



APPENDIX K
DRAFT REAL ESTATE PLAN



Prepared May 2021



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A. PURPOSE OF THE REAL ESTATE PLAN

This Real Estate Plan (REP) presents the real estate requirements and costs for the Integrated Final Feasibility Report with Integrated Environmental Assessment for the North Desoto Flood Risk Management Study. The Real Estate Plan is tentative in nature; it is for planning purposes only and both the final real property acquisition lines and the real estate cost estimates provided are subject to change even after approval of the Final Report. Design optimization and feature prioritization will be performed after project authorization; therefore, this Real Estate Plan may be revised upon further analysis. Detailed maps for access, staging and other specifics relating to project features may not be developed until each project feature or measure undergoes more detailed design analysis.

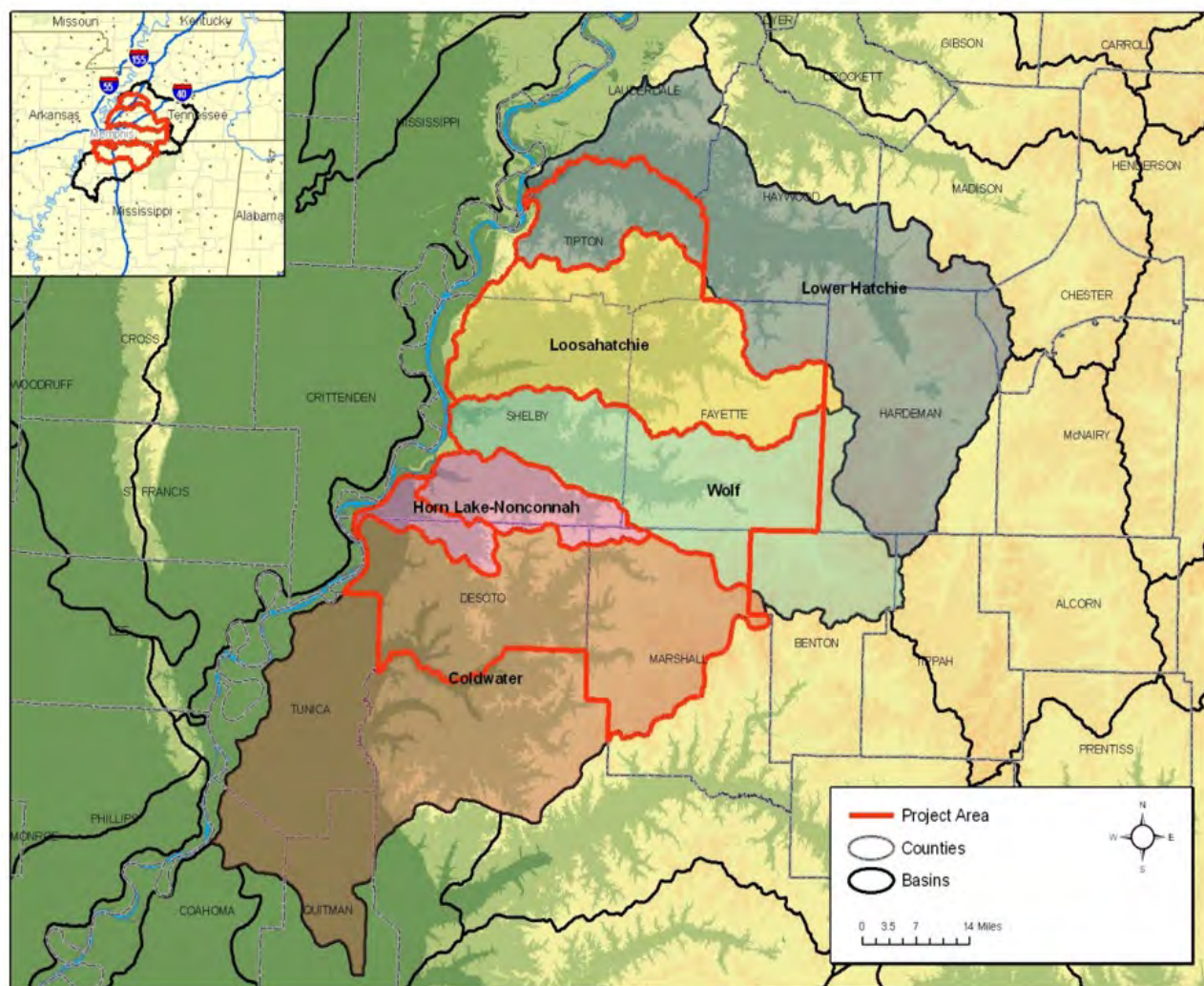


Figure A-1. Memphis Metro Basins



B. PROJECT AUTHORIZATION

The United States House of Representatives Committee on Transportation and Infrastructure adopted a resolution on March 7, 1996. Memphis Metro Area. The committee resolved that the Secretary of the Army review the report of the Chief of Engineers, Tennessee and Mississippi, Docket No. 2475, 104th Congress, 2nd Session on the Wolf River and Tributaries, Tennessee and Mississippi, published as House Document Numbered 76, Eighty-fifth Congress, and other pertinent reports, to determine whether any modifications of the recommendations contained therein are advisable at this time, with particular reference to the need for improvements for flood control, environmental restoration, water quality, and related purposes associated with storm water runoff and management in the metropolitan Memphis, Tennessee area and tributary basins including Shelby, Tipton, and Fayette Counties, Tennessee, and DeSoto and Marshall Counties, Mississippi. This area includes the Hatchie River, Loosahatchie River, Wolf River, Nonconnah Creek, Horn Lake Creek, and Coldwater River Basins. The review shall evaluate the effectiveness of existing Federal and non-Federal improvements and determine the need for additional improvements to prevent flooding from storm water, to restore environmental resources, and to improve the quality of water entering the Mississippi River and its tributaries.

C. STUDY AREA AND PROJECT PURPOSE

FLOOD RISK MANAGEMENT PROJECT AREA

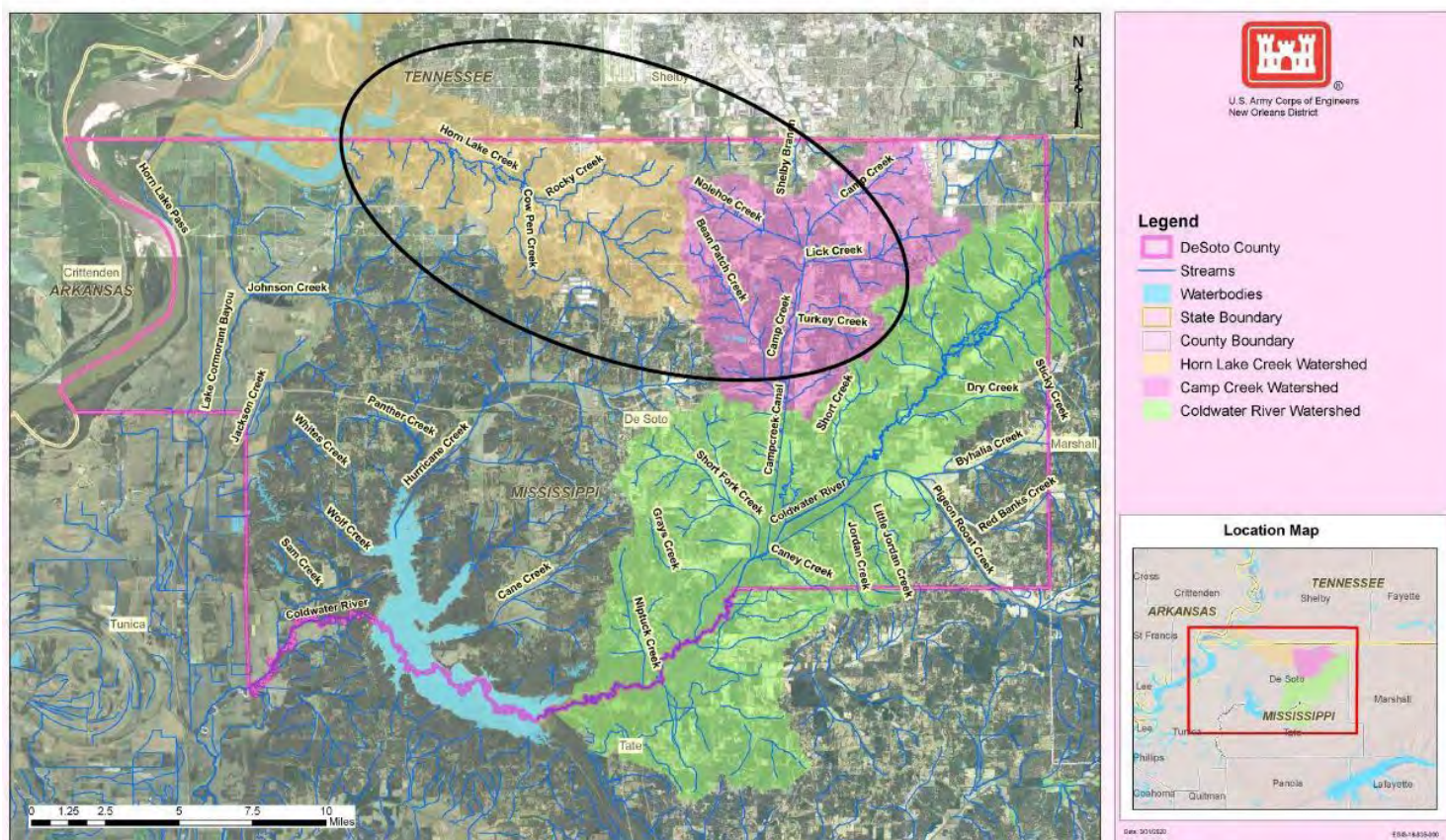


Figure C-1. Creeks within the Flood Risk Management Area



The authority covers a large area including six river basins, across five counties in two states and as such affords the ability to work with multiple sponsors. In this case the local sponsor is Desoto County, Mississippi. In describing the area of study for the workplan request, the focus was channels and streams located within the boundaries of Desoto County. The area described in the budget fact sheets submitted in support of the new start describe the study area as follows: The study area lies in the Horn Lake Creek, Hurricane Creek, Johnson Creek, and Coldwater River watersheds in northern Desoto County, MS including the cities of Horn Lake, Southaven, Olive Branch, Walls, and Hernando. The most significant flooding issues occur in the northern part of the county, while channel instability and aquatic habitat degradation is more widespread.

The specific project areas have been defined as Horn Lake Creek, the headwaters of Nonconnah Creek, and tributaries to the Coldwater River and/or Arkabutla Lake including the Camp Creek Basin, Hurricane Creek, Cane Creek, Mussacuna Creek, and Johnson Creek. The following geographic features lie in the project area and would have to be addressed if project features may affect them. Some of these may lead to Planning Constraints.

Interstate 55 bisects the area north to south and the I-69 corridor bisects it east to west. U.S. Highways 51 and 61 also lie in the project area. Three major rail lines run north-south through the area Canadian National/Illinois Central, Burlington Northern, and Grenada Railway LLC. There are several large underground pipelines and an overhead Tennessee Valley Authority transmission line in the project area as well. The area lies approximately two miles south of the runways at Memphis International Airport.

Horn Lake Creek is approximately 26 miles in length, crossing the Tennessee Mississippi state line approximately 12 stream miles upstream. Horn Lake Creek has a total drainage area of 54 square miles with 42 square miles in Mississippi. Major tributaries include Rocky Creek, Cow Pen Creek, and Southaven Creek. The creek and its tributaries serve as the primary drainage outlets for the cities of Southaven and Horn Lake, Mississippi. Increased urbanization of these two cities and other areas adjacent to the creek's floodplain has increased the rainfall runoff rate, flooding, and erosion of streams in the basin.

Nonconnah Creek originates in DeSoto County north of Olive Branch, Mississippi. The upper Nonconnah Creek basin drains approximately 45 square miles, with most of that area occurring in Tennessee. Land uses include industrial, commercial, and residential along with agricultural and forested.

Camp Creek is approximately 10 miles in length and has a total drainage area of approximately 145 square miles. Major tributaries include Nolehoe and Licks Creeks. Camp Creek and its tributaries serve as the primary drainage outlets for Olive Branch, Mississippi. Land in the Nolehoe-Camp Creek Basin is mainly commercial and residential in the upper reaches, changing over to a majority of agricultural and forested in the lower reaches. Camp Creek is a tributary to the Coldwater River above Lake Arkabutla.

