sodding                                  | 7,734    | SY   | \$ 4.50      | \$ 34,802.05           |
| 5                                                       | Seeding                                  | 4,597    | SY   | \$ 2.93      | \$ 13,469.86           |
| 6                                                       | Excavation Regular                       | 48,456   | CY   | \$ 10.62     | \$ 514,602.72          |
| 7                                                       | 24" Class III RCP                        | 785      | LF   | \$ 154.92    | \$ 121,612.20          |
| 8                                                       | 24" MES                                  | 2        | EA   | \$ 3,938.81  | \$ 7,877.62            |
| 9                                                       | FDOT Type D Ditch Bottom Inlet           | 1        | EA   | \$ 7,442.14  | \$ 7,442.14            |
| 10                                                      | Manhole FDOT 4' Dia. Type P Bottom, <10' | 3        | EA   | \$ 7,842.77  | \$ 23,528.31           |
| 11                                                      | Sediment Barrier                         | 2,035    | LF   | \$ 2.39      | \$ 4,863.65            |
| 12                                                      | 6' Chain Link Fence                      | 1,320    | LF   | \$ 38.02     | \$ 50,186.40           |
| 13                                                      | 12" Double Swing Gate                    | 1        | EA   | \$ 1,759.33  | \$ 1,759.33            |
|                                                         |                                          |          |      |              |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                          |          |      |              | <b>\$ 949,265.85</b>   |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                          |          |      |              | <b>\$ 118,658.23</b>   |
| <b>Total Project Cost</b>                               |                                          |          |      |              | <b>\$ 1,067,924.08</b> |
| <b>30% Contingency</b>                                  |                                          |          |      |              | <b>\$ 320,377.22</b>   |
| <b>Total Estimated Costs:</b>                           |                                          |          |      |              | <b>\$ 1,388,301.30</b> |

Notes:

- Unit costs from Items 3-13 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P-1.3

| Item No.                                                | Description                              | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|------------------------------------------|----------|------|---------------|------------------------|
|                                                         |                                          |          |      |               |                        |
|                                                         |                                          |          |      |               |                        |
|                                                         |                                          |          |      |               |                        |
| 1                                                       | Mobilization @10%                        | 1        | EA   | \$ 123,004.41 | \$ 123,004.41          |
| 2                                                       | Clearing and Grubbing                    | 4        | AC   | \$ 26,597.91  | \$ 106,391.64          |
| 3                                                       | Sodding                                  | 14,582   | SY   | \$ 4.50       | \$ 65,619.00           |
| 4                                                       | Seeding                                  | 4,780    | SY   | \$ 2.93       | \$ 14,005.40           |
| 5                                                       | Excavation Regular                       | 48,510   | CY   | \$ 10.62      | \$ 515,176.20          |
| 6                                                       | 24" Class III RCP                        | 2,250    | LF   | \$ 154.92     | \$ 348,570.00          |
| 7                                                       | 24" U-type Endwall with Baffle           | 1        | EA   | \$ 4,240.00   | \$ 4,240.00            |
| 8                                                       | FDOT Type D Ditch Bottom Inlet           | 1        | EA   | \$ 7,442.14   | \$ 7,442.14            |
| 9                                                       | Manhole FDOT 4' Dia. Type P Bottom, <10' | 8        | EA   | \$ 7,842.77   | \$ 62,742.16           |
| 10                                                      | Cut and Patch Asphalt Roadway (2)        | 25       | SY   | \$ 74.25      | \$ 1,856.25            |
| 11                                                      | Sediment Barrier                         | 4,600    | LF   | \$ 2.39       | \$ 10,994.00           |
| 12                                                      | 6' Chain Link Fence                      | 2,400    | LF   | \$ 38.02      | \$ 91,248.00           |
| 13                                                      | 12" Double Swing Gate                    | 1        | EA   | \$ 1,759.33   | \$ 1,759.33            |
|                                                         |                                          |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                          |          |      |               | <b>\$ 1,353,048.53</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                          |          |      |               | <b>\$ 169,131.07</b>   |
| <b>Total Project Cost</b>                               |                                          |          |      |               | <b>\$ 1,522,179.60</b> |
| <b>30% Contingency</b>                                  |                                          |          |      |               | <b>\$ 456,653.88</b>   |
| <b>Total Estimated Costs:</b>                           |                                          |          |      |               | <b>\$ 1,978,833.48</b> |

Notes:

- 1 Unit costs from Items 2-9 and 11-13 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P-2

| Item No.                                                | Description                        | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|------------------------------------|----------|------|---------------|------------------------|
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
| 1                                                       | Mobilization @ 10%                 | 1        | EA   | \$ 272,460.89 | \$ 272,460.89          |
| 2                                                       | Clearing and Grubbing              | 10       | AC   | \$ 26,597.91  | \$ 257,999.73          |
| 3                                                       | Sodding                            | 43,560   | SY   | \$ 4.50       | \$ 196,020.00          |
| 4                                                       | Seeding                            | 5,600    | SY   | \$ 2.93       | \$ 16,408.00           |
| 5                                                       | Excavation Regular                 | 145,000  | CY   | \$ 10.62      | \$ 1,539,900.00        |
| 6                                                       | Embankment                         | 30,000   | CY   | \$ 15.40      | \$ 462,000.00          |
| 7                                                       | 24" Class III RCP                  | 600      | LF   | \$ 154.92     | \$ 92,952.00           |
| 8                                                       | 24" U-type Endwall with Baffle (2) | 1        | EA   | \$ 4,240.00   | \$ 4,240.00            |
| 9                                                       | FDOT Type D Ditch Bottom Inlet     | 1        | EA   | \$ 7,442.14   | \$ 7,442.14            |
| 10                                                      | Sediment Barrier                   | 2,300    | LF   | \$ 2.39       | \$ 5,497.00            |
| 11                                                      | 6' Chain Link Fence                | 3,600    | LF   | \$ 38.02      | \$ 136,872.00          |
| 12                                                      | 12" Double Swing Gate              | 3        | EA   | \$ 1,759.33   | \$ 5,277.99            |
|                                                         |                                    |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                    |          |      |               | <b>\$ 2,997,069.74</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                    |          |      |               | <b>\$ 374,633.72</b>   |
| <b>Total Project Cost</b>                               |                                    |          |      |               | <b>\$ 3,371,703.46</b> |
| <b>30% Contingency</b>                                  |                                    |          |      |               | <b>\$ 1,011,511.04</b> |
| <b>Total Estimated Costs:</b>                           |                                    |          |      |               | <b>\$ 4,383,214.50</b> |

Notes:

- 1 Unit costs from Items 2-7 and 9-12 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P-3.1

| Item No.                                                | Description                        | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|------------------------------------|----------|------|---------------|------------------------|
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
| 1                                                       | Mobilization @ 10%                 | 1        | EA   | \$ 271,803.43 | \$ 271,803.43          |
| 2                                                       | Clearing and Grubbing              | 10       | AC   | \$ 26,597.91  | \$ 257,999.73          |
| 3                                                       | Sodding                            | 43,560   | SY   | \$ 4.50       | \$ 196,020.00          |
| 4                                                       | Seeding                            | 5,600    | SY   | \$ 2.93       | \$ 16,408.00           |
| 5                                                       | Excavation Regular                 | 145,000  | CY   | \$ 10.62      | \$ 1,539,900.00        |
| 6                                                       | Embankment                         | 30,000   | CY   | \$ 15.40      | \$ 462,000.00          |
| 7                                                       | 24" Class III RCP                  | 400      | LF   | \$ 154.92     | \$ 61,968.00           |
| 8                                                       | 24" U-type Endwall with Baffle (2) | 1        | EA   | \$ 4,240.00   | \$ 4,240.00            |
| 9                                                       | FDOT Type D Ditch Bottom Inlet     | 2        | EA   | \$ 7,442.14   | \$ 14,884.28           |
| 10                                                      | Sediment Barrier                   | 2,300    | LF   | \$ 2.39       | \$ 5,497.00            |
| 11                                                      | 6' Chain Link Fence                | 4,000    | LF   | \$ 38.02      | \$ 152,080.00          |
| 12                                                      | 12" Double Swing Gate              | 4        | EA   | \$ 1,759.33   | \$ 7,037.32            |
|                                                         |                                    |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                    |          |      |               | <b>\$ 2,989,837.76</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                    |          |      |               | <b>\$ 373,729.72</b>   |
| <b>Total Project Cost</b>                               |                                    |          |      |               | <b>\$ 3,363,567.48</b> |
| <b>30% Contingency</b>                                  |                                    |          |      |               | <b>\$ 1,009,070.24</b> |
| <b>Total Estimated Costs:</b>                           |                                    |          |      |               | <b>\$ 4,372,637.72</b> |

Notes:

- Unit costs from Items 2-7 and 9-12 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P-4A

| Item No.                                                | Description                        | Quantity | Unit | Unit Price   | Amount                 |
|---------------------------------------------------------|------------------------------------|----------|------|--------------|------------------------|
|                                                         |                                    |          |      |              |                        |
|                                                         |                                    |          |      |              |                        |
|                                                         |                                    |          |      |              |                        |
| 1                                                       | Mobilization @ 10%                 | 1        | EA   | \$ 78,204.42 | \$ 78,204.42           |
| 2                                                       | Demolition                         | 1        | LS   | \$ 15,000.00 | \$ 15,000.00           |
| 3                                                       | Clearing and Grubbing              | 3        | AC   | \$ 26,597.91 | \$ 79,793.73           |
| 4                                                       | Sodding                            | 9,680    | SY   | \$ 4.50      | \$ 43,560.00           |
| 5                                                       | Seeding                            | 5,600    | SY   | \$ 2.93      | \$ 16,408.00           |
| 6                                                       | Excavation Regular                 | 40,000   | CY   | \$ 10.62     | \$ 424,800.00          |
| 7                                                       | Embankment                         | 2,500    | CY   | \$ 15.40     | \$ 38,500.00           |
| 8                                                       | 24" Class III RCP                  | 200      | LF   | \$ 154.92    | \$ 30,984.00           |
| 9                                                       | 24" U-type Endwall with Baffle (2) | 1        | EA   | \$ 4,240.00  | \$ 4,240.00            |
| 10                                                      | FDOT Type D Ditch Bottom Inlet     | 1        | EA   | \$ 7,442.14  | \$ 7,442.14            |
| 11                                                      | Sediment Barrier                   | 2,300    | LF   | \$ 2.39      | \$ 5,497.00            |
| 12                                                      | 6' Chain Link Fence                | 3,000    | LF   | \$ 38.02     | \$ 114,060.00          |
| 13                                                      | 12" Double Swing Gate              | 1        | EA   | \$ 1,759.33  | \$ 1,759.33            |
|                                                         |                                    |          |      |              |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                    |          |      |              | <b>\$ 860,248.62</b>   |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                    |          |      |              | <b>\$ 107,531.08</b>   |
| <b>Total Project Cost</b>                               |                                    |          |      |              | <b>\$ 967,779.70</b>   |
| <b>30% Contingency</b>                                  |                                    |          |      |              | <b>\$ 290,333.91</b>   |
| <b>Total Estimated Costs:</b>                           |                                    |          |      |              | <b>\$ 1,258,113.61</b> |

Notes:

- 1 Unit costs from Items 3-8 and 10-13 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P-4C

| Item No.                                                | Description           | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|-----------------------|----------|------|---------------|------------------------|
|                                                         |                       |          |      |               |                        |
|                                                         |                       |          |      |               |                        |
|                                                         |                       |          |      |               |                        |
| 1                                                       | Mobilization @ 10%    | 1        | EA   | \$ 319,951.07 | \$ 319,951.07          |
| 2                                                       | Clearing and Grubbing | 2        | AC   | \$ 26,597.91  | \$ 53,195.82           |
| 3                                                       | Sodding               | 25,329   | SY   | \$ 4.50       | \$ 113,980.50          |
| 4                                                       | 24" Class III RCP     | 95       | LF   | \$ 154.92     | \$ 14,717.40           |
| 5                                                       | 24" MES               | 1        | EA   | \$ 3,938.81   | \$ 3,938.81            |
| 6                                                       | Outfall Structure     | 1        | EA   | \$ 15,000.00  | \$ 15,000.00           |
| 7                                                       | Excavation Regular    | 244,269  | CY   | \$ 10.62      | \$ 2,594,136.78        |
| 8                                                       | Embankment            | 2,603    | CY   | \$ 15.40      | \$ 40,086.20           |
| 9                                                       | 36" Class III RCP     | 600      | LF   | \$ 287.33     | \$ 172,398.00          |
| 10                                                      | 36" MES (1:4)         | 12       | EA   | \$ 8,468.74   | \$ 101,624.88          |
| 11                                                      | Emergency Spillway    | 1        | EA   | \$ 80,000.00  | \$ 80,000.00           |
| 12                                                      | Sediment Barrier      | 4,365    | LF   | \$ 2.39       | \$ 10,432.35           |
|                                                         |                       |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                       |          |      |               | <b>\$ 3,519,461.81</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                       |          |      |               | <b>\$ 439,932.73</b>   |
| <b>Total Project Cost</b>                               |                       |          |      |               | <b>\$ 3,959,394.54</b> |
| <b>30% Contingency</b>                                  |                       |          |      |               | <b>\$ 1,187,818.36</b> |
| <b>Total Estimated Costs:</b>                           |                       |          |      |               | <b>\$ 5,147,212.90</b> |

Notes:

- 1 Unit costs from Items 2-3 and 5-7 and 8 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P-5.1A

| Item No.                                                | Description                        | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|------------------------------------|----------|------|---------------|------------------------|
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
| 1                                                       | Mobilization @ 10%                 | 1        | EA   | \$ 609,361.76 | \$ 609,361.76          |
| 2                                                       | Demolition                         | 1        | LS   | \$ 15,000.00  | \$ 15,000.00           |
| 3                                                       | Clearing and Grubbing              | 18       | AC   | \$ 26,597.91  | \$ 481,422.17          |
| 4                                                       | Sodding                            | 27,318   | SY   | \$ 4.50       | \$ 122,931.00          |
| 5                                                       | Seeding                            | 60,286   | SY   | \$ 2.93       | \$ 176,637.98          |
| 6                                                       | Excavation Regular                 | 407,163  | CY   | \$ 10.62      | \$ 4,324,071.06        |
| 7                                                       | Embankment                         | 32,380   | CY   | \$ 15.40      | \$ 498,652.00          |
| 8                                                       | 24" Class III RCP                  | 150      | LF   | \$ 154.92     | \$ 23,238.00           |
| 9                                                       | 24" U-type Endwall with Baffle (2) | 1        | EA   | \$ 4,240.00   | \$ 4,240.00            |
| 10                                                      | 36" Class III RCP                  | 920      | LF   | \$ 287.33     | \$ 264,343.60          |
| 11                                                      | 36" MES (1:4)                      | 1        | EA   | \$ 8,468.74   | \$ 8,468.74            |
| 12                                                      | FDOT Type D Ditch Bottom Inlet     | 3        | EA   | \$ 7,442.14   | \$ 22,326.42           |
| 13                                                      | Sediment Barrier                   | 3,725    | LF   | \$ 2.39       | \$ 8,902.75            |
| 14                                                      | 6' Chain Link Fence                | 3,725    | LF   | \$ 38.02      | \$ 141,624.50          |
| 15                                                      | 12" Double Swing Gate              | 1        | EA   | \$ 1,759.33   | \$ 1,759.33            |
|                                                         |                                    |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                    |          |      |               | <b>\$ 6,702,979.31</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                    |          |      |               | <b>\$ 837,872.41</b>   |
| <b>Total Project Cost</b>                               |                                    |          |      |               | <b>\$ 7,540,851.72</b> |
| <b>30% Contingency</b>                                  |                                    |          |      |               | <b>\$ 2,262,255.52</b> |
| <b>Total Estimated Costs:</b>                           |                                    |          |      |               | <b>\$ 9,803,107.24</b> |

Notes:

- 1 Unit costs from Items 3-8 and 10-13 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P6

| Item No.                                                | Description                        | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|------------------------------------|----------|------|---------------|------------------------|
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
| 1                                                       | Mobilization @ 10%                 | 1        | EA   | \$ 592,192.66 | \$ 592,192.66          |
| 2                                                       | Demolition                         | 1        | LS   | \$ 15,000.00  | \$ 15,000.00           |
| 3                                                       | Clearing and Grubbing              | 21       | AC   | \$ 26,597.91  | \$ 558,556.11          |
| 4                                                       | Sodding                            | 99,842   | SY   | \$ 4.50       | \$ 449,287.65          |
| 5                                                       | Seeding                            | 2,000    | SY   | \$ 2.93       | \$ 5,860.00            |
| 6                                                       | Excavation Regular                 | 336,919  | CY   | \$ 10.62      | \$ 3,578,079.78        |
| 7                                                       | Embankment                         | 73,822   | CY   | \$ 15.40      | \$ 1,136,858.80        |
| 8                                                       | 24" Class III RCP                  | 1,000    | LF   | \$ 154.92     | \$ 154,920.00          |
| 9                                                       | 24" U-type Endwall with Baffle (2) | 2        | EA   | \$ 4,240.00   | \$ 8,480.00            |
| 10                                                      | FDOT Type D Ditch Bottom Inlet     | 2        | EA   | \$ 7,442.14   | \$ 14,884.28           |
| 11                                                      | Sediment Barrier                   | 3,200    | LF   | \$ 2.39       | \$ 7,648.00            |
| 12                                                      | 6' Chain Link Fence                | 5,600    | LF   | \$ 38.02      | \$ 212,912.00          |
| 13                                                      | 12" Double Swing Gate              | 2        | EA   | \$ 1,759.33   | \$ 3,518.66            |
|                                                         |                                    |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                    |          |      |               | <b>\$ 6,738,197.94</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                    |          |      |               | <b>\$ 842,274.74</b>   |
| <b>Total Project Cost</b>                               |                                    |          |      |               | <b>\$ 7,580,472.68</b> |
| <b>30% Contingency</b>                                  |                                    |          |      |               | <b>\$ 2,274,141.81</b> |
| <b>Total Estimated Costs:</b>                           |                                    |          |      |               | <b>\$ 9,854,614.49</b> |

Notes:

- 1 Unit costs from Items 3-8 and 10-13 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P7.1

| Item No.                                                | Description                        | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|------------------------------------|----------|------|---------------|------------------------|
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
| 1                                                       | Mobilization @ 10%                 | 1        | EA   | \$ 110,178.26 | \$ 110,178.26          |
| 2                                                       | Demolition                         | 1        | AC   | \$ 5,000.00   | \$ 5,000.00            |
| 3                                                       | Clearing and Grubbing              | 5        | LS   | \$ 26,597.91  | \$ 132,989.55          |
| 4                                                       | Sodding                            | 19,608   | SY   | \$ 4.50       | \$ 88,236.00           |
| 5                                                       | Seeding                            | 4,592    | SY   | \$ 2.93       | \$ 13,453.97           |
| 6                                                       | Excavation Regular                 | 70,082   | CY   | \$ 10.62      | \$ 744,267.65          |
| 7                                                       | 24" Class III RCP                  | 100      | LF   | \$ 154.92     | \$ 15,492.00           |
| 8                                                       | 24" U-type Endwall with Baffle (2) | 1        | EA   | \$ 4,240.00   | \$ 4,240.00            |
| 9                                                       | FDOT Type D Ditch Bottom Inlet     | 1        | EA   | \$ 7,442.14   | \$ 7,442.14            |
| 10                                                      | Sediment Barrier                   | 2,200    | LF   | \$ 2.39       | \$ 5,258.00            |
| 11                                                      | 6' Chain Link Fence                | 2,200    | LF   | \$ 38.02      | \$ 83,644.00           |
| 12                                                      | 12" Double Swing Gate              | 1        | EA   | \$ 1,759.33   | \$ 1,759.33            |
|                                                         |                                    |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                    |          |      |               | <b>\$ 1,211,960.91</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                    |          |      |               | <b>\$ 151,495.11</b>   |
| <b>Total Project Cost</b>                               |                                    |          |      |               | <b>\$ 1,363,456.03</b> |
| <b>30% Contingency</b>                                  |                                    |          |      |               | <b>\$ 409,036.81</b>   |
| <b>Total Estimated Costs:</b>                           |                                    |          |      |               | <b>\$ 1,772,492.83</b> |

Notes:

- 1 Unit costs from Items 3-7 and 9-12 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P7.2

| Item No.                                                | Description                        | Quantity | Unit | Unit Price   | Amount                 |
|---------------------------------------------------------|------------------------------------|----------|------|--------------|------------------------|
|                                                         |                                    |          |      |              |                        |
|                                                         |                                    |          |      |              |                        |
|                                                         |                                    |          |      |              |                        |
| 1                                                       | Mobilization @ 10%                 | 1        | EA   | \$ 93,018.40 | \$ 93,018.40           |
| 2                                                       | Demolition                         | 1        | LS   | \$ 5,000.00  | \$ 5,000.00            |
| 3                                                       | Clearing and Grubbing              | 4        | AC   | \$ 26,597.91 | \$ 106,391.64          |
| 4                                                       | Sodding                            | 16,507   | SY   | \$ 4.50      | \$ 74,281.50           |
| 5                                                       | Seeding                            | 3,000    | SY   | \$ 2.93      | \$ 8,790.00            |
| 6                                                       | Excavation Regular                 | 57,868   | CY   | \$ 10.62     | \$ 614,561.35          |
| 7                                                       | 24" Class III RCP                  | 100      | LF   | \$ 154.92    | \$ 15,492.00           |
| 8                                                       | 24" U-type Endwall with Baffle (2) | 1        | EA   | \$ 4,240.00  | \$ 4,240.00            |
| 9                                                       | FDOT Type D Ditch Bottom Inlet     | 1        | EA   | \$ 7,442.14  | \$ 7,442.14            |
| 10                                                      | Sediment Barrier                   | 2,000    | LF   | \$ 2.39      | \$ 4,780.00            |
| 11                                                      | 6' Chain Link Fence                | 2,300    | LF   | \$ 38.02     | \$ 87,446.00           |
| 12                                                      | 12" Double Swing Gate              | 1        | EA   | \$ 1,759.33  | \$ 1,759.33            |
|                                                         |                                    |          |      |              |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                    |          |      |              | <b>\$ 1,023,202.35</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                    |          |      |              | <b>\$ 127,900.29</b>   |
| <b>Total Project Cost</b>                               |                                    |          |      |              | <b>\$ 1,151,102.65</b> |
| <b>30% Contingency</b>                                  |                                    |          |      |              | <b>\$ 345,330.79</b>   |
| <b>Total Estimated Costs:</b>                           |                                    |          |      |              | <b>\$ 1,496,433.44</b> |

Notes:

- 1 Unit costs from Items 3-7 and 9-12 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P7.3

| Item No.                                                | Description                        | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|------------------------------------|----------|------|---------------|------------------------|
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
| 1                                                       | Mobilization @ 10%                 | 1        | EA   | \$ 258,424.25 | \$ 258,424.25          |
| 2                                                       | Clearing and Grubbing              | 11       | AC   | \$ 26,597.91  | \$ 292,577.01          |
| 3                                                       | Sodding                            | 44,632   | SY   | \$ 4.50       | \$ 200,843.55          |
| 4                                                       | Seeding                            | 8,608    | SY   | \$ 2.93       | \$ 25,221.44           |
| 5                                                       | Excavation Regular                 | 177,000  | CY   | \$ 10.62      | \$ 1,879,740.00        |
| 6                                                       | 24" Class III RCP                  | 200      | LF   | \$ 154.92     | \$ 30,984.00           |
| 7                                                       | 24" U-type Endwall with Baffle (2) | 1        | EA   | \$ 4,240.00   | \$ 4,240.00            |
| 8                                                       | FDOT Type D Ditch Bottom Inlet     | 1        | EA   | \$ 7,442.14   | \$ 7,442.14            |
| 9                                                       | Sediment Barrier                   | 3,500    | LF   | \$ 2.39       | \$ 8,365.00            |
| 10                                                      | 6' Chain Link Fence                | 3,500    | LF   | \$ 38.02      | \$ 133,070.00          |
| 11                                                      | 12" Double Swing Gate              | 1        | EA   | \$ 1,759.33   | \$ 1,759.33            |
|                                                         |                                    |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                    |          |      |               | <b>\$ 2,842,666.72</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                    |          |      |               | <b>\$ 355,333.34</b>   |
| <b>Total Project Cost</b>                               |                                    |          |      |               | <b>\$ 3,198,000.06</b> |
| <b>30% Contingency</b>                                  |                                    |          |      |               | <b>\$ 959,400.02</b>   |
| <b>Total Estimated Costs:</b>                           |                                    |          |      |               | <b>\$ 4,157,400.07</b> |

Notes:

- 1 Unit costs from Items 3-6 and 8-11 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P7.4

| Item No.                                                | Description                        | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|------------------------------------|----------|------|---------------|------------------------|
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
| 1                                                       | Mobilization @ 10%                 | 1        | EA   | \$ 138,189.47 | \$ 138,189.47          |
| 2                                                       | Clearing and Grubbing              | 5.72     | AC   | \$ 26,597.91  | \$ 152,140.05          |
| 3                                                       | Sodding                            | 17,698   | SY   | \$ 4.50       | \$ 79,642.95           |
| 4                                                       | Seeding                            | 9,986    | SY   | \$ 2.93       | \$ 29,260.05           |
| 5                                                       | Excavation Regular                 | 78,743   | CY   | \$ 10.62      | \$ 836,250.66          |
| 6                                                       | 24" Class III RCP                  | 330      | LF   | \$ 154.92     | \$ 51,123.60           |
| 7                                                       | 36" Class III RCP                  | 220      | LF   | \$ 287.33     | \$ 63,212.60           |
| 8                                                       | 36" MES (1:4)                      | 2        | EA   | \$ 8,468.74   | \$ 16,937.48           |
| 9                                                       | 24" U-type Endwall with Baffle (2) | 1        | EA   | \$ 4,240.00   | \$ 4,240.00            |
| 10                                                      | FDOT Type D Ditch Bottom Inlet     | 5        | EA   | \$ 7,442.14   | \$ 37,210.70           |
| 11                                                      | Sediment Barrier                   | 2,725    | LF   | \$ 2.39       | \$ 6,512.75            |
| 12                                                      | 6' Chain Link Fence                | 2,725    | LF   | \$ 38.02      | \$ 103,604.50          |
| 13                                                      | 12" Double Swing Gate              | 1        | EA   | \$ 1,759.33   | \$ 1,759.33            |
|                                                         |                                    |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                    |          |      |               | <b>\$ 1,520,084.14</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                    |          |      |               | <b>\$ 190,010.52</b>   |
| <b>Total Project Cost</b>                               |                                    |          |      |               | <b>\$ 1,710,094.65</b> |
| <b>30% Contingency</b>                                  |                                    |          |      |               | <b>\$ 513,028.40</b>   |
| <b>Total Estimated Costs:</b>                           |                                    |          |      |               | <b>\$ 2,223,123.05</b> |

Notes:

- 1 Unit costs from Items 3-6 and 8-11 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P8

| Item No.                                                | Description                        | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|------------------------------------|----------|------|---------------|------------------------|
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
| 1                                                       | Mobilization @ 10%                 | 1        | EA   | \$ 317,195.74 | \$ 317,195.74          |
| 2                                                       | Clearing and Grubbing              | 12       | AC   | \$ 26,597.91  | \$ 319,174.92          |
| 3                                                       | Sodding                            | 55,259   | SY   | \$ 4.50       | \$ 248,664.60          |
| 4                                                       | Seeding                            | 2,821    | SY   | \$ 2.93       | \$ 8,265.53            |
| 5                                                       | Excavation Regular                 | 228,008  | CY   | \$ 10.62      | \$ 2,421,442.84        |
| 6                                                       | 24" Class III RCP                  | 100      | LF   | \$ 154.92     | \$ 15,492.00           |
| 7                                                       | 24" U-type Endwall with Baffle (2) | 1        | EA   | \$ 4,240.00   | \$ 4,240.00            |
| 8                                                       | FDOT Type D Ditch Bottom Inlet     | 1        | LS   | \$ 7,442.14   | \$ 7,442.14            |
| 9                                                       | Sediment Barrier                   | 3,600    | LF   | \$ 2.39       | \$ 8,604.00            |
| 10                                                      | 6' Chain Link Fence                | 3,600    | LF   | \$ 38.02      | \$ 136,872.00          |
| 11                                                      | 12" Double Swing Gate              | 1        | EA   | \$ 1,759.33   | \$ 1,759.33            |
|                                                         |                                    |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                    |          |      |               | <b>\$ 3,489,153.09</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                    |          |      |               | <b>\$ 436,144.14</b>   |
| <b>Total Project Cost</b>                               |                                    |          |      |               | <b>\$ 3,925,297.23</b> |
| <b>30% Contingency</b>                                  |                                    |          |      |               | <b>\$ 1,177,589.17</b> |
| <b>Total Estimated Costs:</b>                           |                                    |          |      |               | <b>\$ 5,102,886.40</b> |

Notes:

- 1 Unit costs from Items 2-6 and 8-11 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P10

| Item No.                                                | Description                        | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|------------------------------------|----------|------|---------------|------------------------|
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
| 1                                                       | Mobilization @ 10%                 | 1        | EA   | \$ 265,164.05 | \$ 265,164.05          |
| 2                                                       | Clearing and Grubbing              | 10       | AC   | \$ 26,597.91  | \$ 257,999.73          |
| 3                                                       | Sodding                            | 45,206   | SY   | \$ 4.50       | \$ 203,427.00          |
| 4                                                       | Seeding                            | 3,194    | SY   | \$ 2.93       | \$ 9,358.42            |
| 5                                                       | Excavation Regular                 | 185,379  | CY   | \$ 10.62      | \$ 1,968,723.92        |
| 6                                                       | 24" Class III RCP                  | 500      | LF   | \$ 154.92     | \$ 77,460.00           |
| 7                                                       | 24" U-type Endwall with Baffle (2) | 1        | EA   | \$ 4,240.00   | \$ 4,240.00            |
| 8                                                       | FDOT Type D Ditch Bottom Inlet     | 1        | EA   | \$ 7,442.14   | \$ 7,442.14            |
| 9                                                       | Sediment Barrier                   | 3,000    | LF   | \$ 2.39       | \$ 7,170.00            |
| 10                                                      | 6' Chain Link Fence                | 3,000    | LF   | \$ 38.02      | \$ 114,060.00          |
| 11                                                      | 12" Double Swing Gate              | 1        | EA   | \$ 1,759.33   | \$ 1,759.33            |
|                                                         |                                    |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                    |          |      |               | <b>\$ 2,916,804.59</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                    |          |      |               | <b>\$ 364,600.57</b>   |
| <b>Total Project Cost</b>                               |                                    |          |      |               | <b>\$ 3,281,405.16</b> |
| <b>30% Contingency</b>                                  |                                    |          |      |               | <b>\$ 984,421.55</b>   |
| <b>Total Estimated Costs:</b>                           |                                    |          |      |               | <b>\$ 4,265,826.71</b> |

Notes:

- 1 Unit costs from Items 2-6 and 8-11 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P11

| Item No.                                                | Description                        | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|------------------------------------|----------|------|---------------|------------------------|
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
| 1                                                       | Mobilization @ 10%                 | 1        | EA   | \$ 262,302.18 | \$ 262,302.18          |
| 2                                                       | Clearing and Grubbing              | 10       | AC   | \$ 26,597.91  | \$ 257,999.73          |
| 3                                                       | Sodding                            | 45,000   | SY   | \$ 4.50       | \$ 202,500.00          |
| 4                                                       | Seeding                            | 3,400    | SY   | \$ 2.93       | \$ 9,962.00            |
| 5                                                       | Excavation Regular                 | 189,311  | CY   | \$ 10.62      | \$ 2,010,478.57        |
| 6                                                       | 24" Class III RCP                  | 100      | LF   | \$ 154.92     | \$ 15,492.00           |
| 7                                                       | 24" U-type Endwall with Baffle (2) | 1        | EA   | \$ 4,240.00   | \$ 4,240.00            |
| 8                                                       | FDOT Type D Ditch Bottom Inlet     | 1        | EA   | \$ 7,442.14   | \$ 7,442.14            |
| 9                                                       | Sediment Barrier                   | 2,800    | LF   | \$ 2.39       | \$ 6,692.00            |
| 10                                                      | 6' Chain Link Fence                | 2,800    | LF   | \$ 38.02      | \$ 106,456.00          |
| 11                                                      | 12" Double Swing Gate              | 1        | EA   | \$ 1,759.33   | \$ 1,759.33            |
|                                                         |                                    |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                    |          |      |               | <b>\$ 2,885,323.95</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                    |          |      |               | <b>\$ 360,665.49</b>   |
| <b>Total Project Cost</b>                               |                                    |          |      |               | <b>\$ 3,245,989.44</b> |
| <b>30% Contingency</b>                                  |                                    |          |      |               | <b>\$ 973,796.83</b>   |
| <b>Total Estimated Costs:</b>                           |                                    |          |      |               | <b>\$ 4,219,786.27</b> |

Notes:

- 1 Unit costs from Items 2-6 and 8-11 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P12

| Item No.                                                | Description                        | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|------------------------------------|----------|------|---------------|------------------------|
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
| 1                                                       | Mobilization @ 10%                 | 1        | EA   | \$ 256,178.23 | \$ 256,178.23          |
| 2                                                       | Clearing and Grubbing              | 14.4     | AC   | \$ 26,597.91  | \$ 381,945.99          |
| 3                                                       | Sodding                            | 50,000   | SY   | \$ 4.50       | \$ 225,000.00          |
| 4                                                       | Seeding                            | 44,446   | SY   | \$ 2.93       | \$ 130,225.96          |
| 5                                                       | Excavation Regular                 | 148,878  | CY   | \$ 10.62      | \$ 1,581,084.36        |
| 6                                                       | Embankment                         | 2,671    | CY   | \$ 15.40      | \$ 41,133.40           |
| 7                                                       | 24" Class III RCP                  | 255      | LF   | \$ 154.92     | \$ 39,504.60           |
| 8                                                       | 24" U-type Endwall with Baffle (2) | 2        | EA   | \$ 4,240.00   | \$ 8,480.00            |
| 9                                                       | FDOT Type D Ditch Bottom Inlet     | 3        | EA   | \$ 7,442.14   | \$ 22,326.42           |
| 10                                                      | Sediment Barrier                   | 3,225    | LF   | \$ 2.39       | \$ 7,707.75            |
| 11                                                      | 6' Chain Link Fence                | 3,225    | LF   | \$ 38.02      | \$ 122,614.50          |
| 12                                                      | 12" Double Swing Gate              | 1        | EA   | \$ 1,759.33   | \$ 1,759.33            |
|                                                         |                                    |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                    |          |      |               | <b>\$ 2,817,960.54</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                    |          |      |               | <b>\$ 352,245.07</b>   |
| <b>Total Project Cost</b>                               |                                    |          |      |               | <b>\$ 3,170,205.61</b> |
| <b>30% Contingency</b>                                  |                                    |          |      |               | <b>\$ 951,061.68</b>   |
| <b>Total Estimated Costs:</b>                           |                                    |          |      |               | <b>\$ 4,121,267.29</b> |

Notes:

- 1 Unit costs from Items 2-6 and 8-11 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P14

| Item No.                                                | Description                       | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|-----------------------------------|----------|------|---------------|------------------------|
|                                                         |                                   |          |      |               |                        |
|                                                         |                                   |          |      |               |                        |
|                                                         |                                   |          |      |               |                        |
| 1                                                       | Mobilization @ 10%                | 1        | EA   | \$ 252,895.98 | \$ 252,895.98          |
| 2                                                       | Demolition                        | 1        | LS   | \$ 10,000.00  | \$ 10,000.00           |
| 3                                                       | Clearing and Grubbing             | 11       | AC   | \$ 26,597.91  | \$ 292,577.01          |
| 4                                                       | Sodding                           | 50,000   | SY   | \$ 4.50       | \$ 225,000.00          |
| 5                                                       | Seeding                           | 5,000    | SY   | \$ 2.93       | \$ 14,650.00           |
| 6                                                       | Excavation Regular                | 150,000  | CY   | \$ 10.62      | \$ 1,593,000.00        |
| 7                                                       | 36" Class III RCP                 | 160      | LF   | \$ 287.33     | \$ 45,972.80           |
| 8                                                       | 36" Concrete Endwall              | 1        | EA   | \$ 9,979.49   | \$ 9,979.49            |
| 9                                                       | Riprap, Rubble                    | 300      | TN   | \$ 306.68     | \$ 92,004.00           |
| 10                                                      | 72" U-type Endwall with Baffle    | 1        | EA   | \$ 35,000.00  | \$ 35,000.00           |
| 11                                                      | FDOT Type D Ditch Bottom Inlet    | 1        | EA   | \$ 7,442.14   | \$ 7,442.14            |
| 12                                                      | Cut and Patch Asphalt Roadway (2) | 80       | SY   | \$ 74.25      | \$ 5,940.00            |
| 13                                                      | Sediment Barrier                  | 6,500    | LF   | \$ 2.39       | \$ 15,535.00           |
| 14                                                      | 6' Chain Link Fence               | 5,000    | LF   | \$ 38.02      | \$ 190,100.00          |
| 15                                                      | 12" Double Swing Gate             | 1        | EA   | \$ 1,759.33   | \$ 1,759.33            |
|                                                         |                                   |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                   |          |      |               | <b>\$ 2,791,855.75</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                   |          |      |               | <b>\$ 348,981.97</b>   |
| <b>Total Project Cost</b>                               |                                   |          |      |               | <b>\$ 3,140,837.72</b> |
| <b>30% Contingency</b>                                  |                                   |          |      |               | <b>\$ 942,251.31</b>   |
| <b>Total Estimated Costs:</b>                           |                                   |          |      |               | <b>\$ 4,083,089.03</b> |

Notes:

- 1 Unit costs from Items 3-9, 11, and 13-15 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**Eleven Mile Creek Regional Pond Property Acquisition Plan**  
**Opinion of Probable Construction Costs**  
**June 2023**



MM Project No. 502101118

Basis: Property Acquisition Plan Concept - Pond P14A

| Item No.                                                | Description                        | Quantity | Unit | Unit Price    | Amount                 |
|---------------------------------------------------------|------------------------------------|----------|------|---------------|------------------------|
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
|                                                         |                                    |          |      |               |                        |
| 1                                                       | Mobilization @ 10%                 | 1        | EA   | \$ 235,266.60 | \$ 235,266.60          |
| 2                                                       | Demolition                         | 1        | LS   | \$ 10,000.00  | \$ 10,000.00           |
| 3                                                       | Clearing and Grubbing              | 17.1     | AC   | \$ 26,597.91  | \$ 454,824.26          |
| 4                                                       | Sodding                            | 33,009   | SY   | \$ 4.50       | \$ 148,539.60          |
| 5                                                       | Seeding                            | 49,755   | SY   | \$ 2.93       | \$ 145,782.74          |
| 6                                                       | Excavation Regular                 | 4,799    | CY   | \$ 10.62      | \$ 50,965.38           |
| 7                                                       | Embankment                         | 80,095   | CY   | \$ 15.40      | \$ 1,233,463.00        |
| 8                                                       | 36" Class III RCP                  | 160      | LF   | \$ 287.33     | \$ 45,972.80           |
| 9                                                       | 36" Concrete Endwall               | 1        | EA   | \$ 9,979.49   | \$ 9,979.49            |
| 10                                                      | 24" Class III RCP                  | 150      | LF   | \$ 154.92     | \$ 23,238.00           |
| 11                                                      | 24" U-type Endwall with Baffle (2) | 1        | EA   | \$ 4,240.00   | \$ 4,240.00            |
| 12                                                      | FDOT Type D Ditch Bottom Inlet     | 3        | EA   | \$ 7,442.14   | \$ 22,326.42           |
| 13                                                      | Cut and Patch Asphalt Roadway (2)  | 80       | SY   | \$ 74.25      | \$ 5,940.00            |
| 14                                                      | Sediment Barrier                   | 6,500    | LF   | \$ 2.39       | \$ 15,535.00           |
| 15                                                      | 6' Chain Link Fence                | 5,000    | LF   | \$ 38.02      | \$ 190,100.00          |
| 16                                                      | 12" Double Swing Gate              | 1        | EA   | \$ 1,759.33   | \$ 1,759.33            |
|                                                         |                                    |          |      |               |                        |
| <b>Construction Costs Subtotal Costs:</b>               |                                    |          |      |               | <b>\$ 2,597,932.62</b> |
| <b>Design Cost (survey, geotech, plans, permitting)</b> |                                    |          |      |               | <b>\$ 324,741.58</b>   |
| <b>Total Project Cost</b>                               |                                    |          |      |               | <b>\$ 2,922,674.20</b> |
| <b>30% Contingency</b>                                  |                                    |          |      |               | <b>\$ 876,802.26</b>   |
| <b>Total Estimated Costs:</b>                           |                                    |          |      |               | <b>\$ 3,799,476.45</b> |

Notes:

- 1 Unit costs from Items 3-10, 12, and 14-16 were taken from FDOT State Wide Average Unit Cost from 2022/10/01 to 2023/03/31
- 2 Unit cost taken from the highest cost in the Escambia County Pricing Agreement FY23



**APPENDIX C**  
**NRCS WEB SOIL SURVEY**





United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for **Escambia County, Florida**

**Eleven Mile Creek**



October 26, 2015



# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the



individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.



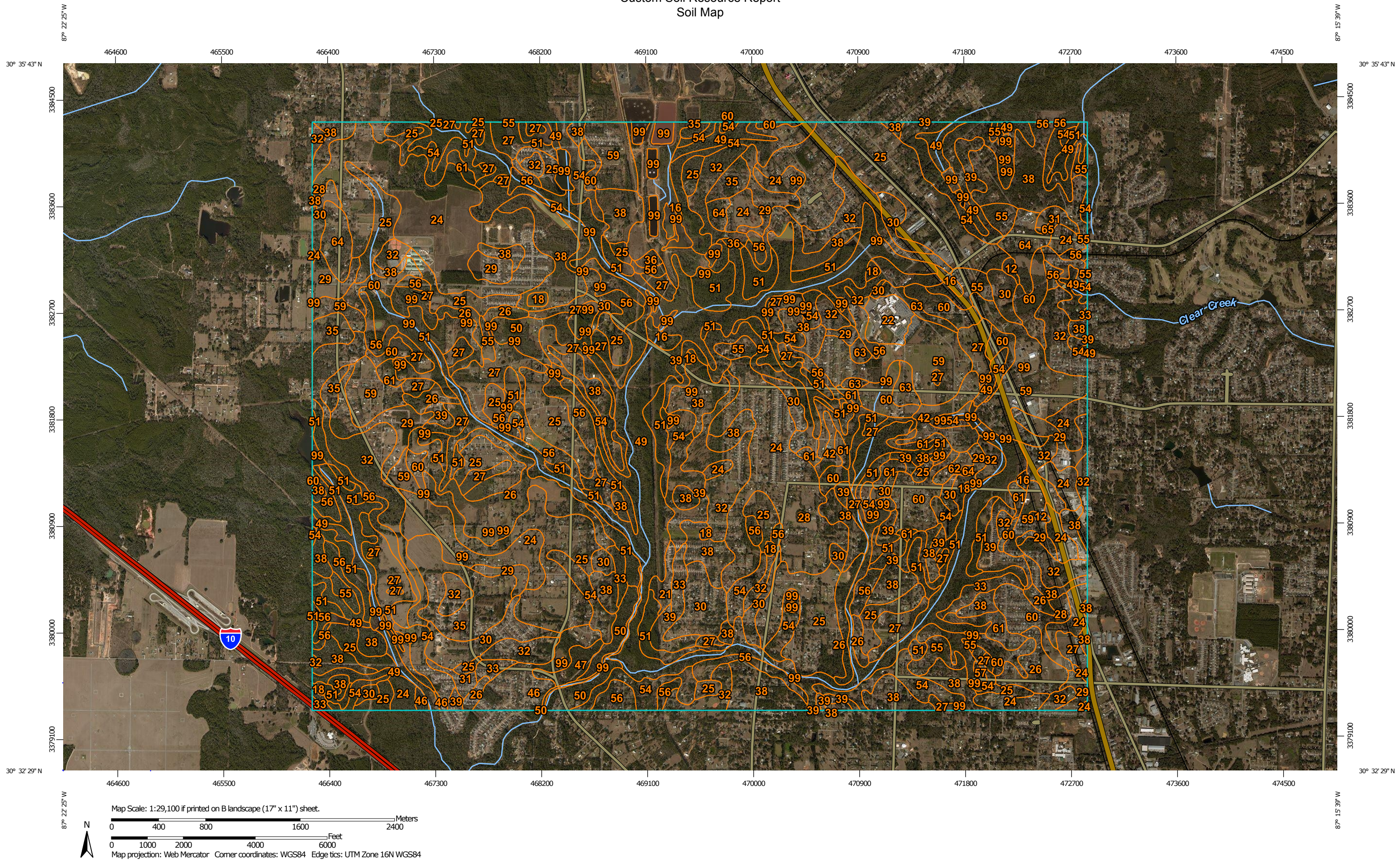
# Soil Map

---

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



Custom Soil Resource Report  
Soil Map





# Custom Soil Resource Report

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

### Water Features

 Streams and Canals

### Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Escambia County, Florida  
Survey Area Data: Version 12, Sep 28, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 31, 2015—Mar 7, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