Nolehoe Creek is a small tributary to Camp Creek with mixed rural and urban land use (Figure 1). The watershed is approximately 9.3-square miles, this urbanizing watershed flows through Olive Branch, Mississippi where it flows into Camp Creek. This watershed includes urban, forest, cropland, pasture, as well as scrub/barren lands (Homer et al., 2011).

Licks Creek, like Nolehoe, is a small tributary to Camp Creek. Land use is highly developed with residential and commercial properties with some forested and agricultural areas in the upper and lower reaches. Licks Creek flows from northeast to southwest into Camp Creek.



Johnson Creek is a 4th order stream that has a total drainage area of 34.1 square miles. This stream flows from its headwaters at Twin Lakes Subdivision near the City of Horn Lake into Lake Cormorant Bayou. Although pasture is the dominant land use within this watershed, cropland is the dominant land use surrounding the water body. A 2008 Total Maximum Daily Load (TMDL) Study completed by the Mississippi Department of Environmental Quality recommends that the Johnson Creek watershed be considered as a priority watershed for riparian buffer zone restoration and any nutrient reduction best management practices (BMP) for the purpose of reducing nutrient loads entering the creek and its tributaries and that such efforts would provide improved water quality for the support of aquatic life in the water bodies.

This Real Estate Plan has been prepared to support the Horn Lake Creek, Hurricane Creek Basin, Johnson Creek Basin, Coldwater River and Tributaries, Desoto County, Mississippi Draft Feasibility Report with Integrated Environmental Assessment by addressing the overall real estate requirements and provide estimated real estate cost for the Tentatively Selected Plan (TSP) in the study.

The study will address flood risk and develop multi-purpose features to resolve problems in the project area. It will analyze environmentally sustainable solutions to address the problems associated with flooding and aquatic habitat degradation. Channel Enlargement, retention and or detention structures to reduce the flood peak, floodplain restoration in critical reaches, and other features will be examined. Wetland and bottomland hardwood forest restoration for flood retention and environmental purposes will also be considered. Recreation features such as biking and hiking trails will be considered as appropriate.

Damaging floods occurred in May 2010, May 2011, September 2014, and March 2016. The area received a Presidential Disaster Declaration in 2011. The U.S. Small Business Administration provided federal assistance after the 2014 flood. Flooding inundates major transportation corridors and several neighborhoods, isolates communities, damages public infrastructure and development (residential, commercial and industrial), and threatens life safety. Unstable channels, lack of suitable riparian cover, altered flow regime, and loss of wetlands and floodplains all degrade habitat in the area. Repeated flooding occurs within the City of Horn Lake, Southaven, and Olive Branch, and Hernando. The channels that will be evaluated include Horn Lake Creek and Tributaries, Hurricane Creek Basin, Johnson Creek Basin, and Coldwater River and Tributaries.

Recent development has reduced floodplain and aquatic habitat. Most of the wetlands and bottomland hardwoods have been drained and developed. Increased runoff is causing channel instability, scouring and degrading aquatic habitat.

The information provided within this REP is based on preliminary data suitable only for planning purposes and is subject to change after approval of this REP and feasibility study.



D. PROJECT MAPS

Larger versions of the project maps displayed within this document, as well as additional maps showing project features, are located within Annex 1 Tentative Selected Plan (TSP) and Annex 2 National Ecosystem Restoration Plan (NER).

E. NON-FEDERAL SPONSOR

The Non-Federal Sponsor (NFS) for the Study is DeSoto County, Mississippi. DeSoto County, Mississippi signed a Federal Cost Share Agreement (FCSA) with the United States Army Corp of Engineers' Memphis District on 21 September 2018. The NFS will be notified in writing of their responsibilities under Public Law 91-646.

F. TENTATIVELY SELECTED PLAN SUMMARY

The Tentatively Selected Plan (TSP) as discussed in the main report includes both a Flood Risk Management (FRM) plan, a 0.04 AEP nonstructural aggregation in the Horn Lake Creek and Upper Coldwater basin, and an ecosystem restoration plan which maximizes ecosystem benefits. The TSP is also the locally preferred plan. Per USACE Guidance, the Project Delivery Team (PDT) identified the alternative that reasonably maximizes net economic benefits consistent with protecting the nation's environment. This plan, the National Economic Development Plan (NED) included the channel enlargement, a single detention basin on Lateral D (a tributary of Horn Lake Creek), combined with nonstructural aggregation to address residual flooding. While this alternative has the greatest net benefits, the DeSoto County Board of Supervisors identified a larger plan that maximizes annual benefits and would reduce flooding over roadways. The Locally Preferred Plan, which is also the Flood Risk Management (FRM) TSP includes included the channel enlargement, three detention basins (one on each of three tributaries of Horn Lake Creek), combined with nonstructural aggregation to address residual flooding. The (FRM) TSP is estimated to produce approximately 4.5 million dollars in annual benefits at an average annual cost of nearly \$3.7 million, for a Benefit to Cost Ratio (BCR) of 1.22.

National Ecosystem Restoration (NER) TSP - The National Ecosystem Restoration (NER) plan maximizes ecosystem restoration benefits compared to costs. The NER plan includes a bank stabilizing system of grade control structures coupled with riparian restoration on eleven streams (Camp, Cane, Horn Lake, Hurricane, Johnson, Lick, Mussacuna, Nolehoe, Nonconnah, Red Banks, and Short Fork Creeks). The NER plan is estimated to provide 819 Average Annual Habitat Units at an average annual cost of 1.7K per AAHU. The total annual cost of the NER plan is 1.4M.



The Tentatively Selected Plan (TSP) contains both Flood Risk Management (FRM) and National Ecosystem Restoration (NER) components.

Therefore, the TSP consists of implementing the following measures:

- (FRM) TSP PROJECT FEATURES:
 - Nonstructural measures: to reduce the risk of flood damages to residential and non-residential structures that have first floor elevations at or below the 0-25-year flood plain. An assessment of at-risk properties has currently identified a total of 37 total structures (23 residential, 8 apartments, and 6 commercial) that appear to meet the preliminary eligibility criteria for participation in the Project. For comparison, the FRM-NED Plan identified a total of 58 total structures (34 residential, 8 apartments, and 16 commercial) that appear to meet the preliminary eligibility criteria for participation in the Project.
 - Structural measures: Channel enlargement in Horn Lake Creek along with 3 detention sites (Lateral D, Rocky Creek and Cow Pen Detention Sites)
- (NER) TSP PROJECT FEATURES
 - Bank stabilizing system of grade control structures coupled with riparian restoration on eleven streams (Camp, Cane, Horn Lake, Hurricane, Johnson, Lick, Mussacuna, Nolehoe, Nonconnah, Red Banks, and Short Fork Creeks).

G. FRM-TSP AND FRM-NED NONSTRUCTURAL FEATURES

The Nonstructural FRM-TSP and FRM-NED both consists of the following risk reduction measures:

- Elevation to the 100-year base flood elevation (BFE) based on year 2019 hydrology of eligible residential structures. If the required elevation is greater than 13 feet above ground level, the structure would not be eligible for elevation.
- Dry flood-proofing to the BFE generally means the use of a variety of techniques to reduce the risk of flood damage to a structure by making that structure resistant to flooding.
- Nonstructural measures of the TSP will be voluntary in nature.



Figure G-1 below shows an overview of the locations of properties that are eligible for participation in the nonstructural program within the study area.

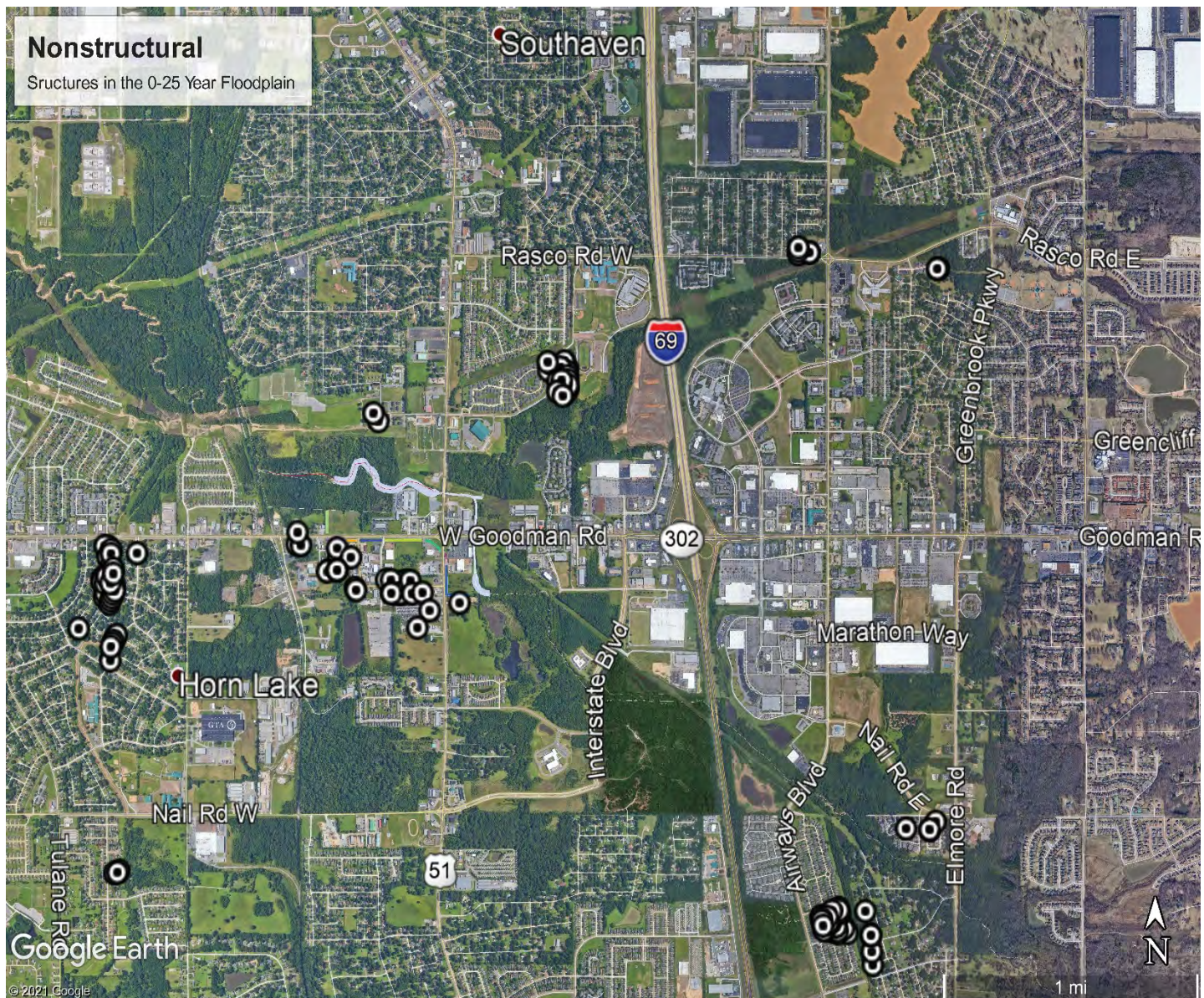


Figure G-1. FRM-TSP Overview Map of Eligible Nonstructural Program Properties

The District will prepare a Nonstructural Implementation Plan, which will provide details regarding possible methods of program implementation. It is assumed that all properties have legal access by way of public streets or existing public right-of-way. Further it is assumed that residential and commercial properties participating in the program will have sufficiently large sites to accommodate staging of material and equipment. For the purposes of this report, the assumption is that no further real estate rights need to be acquired for access to the properties or staging. Should additional right-of-way be necessary, a standard Temporary Work Area Easement would be acquired.



G.1.1 RESIDENTIAL STRUCTURE ELEVATION

Some or all of this information may be modified as the implementation plan is finalized as a part of Planning, Engineering and Design (PED).

Each residential structure that is located within the 0-25-year floodplain will be considered for eligibility for elevation of the structure “in place”. Elevations will be voluntary in nature and will be available to willing landowners for structures that meet the eligibility criteria. If after completion of the investigation of the property, USACE determines that the structure is eligible for elevation, the entire foundation of the structure will be lifted and placed on a new foundation (i.e., columns, piers, posted or raised foundation walls) so that the lowest habitable finished floor is at or above the 100-year BFE. All utilities and mechanical equipment, such as air conditioners and water heaters, will also be raised to or above this elevation.

G.1.2 DRY FLOOD PROOFING OF NON-RESIDENTIAL STRUCTURES

Dry flood proofing consists of sealing all areas from the ground level up to approximately 3 ft of a structure to reduce the risk of flood damage of a certain magnitude, as described in this report, by making walls, doors, windows and other openings resistant to penetration by flood waters. Walls are coated with sealants, waterproofing compounds, or plastic sheeting is placed around the walls and covered, and back-flow from water and sewer lines prevention mechanisms such as drain plugs, standpipes, grinder pumps, and back-up valves are installed. Openings, such as doors, windows, sewer lines and vents, may also be closed temporarily, with sandbags or removable closures, or permanently.

Some common flood proofing measures include:

- Backflow valves;
- Closures on doors, windows, stairwells, and vents—they may be temporary or permanent;
- Rearranging or protecting damageable property--e.g., relocate or raise utilities;
- Sump pumps and sub-drains; and
- Water resistant material; metal windows, doors and jambs; waterproof adhesives; sealants and floor drains.



G.2 FRM-TSP AND FRM-NED STRUCTURAL FEATURES

The structural portion of the Tentatively Selected Plan consists of implementing channel enlargement in Horn Lake Creek in conjunction with 3 detention sites known as Lateral D, Cow Pen, and Rocky. The Horn Lake Creek Channel Enlargement will increase bottom width to 40 feet, there will be some slope flattening and excavation material will be disposed of off-site. Riprap will be placed on the bottom of the channel and 5 feet up both banks. The detention sites will include reinforced concrete pipe outlets, and overflow spillways. The real estate costs presented herein for the structural portion of the TSP are based on the estimated acreages and estates shown in the table below. The detention sites will work to reduce structural damages on each of the tributaries and the channel enlargement will serve as the most efficient anchor measure to reduce residual damages from flooding. Included in the tables below the following map is the acreage for the structural portion of the FRM-TSP and the FRM-NED Plan for comparison. The FRM-NED plan consists of implementing channel enlargement in Horn Lake Creek in conjunction with 1 detention site known as Lateral D.

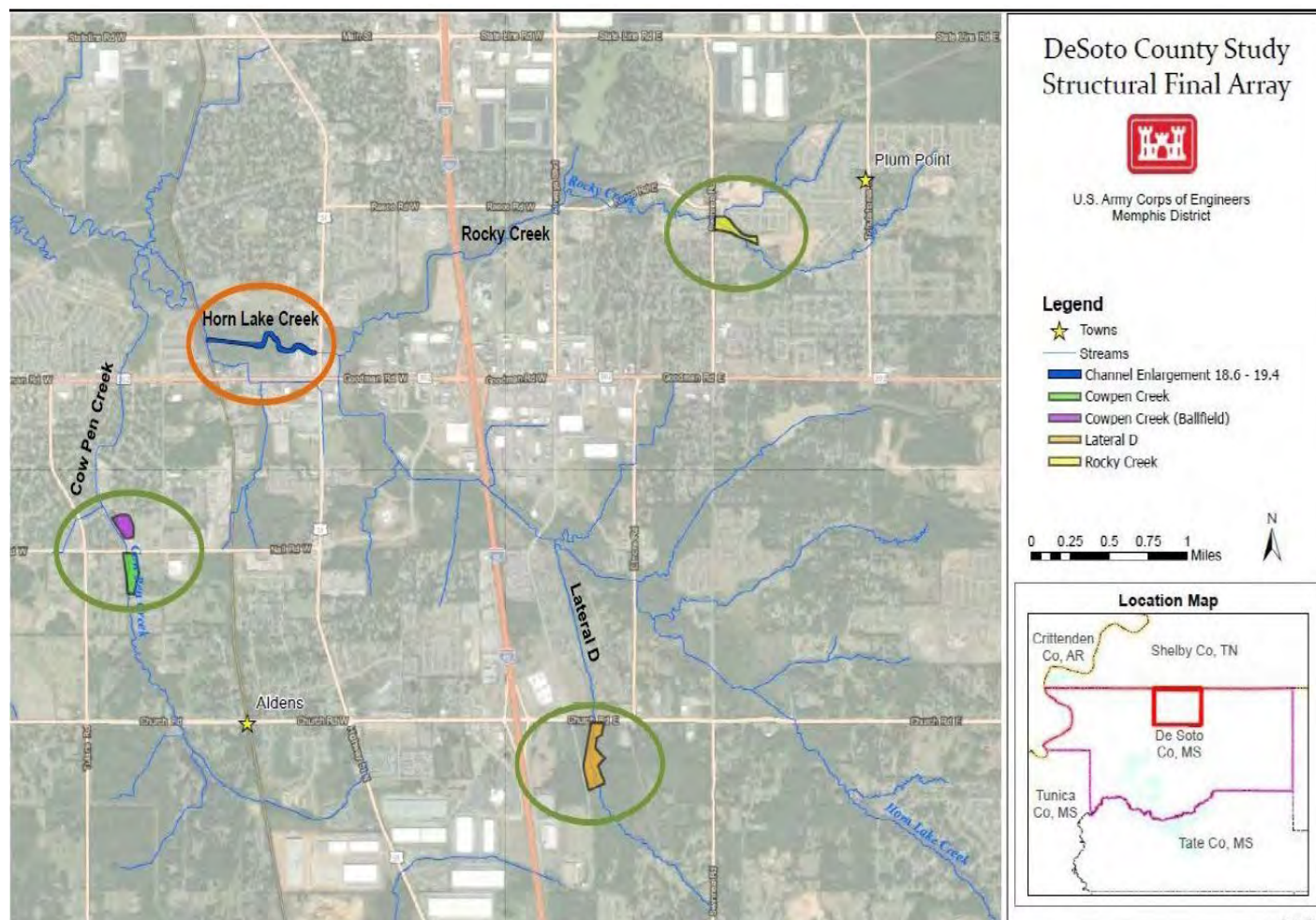


Figure G-2. Map of Final Structural Alternatives for Flood Risk Reduction



Figure G-3. Horn Lake Creek Channel Enlargement and Detention Sites

	Acres	Landowners
Structural Components for FRM-TSP		
Perpetual Channel Improvement Easement	22.50	9
Perpetual Road Easement	2.0	9
Temporary Road Easement (5Yr. Temporary)	TBD	TBD
Temporary Work Area Easement (5Yr. Work/Disposal)	12	1
Fee Simple - Detention Site (Lateral "D")	22.00	1
Fee Simple - Detention Site (Rocky Cr)	10.00	2
Fee Simple - Detention Site (Cow Pen)	14.00	1
Fee Simple - Detention Site (Cow Pen N)	9.00	1
Total	91.50	

Figure G-4. Horn Lake Creek Channel Enlargement and Detention Sites

	Acres	Landowners
Structural Components for FRM-NED		
Perpetual Channel Improvement Easement	22.50	9
Perpetual Road Easement	2.0	9
Temporary Road Easement (5Yr. Temporary)	TBD	TBD
Temporary Work Area Easement (5Yr. Work/Disposal)	12	1
Fee Simple - Detention Site (Lateral "D")	22.00	1
Total	58.50	



H. FRM-TSP – ESTATES

STRUCTURAL

The following standard estates will be required for the FRM-TSP Structural Features:

1. Channel Improvement Easement

A perpetual and assignable right and easement to construct, operate, and maintain channel improvement works on, over and across (the land described in Schedule A) (Tracts Nos. _____, _____ and _____) for the purposes as authorized by the Act of Congress approved _____, including the right to clear, cut, fell, remove and dispose of any and all timber, trees, underbrush, buildings, improvements and/or other obstructions therefrom; to excavate: dredge, cut away, and remove any or all of said land and to place thereon dredge or spoil material; and for such other purposes as may be required in connection with said work of improvement; reserving, however, to the owners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

2. Road Easement (Perpetual and Temporary)

A (perpetual [exclusive] [non-exclusive] and assignable) (temporary) easement and right-of-way in, on, over and across (the land described in Schedule A) (Tracts Nos. _____, and _____) for the location, construction, operation, maintenance, alteration replacement of (a) road(s) and appurtenances thereto; together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions and other vegetation, structures, or obstacles within the limits of the right-of-way; (reserving, however, to the owners, their heirs and assigns, the right to cross over or under the right-of-way as access to their adjoining land at the locations indicated in Schedule B); subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

3. Temporary Work Area Easement

A temporary easement and right-of-way in, on, over and across (the land described in Schedule A) (Tracts Nos. _____, _____ and _____), for a period not to exceed _____, beginning with date possession of the land is granted to the (Grantee), for use by the (Grantee), its representatives, agents, and contractors as a (borrow area) (work area), including the right to (borrow and/or deposit fill, spoil and waste material thereon) (move, store and remove equipment and supplies, and erect and remove temporary structures on the land and to perform any other work necessary and incident to the construction of the _____ Project, together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions, and any other vegetation, structures, or obstacles within the limits of the right-of-way; reserving, however, to the landowners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

4. Fee

The fee simple title to (the land described in Schedule A) (Tracts Nos. _____, _____ and _____), subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.



NONSTRUCTURAL

The following standard estates will be required for the FRM-TSP Nonstructural Features:

1. FLOOD PROOFING AGREEMENT

For properties that are eligible for elevation or dry flood proofing or localized flood damage reduction measures, an Agreement will be executed between the NFS and the landowner, which will serve as Right-of-Entry for the NFS and the US Army Corps of Engineers. The agreement, as well as any required curative documents, subordination or release agreement(s), shall be recorded by the NFS in the public records of the County in which the property is located prior to commencement of the nonstructural improvements on the property. A restrictive easement will also be acquired to gain the necessary the rights required for construction (rights for residential elevations, dry flood proofing of eligible non-residential structures). The flood proofing agreement and acquisition of the necessary real estate interest will both be needed.

2. RESTRICTIVE EASEMENT

A perpetual and assignable easement for the establishment, maintenance, operation and use for a (restricted) (safety) area in, on, over and across (the land described in Schedule A) (Tracts Nos. _____, _____ and _____), consisting of the right to prohibit human habitation; the right to remove buildings presently or hereafter being used for human habitation; the right to prohibit gatherings of more than twenty-five (25) persons; the right to post signs indicating the nature and extent of the Government's control; and the right of ingress and egress over and across said land for the purpose of exercising the rights set forth herein; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines; reserving, however, to the landowners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired.

I. FRM-TSP - UNIFORM RELOCATION ASSISTANCE (P.L. 91-646, TITLE II AS AMENDED)

STRUCTURAL

There have not been any residential or nonresidential structures identified for the structural portion of the project that would require the application of relocation assistance benefits.

NON-STRUCTURAL

Voluntary Structure Elevating/Flood Proofing:

If a structure is located within the 0.04 AEP floodplain for the Horn Lake Creek Nonstructural Measures but outside of the FEMA Floodway, participation is voluntary. Because participation would be voluntary, the owner-occupants are not eligible for relocation assistance benefits, in accordance with the Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally-Assisted Programs (URA),



as promulgated by 49 CFR Part 24, paragraphs 24.2(a)(9)(ii)(D), (E), (H), 24.101(a)(2), and applicable sections in Appendix A - Engineering. However, if the owner of a leased residential property participates in the structure elevation, the tenant is considered displaced and is eligible for relocation assistance. We anticipate that comparable replacement dwellings will be available in the study area. We do not anticipate the need for any last resort housing.