| Escambia County, Florida (FL033) |                                                                             |              |                |
|----------------------------------|-----------------------------------------------------------------------------|--------------|----------------|
| Map Unit Symbol                  | Map Unit Name                                                               | Acres in AOI | Percent of AOI |
| 12                               | Croatan muck, depressional                                                  | 6.7          | 0.1%           |
| 16                               | Arents-Urban land complex                                                   | 109.4        | 1.3%           |
| 18                               | Pits                                                                        | 25.1         | 0.3%           |
| 21                               | Lakeland sand, 8 to 12 percent slopes                                       | 14.5         | 0.2%           |
| 22                               | Urban land                                                                  | 34.5         | 0.4%           |
| 24                               | Poarch sandy loam, 0 to 2 percent slopes                                    | 780.0        | 9.6%           |
| 25                               | Poarch sandy loam, 2 to 5 percent slopes                                    | 848.6        | 10.5%          |
| 26                               | Poarch sandy loam, 5 to 8 percent slopes                                    | 229.4        | 2.8%           |
| 27                               | Escambia fine sandy loam, 0 to 2 percent slopes                             | 361.2        | 4.5%           |
| 28                               | Grady loam                                                                  | 4.1          | 0.1%           |
| 29                               | Perdido sandy loam, 0 to 2 percent slopes                                   | 185.5        | 2.3%           |
| 30                               | Perdido sandy loam, 2 to 5 percent slopes                                   | 224.3        | 2.8%           |
| 31                               | Perdido sandy loam, 5 to 8 percent slopes                                   | 20.9         | 0.3%           |
| 32                               | Troup sand, 0 to 5 percent slopes                                           | 536.5        | 6.6%           |
| 33                               | Troup sand, 5 to 8 percent slopes                                           | 56.4         | 0.7%           |
| 35                               | Lucy loamy sand, 0 to 2 percent slopes                                      | 153.1        | 1.9%           |
| 36                               | Lucy loamy sand, 2 to 5 percent slopes                                      | 7.5          | 0.1%           |
| 38                               | Bonifay loamy sand, 0 to 5 percent slopes                                   | 711.5        | 8.8%           |
| 39                               | Bonifay loamy sand, 5 to 8 percent slopes                                   | 172.0        | 2.1%           |
| 42                               | Malbis sandy loam, 2 to 5 percent slopes                                    | 52.3         | 0.6%           |
| 46                               | Garcon-Bigbee-Yemassee complex, 0 to 5 percent slopes, occasionally flooded | 72.8         | 0.9%           |
| 47                               | Hurricane and Albany soils, 0 to 5 percent slopes, occasionally flooded     | 20.5         | 0.3%           |
| 49                               | Dorovan muck and Fluvaquents, frequently flooded                            | 824.0        | 10.2%          |



# Custom Soil Resource Report

| Escambia County, Florida (FL033)   |                                                |                |                |
|------------------------------------|------------------------------------------------|----------------|----------------|
| Map Unit Symbol                    | Map Unit Name                                  | Acres in AOI   | Percent of AOI |
| 50                                 | Bigbee-Garcon-Fluvaquents complex, flooded     | 89.5           | 1.1%           |
| 51                                 | Pelham loamy sand, 0 to 2 percent slopes       | 517.8          | 6.4%           |
| 54                                 | Troup-Poarch complex, 8 to 12 percent slopes   | 656.4          | 8.1%           |
| 55                                 | Troup-Poarch complex, 2 to 5 percent slopes    | 98.1           | 1.2%           |
| 56                                 | Troup-Poarch complex, 5 to 8 percent slopes    | 322.0          | 4.0%           |
| 57                                 | Cowarts-Troup complex, 12 to 18 percent slopes | 3.0            | 0.0%           |
| 59                                 | Notcher fine sandy loam, 0 to 2 percent slopes | 380.6          | 4.7%           |
| 60                                 | Notcher fine sandy loam, 2 to 5 percent slopes | 254.2          | 3.1%           |
| 61                                 | Notcher fine sandy loam, 5 to 8 percent slopes | 79.5           | 1.0%           |
| 62                                 | Bama fine sandy loam, 0 to 2 percent slopes    | 9.8            | 0.1%           |
| 63                                 | Bama fine sandy loam, 2 to 5 percent slopes    | 38.2           | 0.5%           |
| 64                                 | Red Bay fine sandy loam, 0 to 2 percent slopes | 79.7           | 1.0%           |
| 65                                 | Red Bay fine sandy loam, 2 to 5 percent slopes | 2.8            | 0.0%           |
| 99                                 | Water                                          | 124.4          | 1.5%           |
| <b>Totals for Area of Interest</b> |                                                | <b>8,106.6</b> | <b>100.0%</b>  |



# **Soil Information for All Uses**

---

## **Soil Properties and Qualities**

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

## **Soil Qualities and Features**

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

## **Hydrologic Soil Group (Eleven Mile Creek Basin)**

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.



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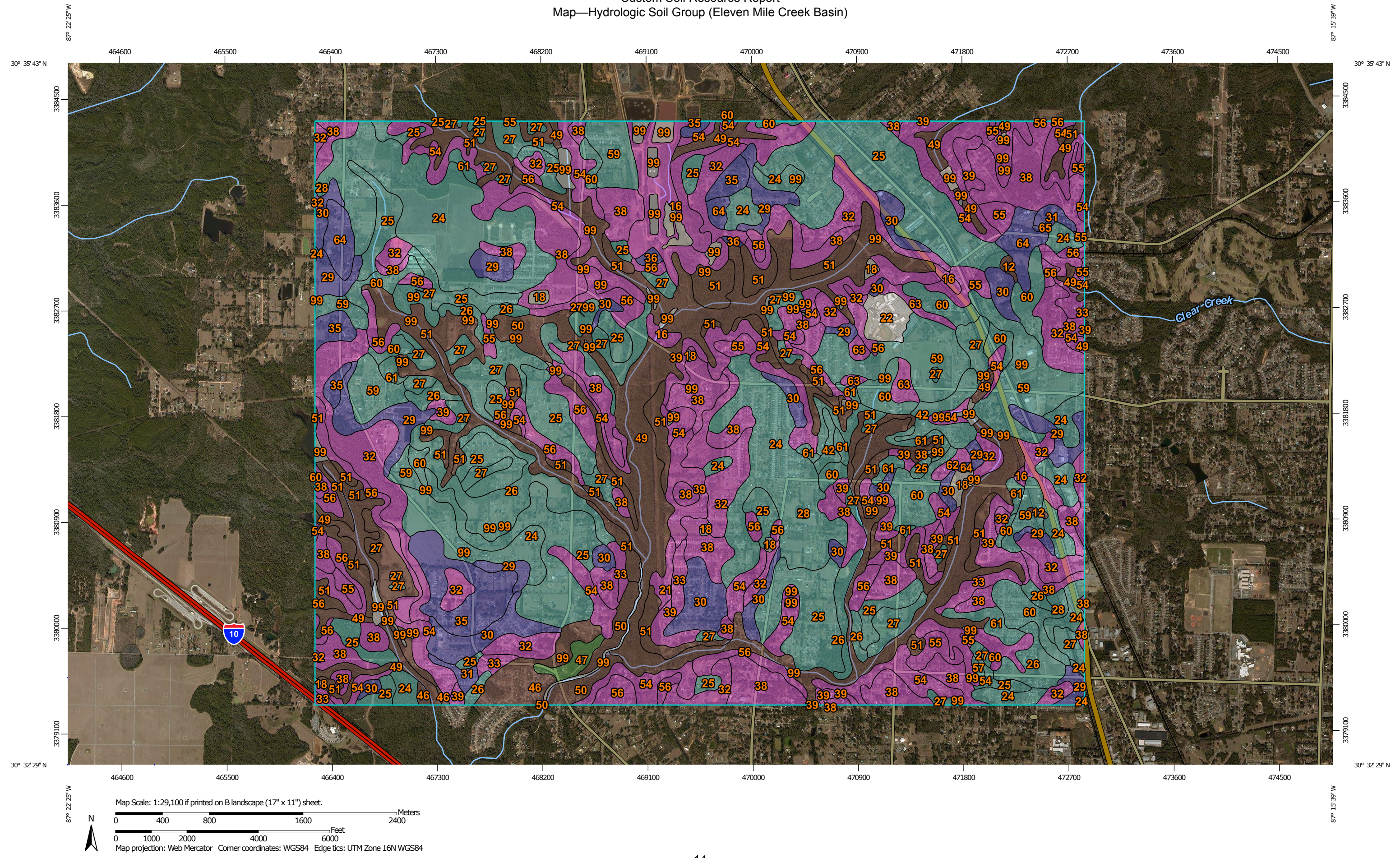
Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.



Custom Soil Resource Report  
Map—Hydrologic Soil Group (Eleven Mile Creek Basin)





## Custom Soil Resource Report

### MAP LEGEND

#### Area of Interest (AOI)

 Area of Interest (AOI)

#### Soils

##### Soil Rating Polygons

 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

##### Soil Rating Lines

 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

##### Soil Rating Points

 A  
 A/D  
 B  
 B/D

 C  
 C/D  
 D  
 Not rated or not available

#### Water Features

 Streams and Canals

#### Transportation

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

#### Background

 Aerial Photography

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
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Soil Survey Area: Escambia County, Florida  
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Date(s) aerial images were photographed: Jan 31, 2015—Mar 7, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