Excerpt of the applicable portions of 49 CFR Part 24 as they relate to owner-occupants:
49 CFR Part 24:

(1) Subpart A, paragraph 24.2(a)(9)(ii)(E), Persons Not Displaced definition, states that an owner-occupant who moves as a result of an acquisition of real property that will not be acquired if an agreement cannot be reached, or as a result of rehabilitation of the real property, is not a displaced person. However, the displacement of a tenant as a direct result of any acquisition, rehabilitation or demolition for a Federal or Federally-assisted project is subject to the URA as a displaced person; and (H) states that an owner-occupant who conveys his or her property...after being informed in writing that if a mutually satisfactory agreement on terms of the conveyance cannot be reached, the Agency will not acquire the property. In such cases, however, any resulting displacement of a tenant is subject to the URA as a displaced person; and

(2) Subpart B, paragraphs 24.101(a)(2), (b)(1)(iii), & (b)(2)(i), Applicability of Acquisition Requirements, states that if the agency will not acquire a property because negotiations fail to result in an agreement, the owner of such property is not a displaced person and as such, is not entitled to relocation assistance benefits. However, tenants on such properties may be eligible for relocation assistance benefits.

(Note: the above paragraph is intended to stress that if an agency will not use condemnation as an acquisition tool, then an owner-occupant is not considered a displaced person; conversely, even if an agency does not utilize condemnation as an acquisition tool, tenants may be considered displaced persons. It is understood that if an owner does not participate in the project, then a tenant would not be displaced and would not qualify for relocation assistance.)

In order for the NFS to receive credit towards their cost-share obligations, USACE must provide prior written approval for those expenditures.

DRY FLOOD-PROOFING OF NON-RESIDENTIAL STRUCTURES

It is assumed that for these measures, there will be no requirements for temporary relocation. In the event that relocations are required, in accordance with 49 CFR Part 24 (Subpart A, Section 24.2(a)(9)(ii)(D), property owner/occupants of non-residential structures who willingly participate in the project are not considered displaced, and therefore are not entitled to receive relocations assistance benefits. Additionally, businesses will not receive benefits for temporary loss of operation during construction. Business owners who are tenants of the structure, and who must relocate temporarily during construction, could receive relocation assistance advisory services and moving expenses, in accordance with 49 CFR Part 24.

Mandatory Acquisition of Residential and Non-Residential Structures:

If a structure would require elevating greater than 13 feet to meet the future year 0.01 AEP BFE, the structure may instead be acquired and removed from the floodplain. Also, following detailed design, it may become necessary to acquire structures for permanent evacuation of the FEMA regulated floodway. Such determination would be based on risk and performance. Relocation Assistance would apply to owner-



occupants as well as tenants because participation would no longer be voluntary. Owner occupants and tenants of the residential/non-residential structure would be eligible to receive relocation benefits including advisory services and moving expenses, in accordance with 49 CFR Part 24.

During further refinement, should the need arise for acquisitions for permanent evacuation of the FEMA regulatory floodway or any other areas of critical concern, then eminent domain would be retained as a method of accomplishing acquisitions by the NFS, consistent with USACE Planning Bulletins 2016-01 and 2019-03.

Costs for any mandatory acquisition within the non-structural measures for the TSP and any relocation costs associated with the acquisitions have not been accounted for in this REP. **Based on current data, there will not be any structures that will qualify for mandatory acquisitions for this project.**

1. FRM-TSP - ACCESS

At this stage of the Project, access areas have not been identified for the FRM-TSP features. If during planning, engineering and design, additional access areas are determined to be required on privately owned lands, a Perpetual Road Easement will be acquired for this portion of the project.

2. FRM-TSP - STAGING

Staging area locations have not been identified at this stage of the project. Detailed maps will be prepared during planning, engineering, and design. When additional staging areas are determined to be on privately owned lands, a standard Temporary Work Area Easement will be acquired for the additional right-of-way required for this portion of the project.

3. FRM-TSP - BORROW

Borrow material will not be needed for the FRM-TSP features of the project.

4. FRM-TSP - DISPOSAL

The PDT has identified a disposal location on property owned by Memphis Stone and Gravel. This will be made possible by way of a Temporary Work Area Easement. The disposal area is estimated to be 12 acres. This will be refined during planning, engineering, and design.

5. FRM-TSP - EXISTING FEDERAL PROJECTS WITHIN THE LER REQUIRED FOR THE PROJECT

There are no Federal Projects within the Lands, Easements, Right of Way, Relocations and Disposals Sites (LERRD) required for the project.

6. FRM-TSP - FEDERALLY OWNED LANDS WITHIN THE LER REQUIRED FOR THE PROJECTS

There are no federally owned lands within Lands, Easements, Right of Way, Relocations and Disposals Sites (LERRD) required for the project.



7. FRM-TSP - NON-FEDERAL SPONSOR OWNED LER

The Non-Federal Sponsor (NFS) for the Study, DeSoto County, Mississippi will own some of the county roads needed to access some of the project features.

8. FRM-TSP - FEDERAL NAVIGATION SERVITUDE

The navigation servitude is the dominant right of the Government, under the Commerce Clause of the U.S. Constitution, to use, control, and regulate the navigable waters of the United States and submerged lands thereunder. None of the features for the North Desoto Project will be constructed within navigable waters of the United States, therefore, the navigation servitude will not apply.

9. FRM-TSP - INDUCED FLOODING

Hydraulic modeling has determined that there may be induced flooding averaging 0.2 to 0.3 feet for the reach downstream of the project footprint. This average is computed for the entire range of frequency floods (0.99 to 0.02 AEPs) analyzed. Note that this is within the margin of error for the modeling. As the study progresses the downstream impacts will be refined and mitigated. If it is determined that the project may induce flooding, a Takings Analysis will be prepared to determine if the additional flow of waters will rise to the level of a taking.

10. FRM-TSP and FRM-NED - BASELINE COST ESTIMATES/CHART OF ACCOUNTS

STRUCTURAL

Total real estate costs, excluding mitigation, for the structural component (Horn Lake Creek Channel Enlargement + Lateral D Detention Site, Cow Pen, and Rocky) of the FRM-TSP is \$3,542,694.63. This includes the cost of acquiring channel improvement easements, road easements, detention sites in fee simple, LERRD administrative costs, utility relocations, and contingencies.

Total real estate costs, excluding mitigation, for the structural component (Horn Lake Creek Channel Enlargement + Lateral D Detention Site) of the FRM-NED is \$1,532,760.63. This includes the cost of acquiring channel improvement easements, road easements, 1 detention site in fee simple, LERRD administrative costs, utility relocations, and contingencies.

Mitigation costs have already been captured under the Environmental Costs in the event that mitigation bank credits are purchased. So as not to double count mitigation costs, these mitigation bank costs are accounted for separately.

NON-STRUCTURAL

Total Real Estate Costs for the Non-Structural portion of the FRM-TSP is \$3,609,375.00. Total Real Estate Costs for the Non-Structural portion of the FRM-NED is \$4,186,250.00. For the FRM-TSP this cost includes relocation assistance for tenants, administrative costs (Flood Proofing Agreement, Title verification, etc.), and contingencies for elevating 34 residential structures and flood proofing 8 apartment buildings, and 16 commercial structures. For the FRM-NED this cost includes relocation assistance for tenants, administrative costs (Flood Proofing Agreement, Title verification, etc.), and contingencies for elevating 23 residential structures and flood proofing 8 apartment buildings, and 6 commercial structures.



If a structure would require elevating greater than 13 feet to meet the future year 0.01 AEP, the structure may instead be acquired and removed from the floodplain. The 13' height is based on guidance provided in the FEMA publication P-550.

During further refinement, should the need arise for acquisitions for permanent evacuation of the FEMA regulatory floodway or any other areas of critical concern, then eminent domain would be retained as a method of accomplishing acquisitions by the NFS, consistent with USACE Planning Bulletins 2016-01 and 2019-03. **Based on current data, there will not be any structures that will qualify for mandatory acquisitions for this project.**

11. FRM-TSP - TIMBER/MINERAL/ROW CROP ACTIVITY

There are no known mineral recovery activities currently ongoing or anticipated, or oil/gas wells present on the project LERRD and the immediate vicinity that will impact the construction, operation, or maintenance of the project. There will be no acquisition of mineral interest from the surface owner or outstanding in third parties over the easements. Subordination of any outstanding or third-party rights, easements, or leases will require evaluation on a case by case basis. If it is determined that any such outstanding right may negatively impact the intended use of the lands, subordination of that right by separate transaction is recommended.

12. FRM-TSP - ZONING

Zoning ordinances proposed in lieu of, or to facilitate, acquisition in connection with the project have not been determined.

13. FRM-TSP - ACQUISITION SCHEDULE

STRUCTURAL PORTION

The following schedule shows the tasks and duration for acquisition of the LERRD required for the project. This schedule is subject to change based on project priorities and how the NFS will handle acquisitions. This schedule is for preliminary planning purposes for schedule estimating; it is based on a worst-case scenario that all tracts are acquired at the same time.

1. Mapping	1 year
2. Title	1 year
3. Appraisals (begin concurrent with title)	1 year
4. Negotiations	2 years
5. Closing	1 year
6. Condemnation *	1 year
7. LER Certification	3 months

*Overlaps with closing timeframe



NON-STRUCTURAL PORTION

The nonstructural measures may include elevations and flood proofing of structures. Such work would require execution of an agreement between the landowner and the NFS. In addition, the following administrative functions, among others, would be required: title research, HTRW analysis, and structural condition analysis, and additional property inspections to determine eligibility. Temporary rights of entry would have to be obtained from the owners in order to perform some of these administrative duties. An implementation plan will be prepared and will be included in the Final Integrated Feasibility Report and Environmental Impact Statement.

Tasks shown below would likely vary by property; therefore, the schedule shown is the overall anticipated time for the total number of structures and assumes an overlap of tasks. The schedule is dependent upon a defined nonstructural implementation plan and assumes that project funding will be available every year. Therefore, this estimated schedule is expected to be refined as more information becomes available during PED and implementation of the authorized project.

1. Obtain Right-of-Entry for Investigations (To Determine Eligibility)	6-12 months
2. *Title research	1 year
3. Preliminary Investigations (i.e. HTRW, structural, surveys, etc.)	6-12 months
4. Execution of agreement b/w landowner & NFS & curative docs	6-12 months
5. Filing Agreement between landowner & NFS	6 -12 months
6. Relocation of Displaced Tenants	12-24 months
7. LER Certification	3 months

14. FRM-TSP - FACILITY/UTILITY RELOCATIONS

Utility and Facility Relocation surveys have not been completed. Any conclusion or categorization contained in this report that an item is a utility or facility relocation is preliminary only. The government will make a final determination of the relocations necessary for the construction, operation or maintenance of the project after further analysis and completion and approval of final attorney's opinions of compensability for each of the impacted utilities and facilities.

15. FRM-TSP - HAZARDOUS, TOXIC AND RADIOACTIVE WASTE

An HTRW site is known at the lower channel enlargement area. MDEQ is aware of the HTRW site, and the project delivery team will work to avoid it during feasibility level design. Additional investigation may be required.

16. FRM-TSP - LANDOWNER ATTITUDE

There have not yet been public meetings to address the study or any of the potential plans.

17. FRM-TSP - RISK NOTIFICATION

A risk notification letter has not been sent to the NFS. The NFS will be notified in writing about the risks associated with acquiring land before the execution of the Project Partnership Agreement and the Government's formal notice to proceed with acquisition.



18. FRM-TSP - OTHER REAL ESTATE ISSUES

It is not anticipated that there will be any other real estate issues for this project.



J. NATIONAL ECOSYSTEM RESTORATION (NER) TSP

The National Ecosystem Restoration Plan (NER) consists of implementing Grade Control Structures by way of perpetual channel improvement easements and establishing Riparian Zones for 11 streams by way of fee simple estates in the study area. Grade Control Structures combined with 25% of the available riparian restoration was identified as the National Ecosystem Restoration (NER) Plan and is the tentatively selected plan (TSP) for the ecosystem restoration component of the project.

Grade control structures (GCS) include a variety of rock or concrete structures placed across the channel and anchored in the streambanks to provide a hard point in the streambed that resists the erosion forces of the degradational zone and maintains a streambed elevation. GCS considered include both high and low drop structures.

Riparian Zones include restoration of lands adjacent to stream banks to stabilize soils, and reforest with native vegetation to improve foraging, cover, and reproductive habitats. The proposed riparian buffer strips are to occur along land uses related to agriculture and land that is barren or unforested. The reforestation measure would maintain and improve wildlife habitat on along 11 streams.

The features have the objectives to decrease channel slopes and stabilize bank lines to improve transport of stream flows and sediment to restore and protect aquatic and riparian ecosystems over a 50 period of analysis, improve land use to support channel stabilization and ecosystem restoration, and improve water quality to support aquatic resources.

Maps showing the general location of each of the NER features are located in Annex 2. The project features of the NER-TSP will affect approximately 448 landowners.



Streams	Grade Control Structures	Acres
Horn Lake	14	7.5
Nonconnah	7	3.5
Camp	7	3.5
Cane	9	4.5
Hurricane	9	4.5
Johnson	11	5.5
Lick	3	1.5
Mussacuna	3	1.5
Nolehole	11	5.5
Red Banks	5	2.5
Short Fork	9	4.5
Total	88	44.5
Streams	Riparian Zone	Acres
Horn Lake	1	64
Nonconnah	1	107
Camp	1	98
Cane	1	54
Hurricane	1	160
Johnson	1	122
Lick	1	36
Mussacuna	1	57
Nolehole	1	32
Red Banks	1	48
Short Fork	1	106
Total	11	884

Figure H-1. Table of Grade Control Structures and Riparian Zones Per Stream



1. NER PLAN - LANDS, EASEMENTS & RIGHTS-OF-WAY (LER)

Table H-1 above provides descriptions of the NER Project features. Acquisition for each feature will occur as individual NER features are designed. Refer to Paragraph 7 below for the language of estates to be acquired for the project.

2. NER PLAN - ACCESS

At this stage of the Project, access areas have not been identified for the NER features. If during planning, engineering and design, additional access areas are determined to be required on privately owned lands, a Perpetual Road Easement will be acquired for this portion of the project.

3. NER PLAN - STAGING

Staging area locations have not been identified at this stage of the project. Detailed maps will be prepared during planning, engineering, and design. When additional staging areas are determined to be on privately owned lands, a standard Temporary Work Area Easement will be acquired for the additional right-of-way required for this portion of the project.

4. NER PLAN - BORROW

Borrow material will not be needed for the NER features of the project.

5. NER PLAN - DISPOSAL

The PDT has identified a disposal location on property owned by Memphis Stone and Gravel. This will be made possible by way of a Temporary Work Area Easement.

6. NER PLAN - MITIGATION

The intent of the NER measures is to restore ecosystems; therefore, it is not likely that wetland habitats will be destroyed. The assumption at this time is that no mitigation is necessary. If this assumption changes at a later date, revisions will be made to the REP.



7. NER PLAN - ESTATES

The following standard estates will be required for the NER Plan:

Channel Improvement Easement

A perpetual and assignable right and easement to construct, operate, and maintain channel improvement works on, over and across (the land described in Schedule A) (Tracts Nos. _____, _____ and _____) for the purposes as authorized by the Act of Congress approved _____, including the right to clear, cut, fell, remove and dispose of any and all timber, trees, underbrush, buildings, improvements and/or other obstructions therefrom; to excavate: dredge, cut away, and remove any or all of said land and to place thereon dredge or spoil material; and for such other purposes as may be required in connection with said work of improvement; reserving, however, to the owners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

Road Easement (Perpetual and Temporary)

A (perpetual [exclusive] [non-exclusive] and assignable) (temporary) easement and right-of-way in, on, over and across (the land described in Schedule A) (Tracts Nos. _____, and _____) for the location, construction, operation, maintenance, alteration replacement of (a) road(s) and appurtenances thereto; together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions and other vegetation, structures, or obstacles within the limits of the right-of-way; (reserving, however, to the owners, their heirs and assigns, the right to cross over or under the right-of-way as access to their adjoining land at the locations indicated in Schedule B); subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

Temporary Work Area Easement

A temporary easement and right-of-way in, on, over and across (the land described in Schedule A) (Tracts Nos. _____, _____ and _____), for a period not to exceed _____, beginning with date possession of the land is granted to the (Grantee), for use by the (Grantee), its representatives, agents, and contractors as a (borrow area) (work area), including the right to (borrow and/or deposit fill, spoil and waste material thereon) (move, store and remove equipment and supplies, and erect and remove temporary structures on the land and to perform any other work necessary and incident to the construction of the _____ Project, together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions, and any other vegetation, structures, or obstacles within the limits of the right-of-way; reserving, however, to the landowners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

Fee

The fee simple title to (the land described in Schedule A) (Tracts Nos. _____, _____ and _____), subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.



8. NER PLAN – EXISTING FEDERAL PROJECTS WITHIN THE LER REQUIRED FOR THE PROJECT

There are no Federal Projects within the Lands, Easements, Right of Way, Relocations and Disposals Sites (LERRD) required for the project.

9. NER PLAN - FEDERALLY OWNED LANDS WITHIN THE LER FOR THE PROJECT

There are no federally owned lands within Lands, Easements, Right of Way, Relocations and Disposals Sites (LERRD) required for the project. This includes the TSP and the final array of alternatives.

10. NER PLAN - NON-FEDERAL SPONSOR OWNED LER

There are no non-federal sponsor owned lands within the LER for the project.

11. NER PLAN – FEDERAL NAVIGATION SERVITUDE

The navigation servitude is the dominant right of the Government, under the Commerce Clause of the U.S. Constitution, to use, control, and regulate the navigable waters of the United States and submerged lands thereunder. None of the features for the North Desoto Project will be constructed within navigable waters of the United States, therefore, the navigation servitude will not apply.

12. NER PLAN - INDUCED FLOODING

There will be no induced flooding as a result of the project.

13. NER PLAN - BASELINE COST ESTIMATES/CHART OF ACCOUNTS

Total real estate costs, excluding mitigation, for the NER Plan is \$20,093,518.75. This includes the cost of acquiring channel improvement easements, road easements, riparian zones sites in fee simple, LERRD administrative costs, and contingencies, as well as cost for potential condemnations.

14. NER PLAN - UNIFORM RELOCATION ASSISTANCE (PL 91-646, TITLE II AS AMENDED)

At the time of this report, URA relocations would not be necessary for the NER project features. This information will be refined during PED.

15. NER PLAN - TIMBER/MINERAL/ROW CROP ACTIVITY

For some of the NER project elements, lands with potential farmland use may be removed from agricultural use. Any timber present within required right of way is included in the overall appraised value of the land. In the event the pasture lands are cultivated, the owner will be allowed to harvest crops prior to acquisition. In the event that project schedules do not allow for such, the contributory value of crops will be included in the estimate of property value in the appraisal.



There are no known mineral recovery activities currently ongoing or anticipated, or oil/gas wells present on the project LERRD and the immediate vicinity that will impact the construction, operation, or maintenance of the project. There will be no acquisition of mineral interest from the surface owner or outstanding in third parties over the easements. Subordination of any outstanding or third-party rights, easements, or leases will require evaluation on a case by case basis. If it is determined that any such outstanding right may negatively impact the intended use of the lands, subordination of that right by separate transaction is recommended.

16. NER PLAN - ZONING ORDINANCES

There will be no application or enactment of zoning ordinances in lieu of, or to facilitate, acquisition of real estate rights for NER features of this project.

17. NER PLAN - ACQUISITION SCHEDULE

The following acquisition schedule for ecosystem project features is based on the premise that the project will impact approximately 448 landowners for the NER project features. This tentative schedule provides the total amount of time to complete the acquisition of real estate rights for the construction of the ecosystem project features based on the preliminary information available at this time.

The following schedule shows the tasks and duration for acquisition of the LERRD required for the NER project features. This schedule is subject to change based on project priorities and how the NFS will handle acquisitions. This schedule is for preliminary planning purposes for schedule estimating; it is based on a worst-case scenario that all tracts are acquired at the same time.

1. Mapping	2 years
2. Title	2 years
3. Appraisals (begin concurrent with title)	2 years
4. Negotiations	2 years
5. Closing	2 year
6. Condemnation *	3 years
7. LER Certification	3 months

*Overlaps with closing timeframe

18. NER - FACILITY/UTILITY RELOCATIONS

No facility/utility relocations are anticipated to be required for the NER features of the Project.

19. NER PLAN - HAZARDOUS, TOXIC AND RADIOACTIVE WASTE

A Phase I Environmental Site Assessment was completed in February, 2015. There were no significant issues identified. Current information suggests there will be no HTRW issues within the Project area.

20. LANDOWNER ATTITUDE

There have not yet been public meetings to address the study or any of the potential plans.



21. RISK NOTIFICATION

A risk notification letter has not been sent to the NFS. The NFS will be notified in writing about the risks associated with acquiring land before the execution of the Project Partnership Agreement and the Government's formal notice to proceed with acquisition. This will be sent prior to the final report.

22. OTHER REAL ESTATE ISSUES

It is not anticipated that there will be any other real estate issues for this project.

Prepared By:

Brian Johnson
Realty Specialist
Memphis District
May 11, 2021

Recommended for Approval By:

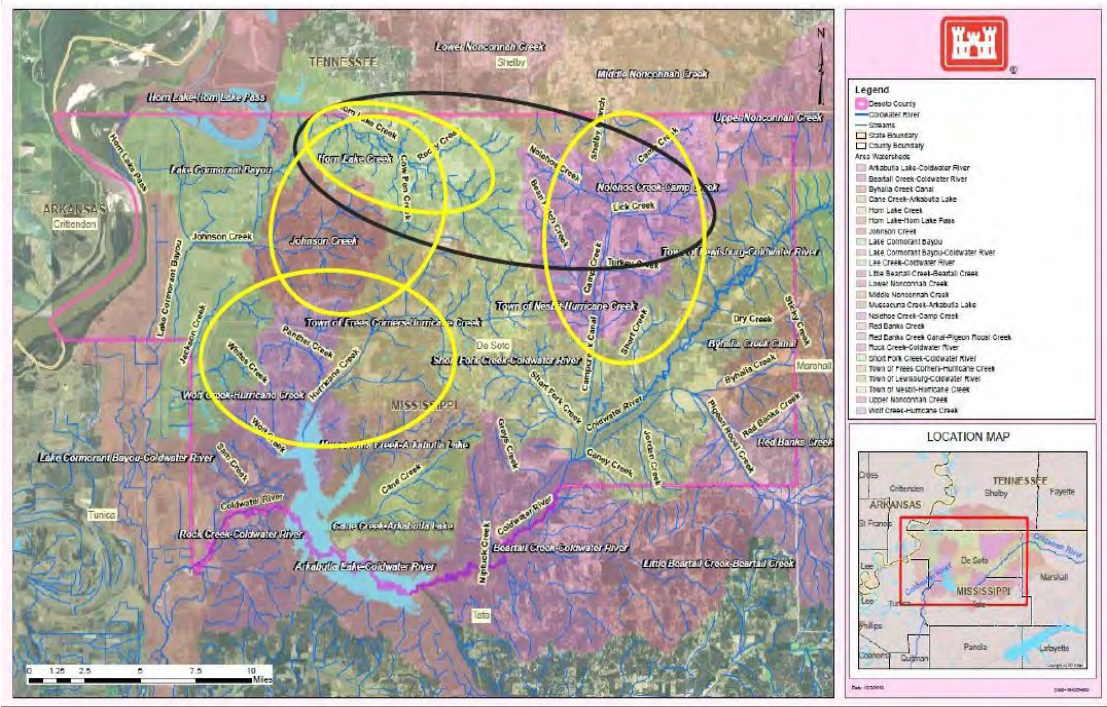
Hugh P. Coleman
Chief, Real Estate Division
May 11, 2021



ANNEX 1
PROJECT MAPS
NED PLAN



STUDY AREA



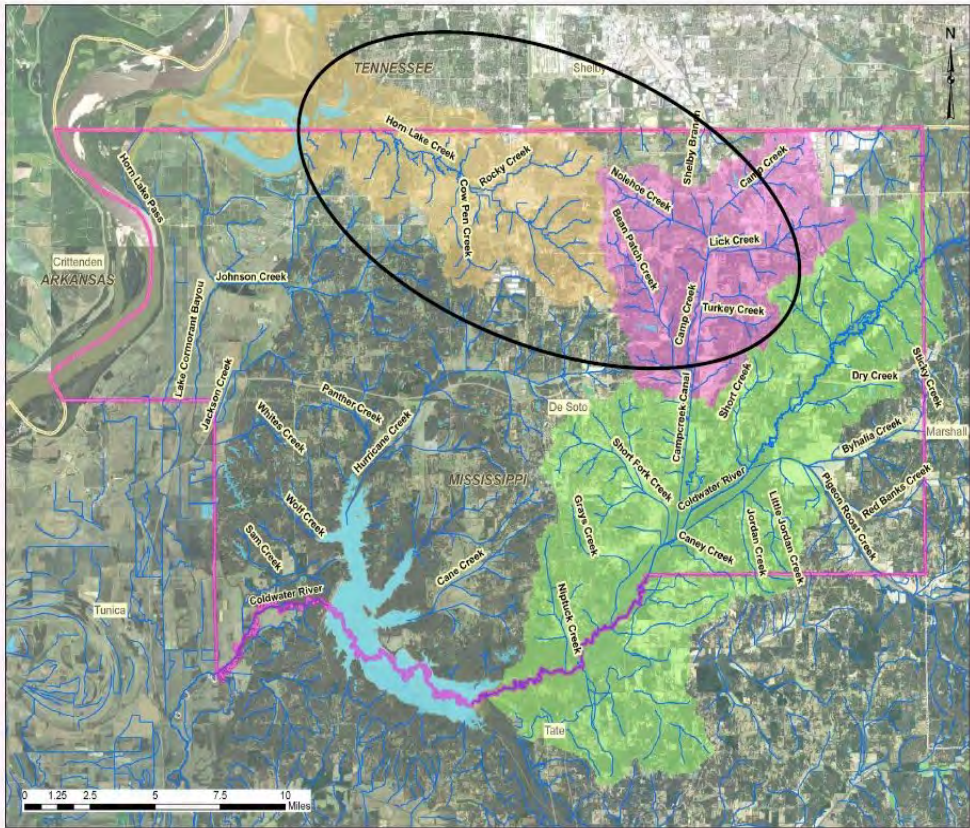
DeSoto County has the fastest growing population in Mississippi (178,751).