**Table—Hydrologic Soil Group (Eleven Mile Creek Basin)**

| Hydrologic Soil Group— Summary by Map Unit — Escambia County, Florida (FL033) |                                                                             |        |              |                |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------|--------------|----------------|
| Map unit symbol                                                               | Map unit name                                                               | Rating | Acres in AOI | Percent of AOI |
| 12                                                                            | Croatan muck, depressional                                                  | B/D    | 6.7          | 0.1%           |
| 16                                                                            | Arents-Urban land complex                                                   | A      | 109.4        | 1.3%           |
| 18                                                                            | Pits                                                                        |        | 25.1         | 0.3%           |
| 21                                                                            | Lakeland sand, 8 to 12 percent slopes                                       | A      | 14.5         | 0.2%           |
| 22                                                                            | Urban land                                                                  |        | 34.5         | 0.4%           |
| 24                                                                            | Poarch sandy loam, 0 to 2 percent slopes                                    | C      | 780.0        | 9.6%           |
| 25                                                                            | Poarch sandy loam, 2 to 5 percent slopes                                    | C      | 848.6        | 10.5%          |
| 26                                                                            | Poarch sandy loam, 5 to 8 percent slopes                                    | C      | 229.4        | 2.8%           |
| 27                                                                            | Escambia fine sandy loam, 0 to 2 percent slopes                             | C      | 361.2        | 4.5%           |
| 28                                                                            | Grady loam                                                                  | C/D    | 4.1          | 0.1%           |
| 29                                                                            | Perdido sandy loam, 0 to 2 percent slopes                                   | B      | 185.5        | 2.3%           |
| 30                                                                            | Perdido sandy loam, 2 to 5 percent slopes                                   | B      | 224.3        | 2.8%           |
| 31                                                                            | Perdido sandy loam, 5 to 8 percent slopes                                   | B      | 20.9         | 0.3%           |
| 32                                                                            | Troup sand, 0 to 5 percent slopes                                           | A      | 536.5        | 6.6%           |
| 33                                                                            | Troup sand, 5 to 8 percent slopes                                           | A      | 56.4         | 0.7%           |
| 35                                                                            | Lucy loamy sand, 0 to 2 percent slopes                                      | B      | 153.1        | 1.9%           |
| 36                                                                            | Lucy loamy sand, 2 to 5 percent slopes                                      | B      | 7.5          | 0.1%           |
| 38                                                                            | Bonifay loamy sand, 0 to 5 percent slopes                                   | A      | 711.5        | 8.8%           |
| 39                                                                            | Bonifay loamy sand, 5 to 8 percent slopes                                   | A      | 172.0        | 2.1%           |
| 42                                                                            | Malbis sandy loam, 2 to 5 percent slopes                                    | C      | 52.3         | 0.6%           |
| 46                                                                            | Garcon-Bigbee-Yemassee complex, 0 to 5 percent slopes, occasionally flooded | B/D    | 72.8         | 0.9%           |
| 47                                                                            | Hurricane and Albany soils, 0 to 5 percent slopes, occasionally flooded     | A/D    | 20.5         | 0.3%           |



## Custom Soil Resource Report

| Hydrologic Soil Group— Summary by Map Unit — Escambia County, Florida (FL033) |                                                  |        |                |                |
|-------------------------------------------------------------------------------|--------------------------------------------------|--------|----------------|----------------|
| Map unit symbol                                                               | Map unit name                                    | Rating | Acres in AOI   | Percent of AOI |
| 49                                                                            | Dorovan muck and Fluvaquents, frequently flooded | B/D    | 824.0          | 10.2%          |
| 50                                                                            | Bigbee-Garcon-Fluvaquents complex, flooded       | B/D    | 89.5           | 1.1%           |
| 51                                                                            | Pelham loamy sand, 0 to 2 percent slopes         | B/D    | 517.8          | 6.4%           |
| 54                                                                            | Troup-Poarch complex, 8 to 12 percent slopes     | A      | 656.4          | 8.1%           |
| 55                                                                            | Troup-Poarch complex, 2 to 5 percent slopes      | A      | 98.1           | 1.2%           |
| 56                                                                            | Troup-Poarch complex, 5 to 8 percent slopes      | A      | 322.0          | 4.0%           |
| 57                                                                            | Cowarts-Troup complex, 12 to 18 percent slopes   | C      | 3.0            | 0.0%           |
| 59                                                                            | Notcher fine sandy loam, 0 to 2 percent slopes   | C      | 380.6          | 4.7%           |
| 60                                                                            | Notcher fine sandy loam, 2 to 5 percent slopes   | C      | 254.2          | 3.1%           |
| 61                                                                            | Notcher fine sandy loam, 5 to 8 percent slopes   | C      | 79.5           | 1.0%           |
| 62                                                                            | Bama fine sandy loam, 0 to 2 percent slopes      | A      | 9.8            | 0.1%           |
| 63                                                                            | Bama fine sandy loam, 2 to 5 percent slopes      | A      | 38.2           | 0.5%           |
| 64                                                                            | Red Bay fine sandy loam, 0 to 2 percent slopes   | B      | 79.7           | 1.0%           |
| 65                                                                            | Red Bay fine sandy loam, 2 to 5 percent slopes   | B      | 2.8            | 0.0%           |
| 99                                                                            | Water                                            |        | 124.4          | 1.5%           |
| <b>Totals for Area of Interest</b>                                            |                                                  |        | <b>8,106.6</b> | <b>100.0%</b>  |

### Rating Options—Hydrologic Soil Group (Eleven Mile Creek Basin)

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher



# References

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American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_054262](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262)

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053577](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577)

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053580](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580)

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\\_053374](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374)

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>



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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)





United States  
Department of  
Agriculture

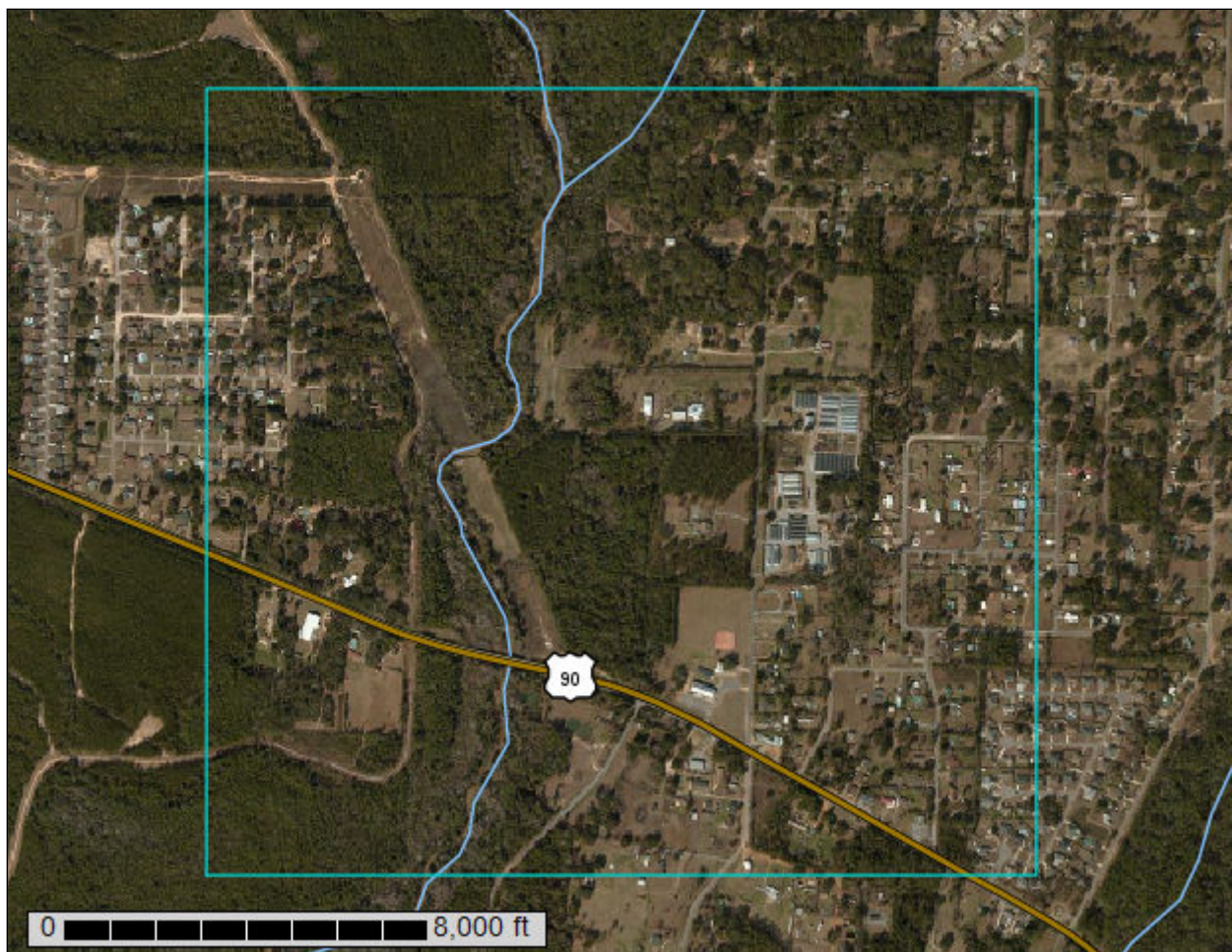
**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for **Escambia County, Florida**

## Eleven Mile Creek



September 12, 2017



# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil



scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and



## Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.