Hurricane, Johnson and Horn Lake Creek, and Coldwater River basins were evaluated for flood damages and ecosystem degradation

While Horn Lake Creek, and Coldwater River basins had flood damages, all basins showed varying degrees of channel instability and aquatic habitat degradation



FLOOD RISK MANAGEMENT PROJECT AREA



U.S. Army Corps of Engineers
New Orleans District

Legend

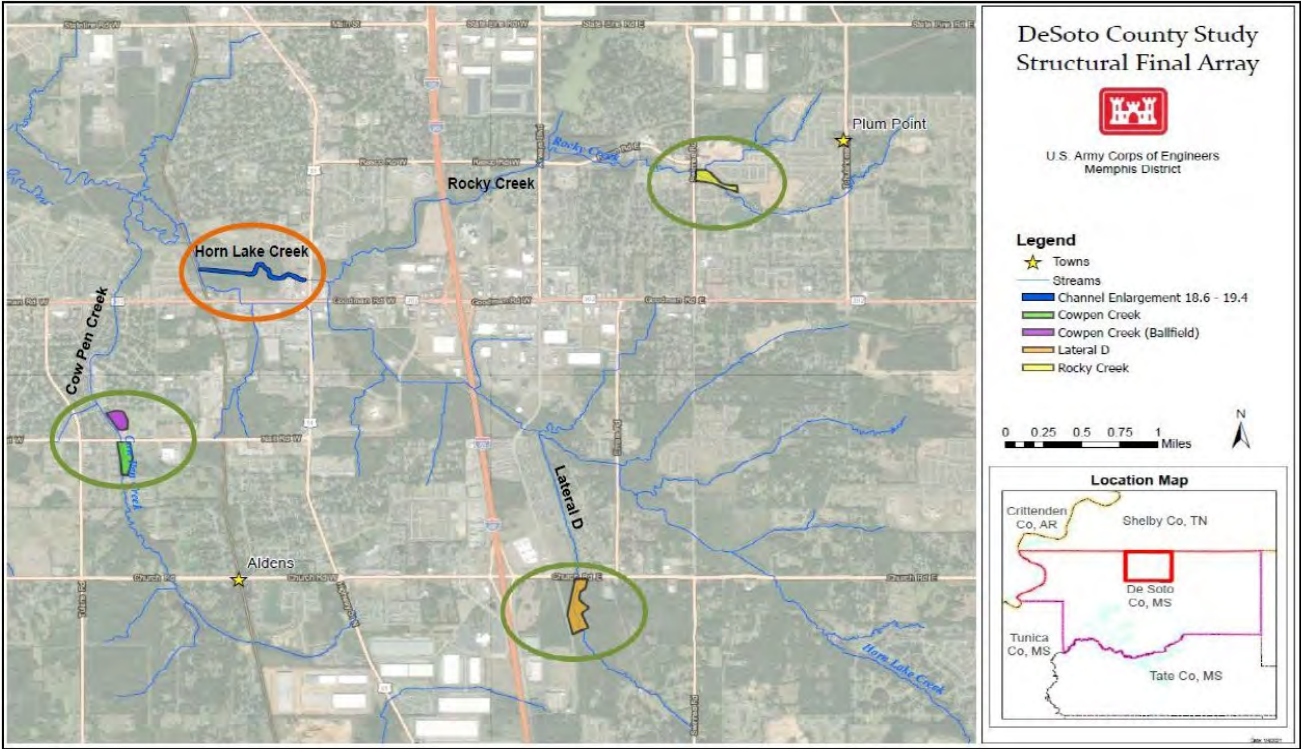
- DeSoto County
- Streams
- Waterbodies
- State Boundary
- County Boundary
- Horn Lake Creek Watershed
- Camp Creek Watershed
- Coldwater River Watershed

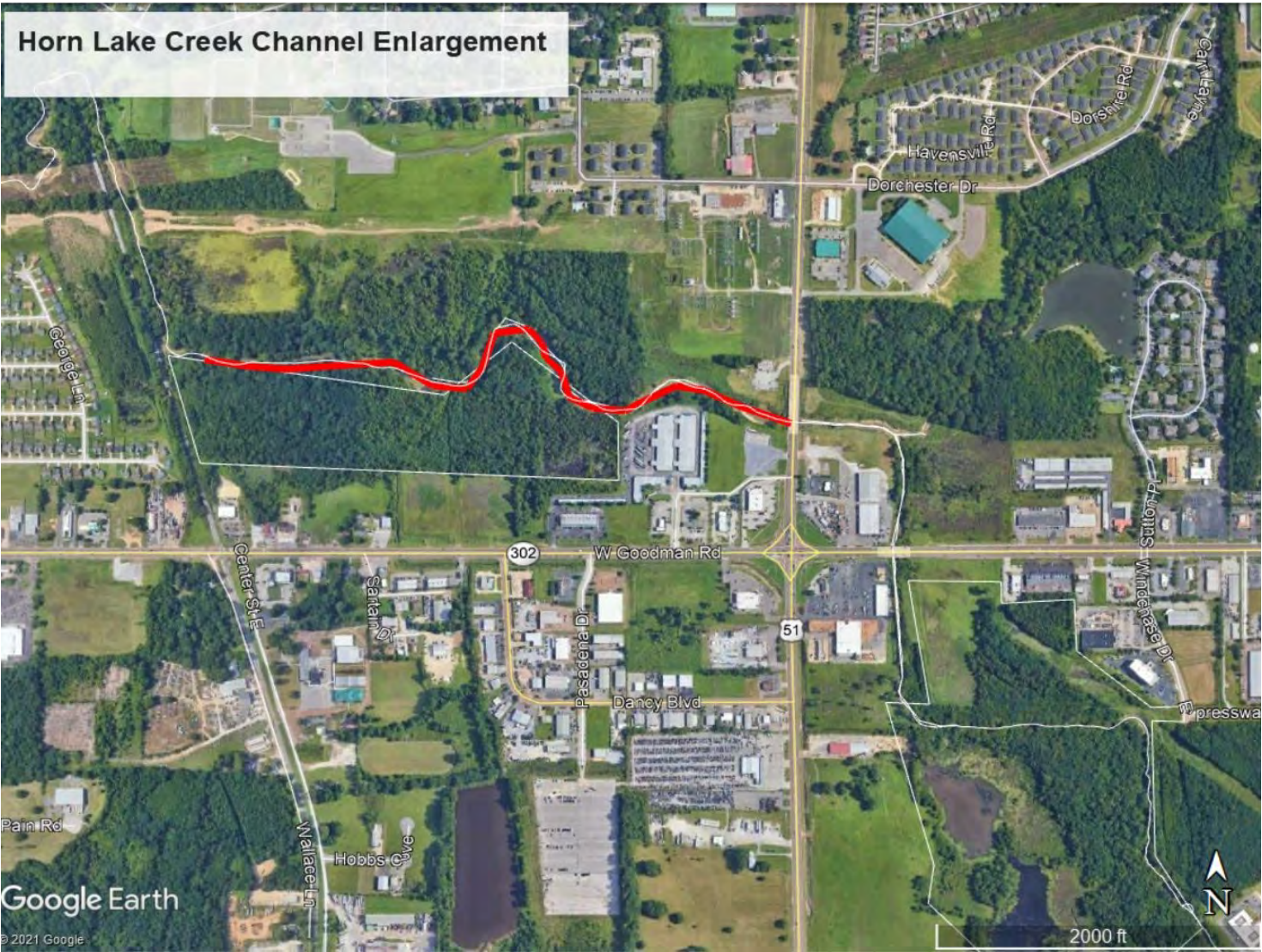
Location Map

Map 3010302 858-1403-000



FINAL STRUCTURAL ALTERNATIVES FOR FLOOD RISK REDUCTION





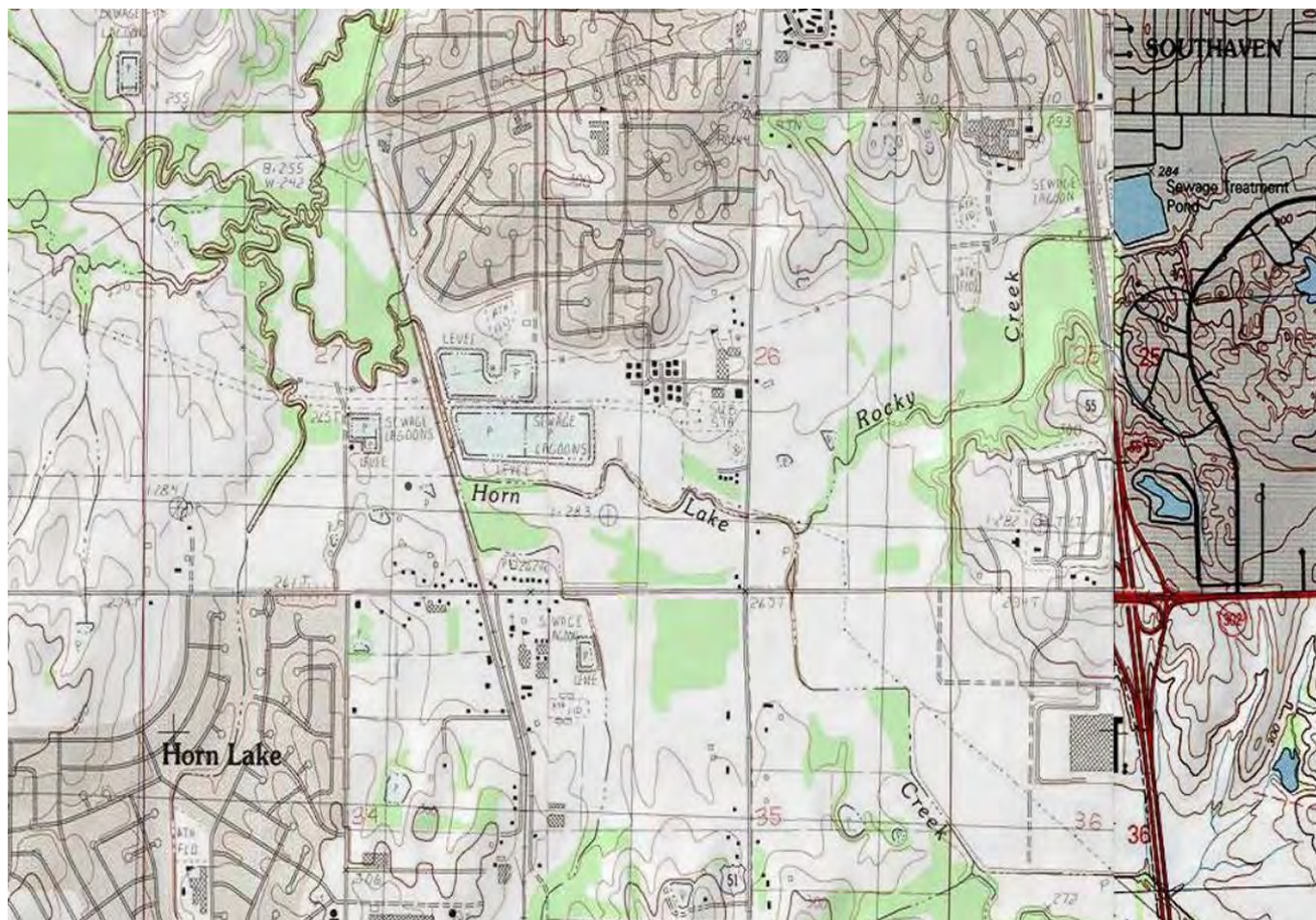






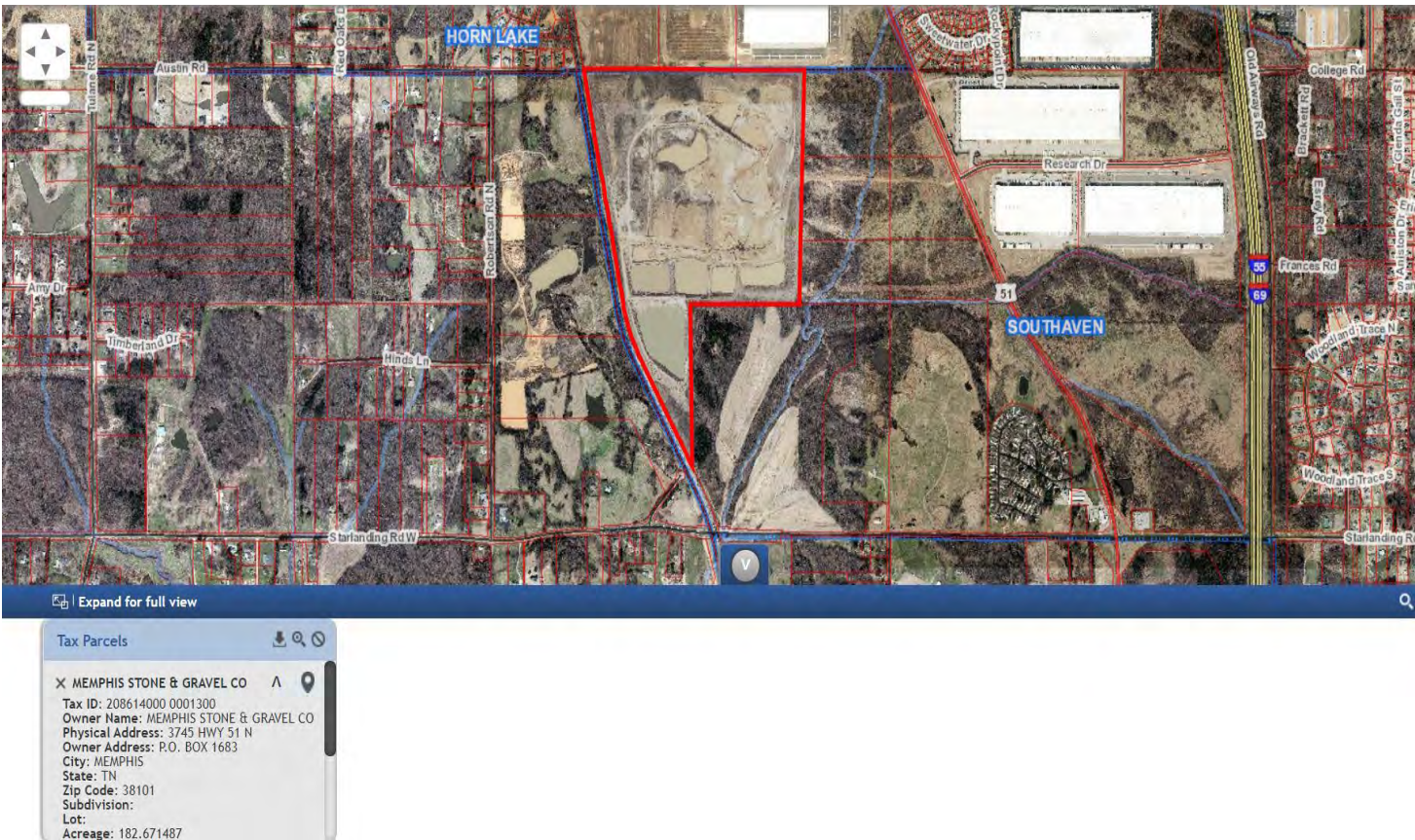


HTRW SITE – SEWER LAGOONS





PROPOSED DISPOSAL SITE – MEMPHIS STONE AND GRAVEL





ANNEX 2
PROJECT MAPS
NER PLAN

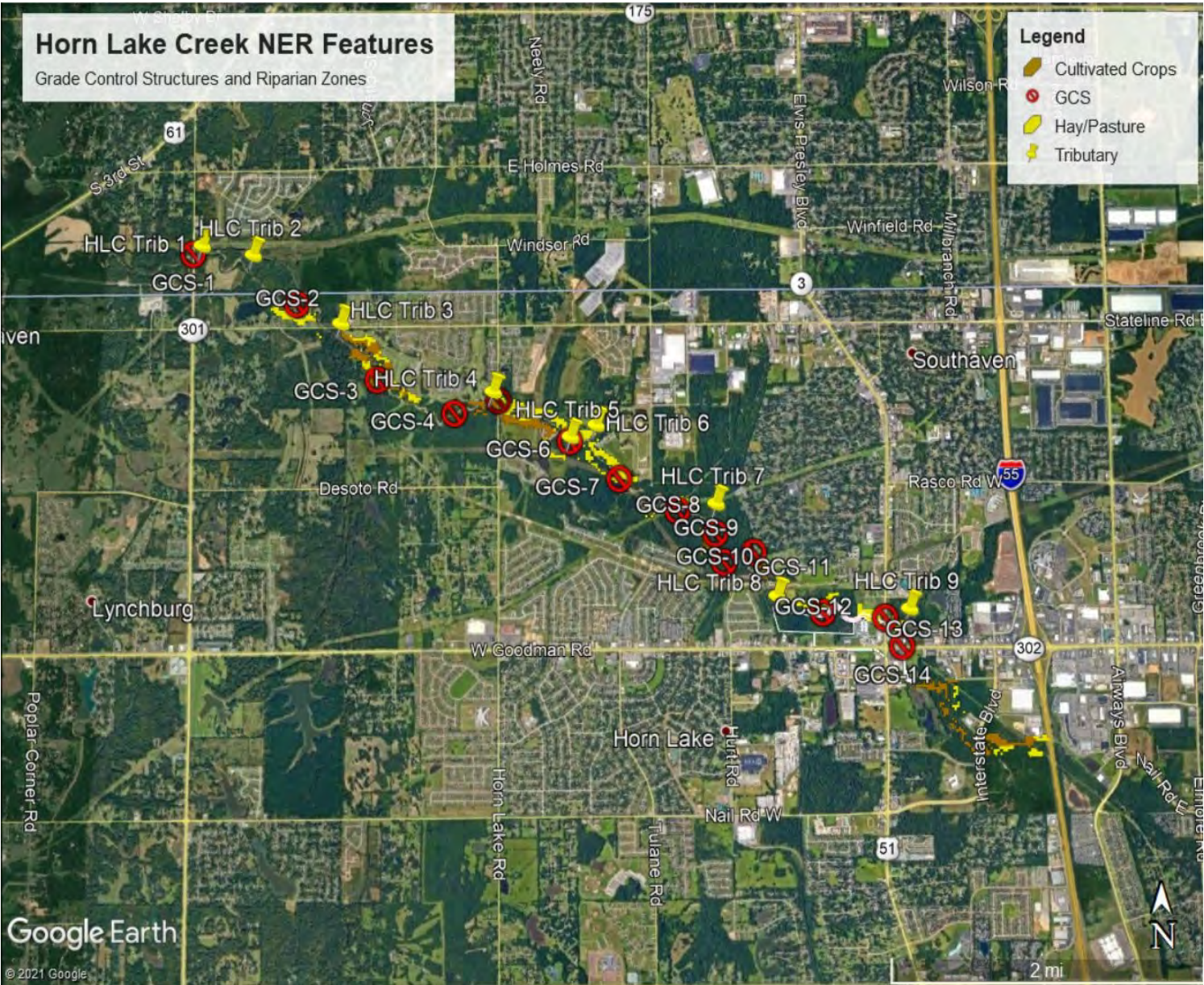


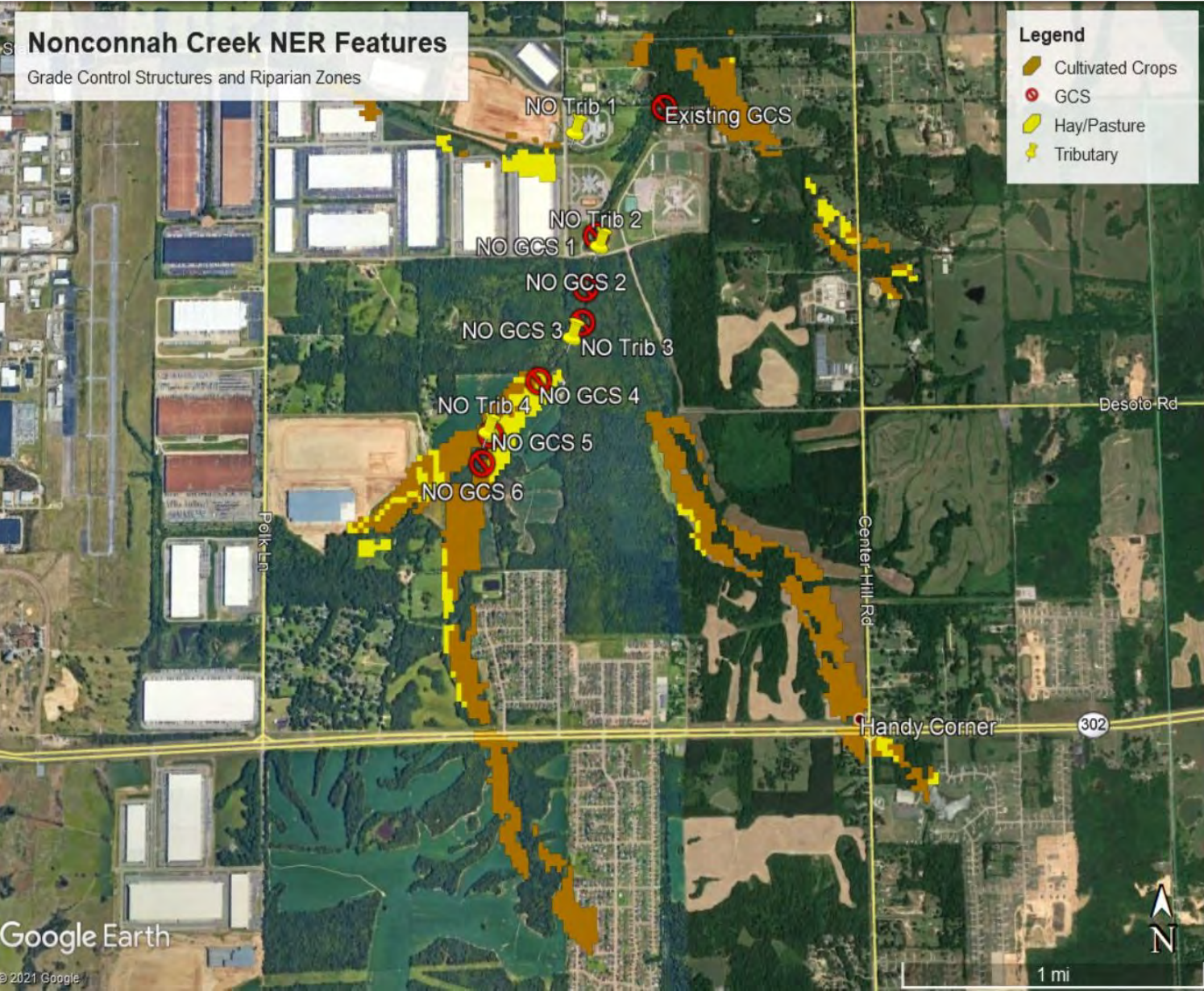
ECOSYSTEM RESTORATION (ER) STUDY AREA