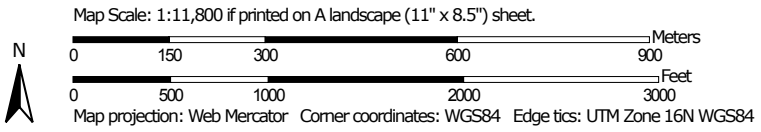
# Soil Map

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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



# Custom Soil Resource Report Soil Map





## Custom Soil Resource Report

### MAP LEGEND

#### Area of Interest (AOI)

 Area of Interest (AOI)

#### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

#### Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

#### Water Features

 Streams and Canals

#### Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

#### Background

 Aerial Photography

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Escambia County, Florida  
Survey Area Data: Version 14, Sep 23, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 31, 2015—Mar 7, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

| Escambia County, Florida (FL033)   |                                                                             |              |                |
|------------------------------------|-----------------------------------------------------------------------------|--------------|----------------|
| Map Unit Symbol                    | Map Unit Name                                                               | Acres in AOI | Percent of AOI |
| 21                                 | Lakeland sand, 8 to 12 percent slopes                                       | 0.6          | 0.1%           |
| 25                                 | Poarch sandy loam, 2 to 5 percent slopes                                    | 138.6        | 27.4%          |
| 33                                 | Troup sand, 5 to 8 percent slopes                                           | 13.2         | 2.6%           |
| 36                                 | Lucy loamy sand, 2 to 5 percent slopes                                      | 1.5          | 0.3%           |
| 38                                 | Bonifay loamy sand, 0 to 5 percent slopes                                   | 97.2         | 19.2%          |
| 39                                 | Bonifay loamy sand, 5 to 8 percent slopes                                   | 14.5         | 2.9%           |
| 43                                 | Albany sand, 0 to 5 percent slopes                                          | 11.3         | 2.2%           |
| 46                                 | Garcon-Bigbee-Yemassee complex, 0 to 5 percent slopes, occasionally flooded | 107.9        | 21.4%          |
| 48                                 | Pelham-Yemassee complex, occasionally flooded                               | 9.9          | 2.0%           |
| 49                                 | Dorovan muck and Fluvaquents, frequently flooded                            | 14.2         | 2.8%           |
| 50                                 | Bigbee-Garcon-Fluvaquents complex, flooded                                  | 45.5         | 9.0%           |
| 51                                 | Pelham loamy sand, 0 to 2 percent slopes                                    | 15.6         | 3.1%           |
| 54                                 | Troup-Poarch complex, 8 to 12 percent slopes                                | 26.7         | 5.3%           |
| 99                                 | Water                                                                       | 8.3          | 1.6%           |
| <b>Totals for Area of Interest</b> |                                                                             | <b>505.2</b> | <b>100.0%</b>  |



# **Soil Information for All Uses**

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## **Soil Properties and Qualities**

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

## **Soil Qualities and Features**

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

## **Hydrologic Soil Group**

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.



## Custom Soil Resource Report

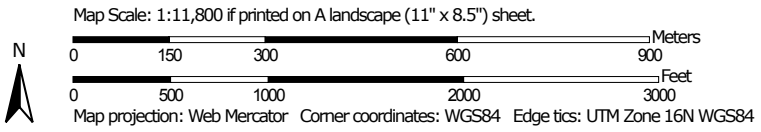
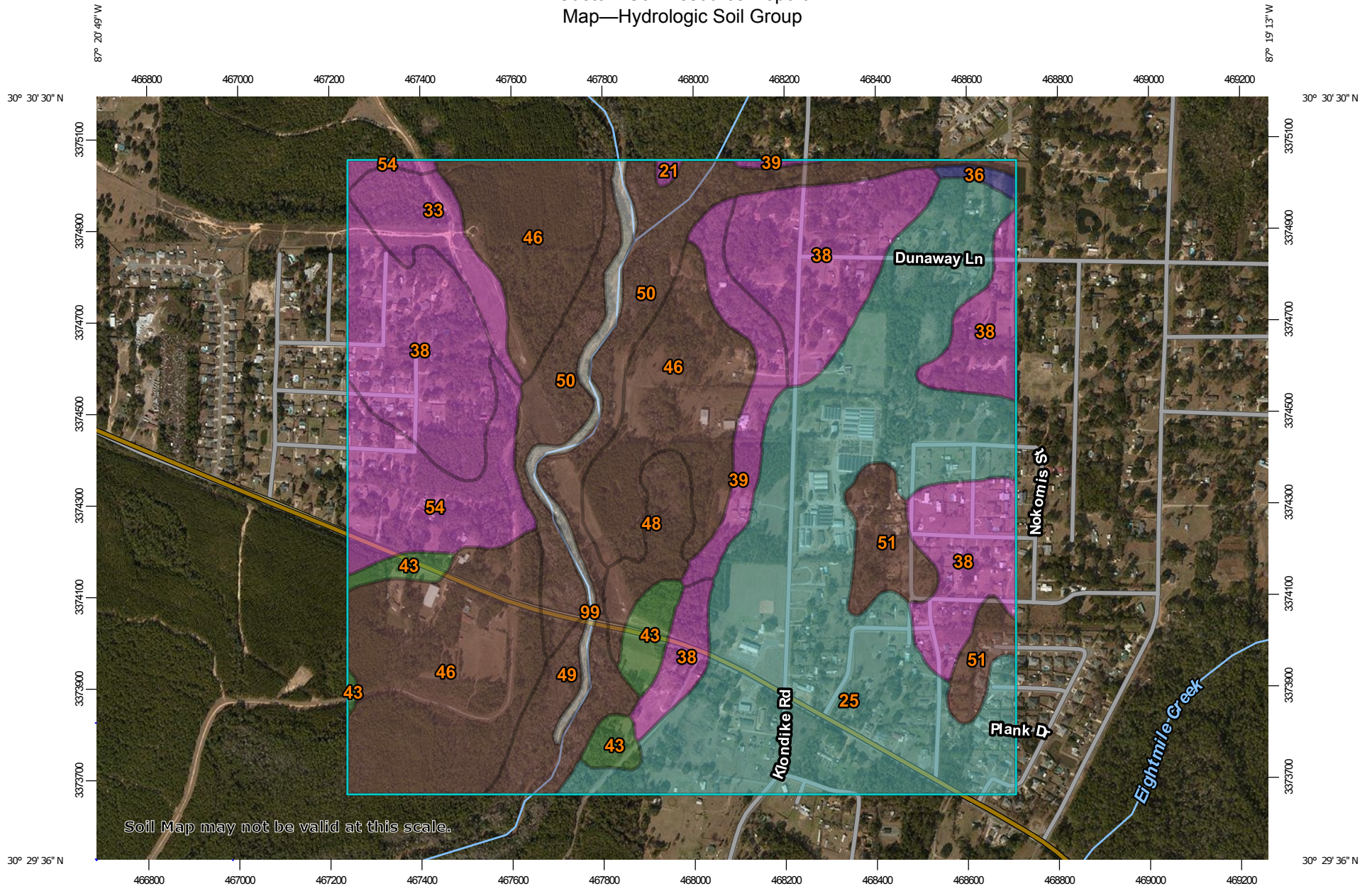
Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.



# Custom Soil Resource Report Map—Hydrologic Soil Group





## Custom Soil Resource Report

### MAP LEGEND

#### Area of Interest (AOI)

 Area of Interest (AOI)

#### Soils

##### Soil Rating Polygons

 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

##### Soil Rating Lines

 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

##### Soil Rating Points

 A  
 A/D  
 B  
 B/D

 C  
 C/D  
 D  
 Not rated or not available

#### Water Features

 Streams and Canals

#### Transportation

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

#### Background

 Aerial Photography

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

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This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Escambia County, Florida  
Survey Area Data: Version 14, Sep 23, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 31, 2015—Mar 7, 2015

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**Table—Hydrologic Soil Group**

| Hydrologic Soil Group— Summary by Map Unit — Escambia County, Florida (FL033) |                                                                             |        |              |                |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------|--------------|----------------|
| Map unit symbol                                                               | Map unit name                                                               | Rating | Acres in AOI | Percent of AOI |
| 21                                                                            | Lakeland sand, 8 to 12 percent slopes                                       | A      | 0.6          | 0.1%           |
| 25                                                                            | Poarch sandy loam, 2 to 5 percent slopes                                    | C      | 138.6        | 27.4%          |
| 33                                                                            | Troup sand, 5 to 8 percent slopes                                           | A      | 13.2         | 2.6%           |
| 36                                                                            | Lucy loamy sand, 2 to 5 percent slopes                                      | B      | 1.5          | 0.3%           |
| 38                                                                            | Bonifay loamy sand, 0 to 5 percent slopes                                   | A      | 97.2         | 19.2%          |
| 39                                                                            | Bonifay loamy sand, 5 to 8 percent slopes                                   | A      | 14.5         | 2.9%           |
| 43                                                                            | Albany sand, 0 to 5 percent slopes                                          | A/D    | 11.3         | 2.2%           |
| 46                                                                            | Garcon-Bigbee-Yemassee complex, 0 to 5 percent slopes, occasionally flooded | B/D    | 107.9        | 21.4%          |
| 48                                                                            | Pelham-Yemassee complex, occasionally flooded                               | B/D    | 9.9          | 2.0%           |
| 49                                                                            | Dorovan muck and Fluvaquents, frequently flooded                            | B/D    | 14.2         | 2.8%           |
| 50                                                                            | Bigbee-Garcon-Fluvaquents complex, flooded                                  | B/D    | 45.5         | 9.0%           |
| 51                                                                            | Pelham loamy sand, 0 to 2 percent slopes                                    | B/D    | 15.6         | 3.1%           |
| 54                                                                            | Troup-Poarch complex, 8 to 12 percent slopes                                | A      | 26.7         | 5.3%           |
| 99                                                                            | Water                                                                       |        | 8.3          | 1.6%           |
| <b>Totals for Area of Interest</b>                                            |                                                                             |        | <b>505.2</b> | <b>100.0%</b>  |

**Rating Options—Hydrologic Soil Group***Aggregation Method: Dominant Condition**Component Percent Cutoff: None Specified**Tie-break Rule: Higher*



# References

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- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_054262](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262)
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053577](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577)
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053580](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580)
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\\_053374](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374)
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>



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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)