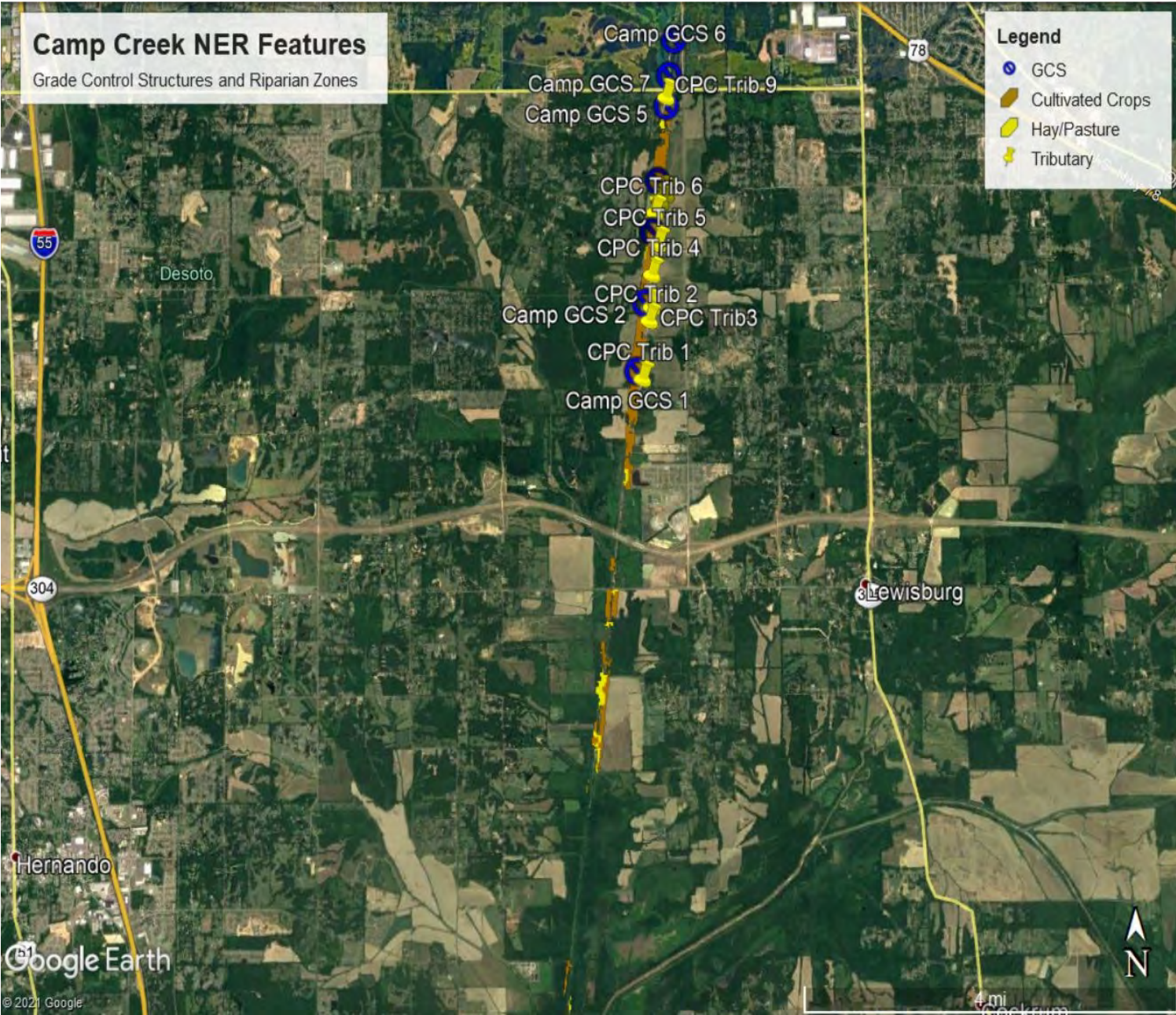
- Ecosystem Restoration has been investigated for the following streams**:
 - Horn Lake Creek
 - (Cow Pen Creek)
 - (Rocky Creek)
 - (Lateral D)
 - Nonconnah Creek
 - (Coldwater River)
 - Lick Creek
 - Nolehoe Creek
 - Camp Creek
 - Hurricane Creek
 - Cane Creek
 - Mussacuna Creek
 - Johnson Creek

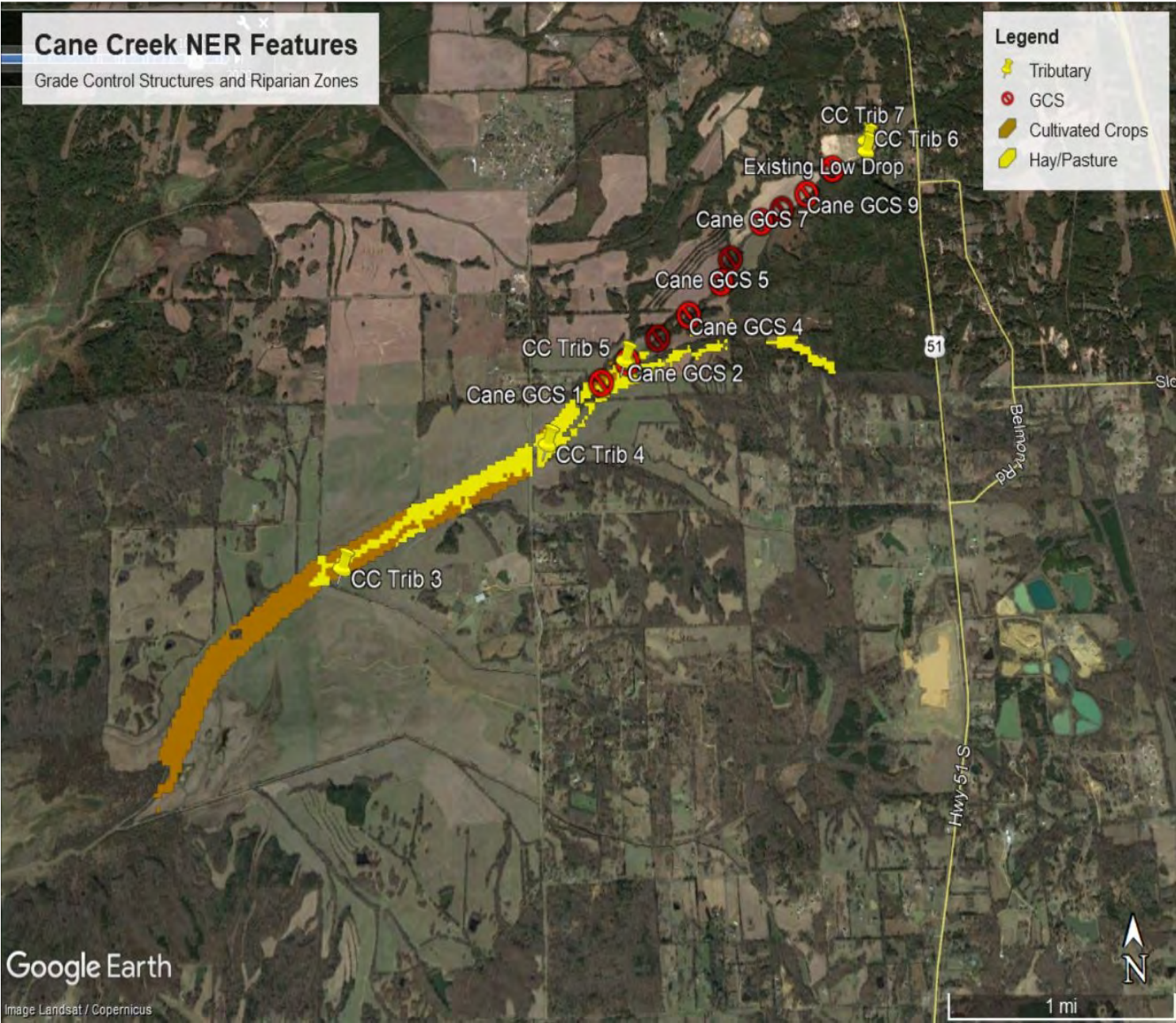
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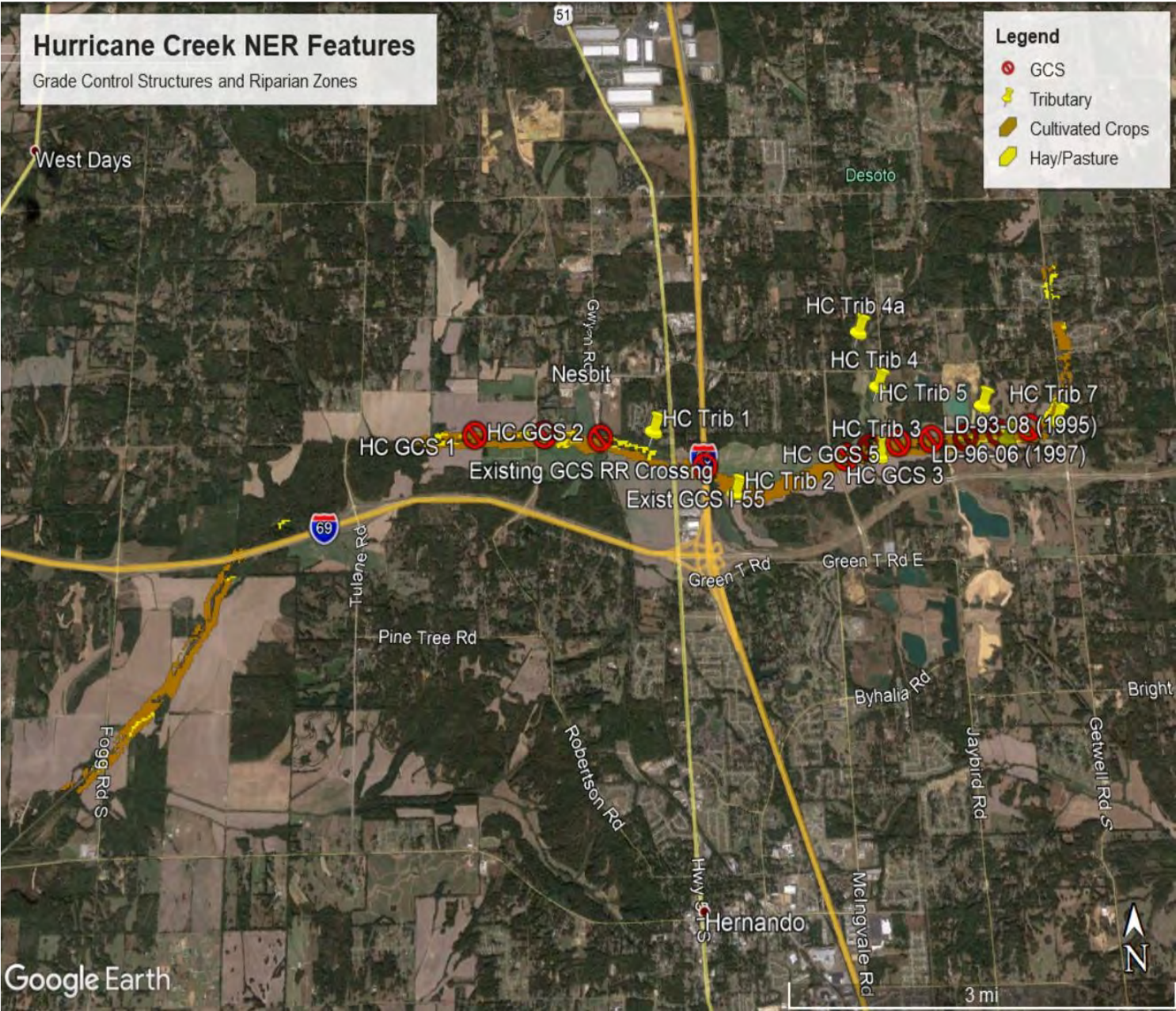


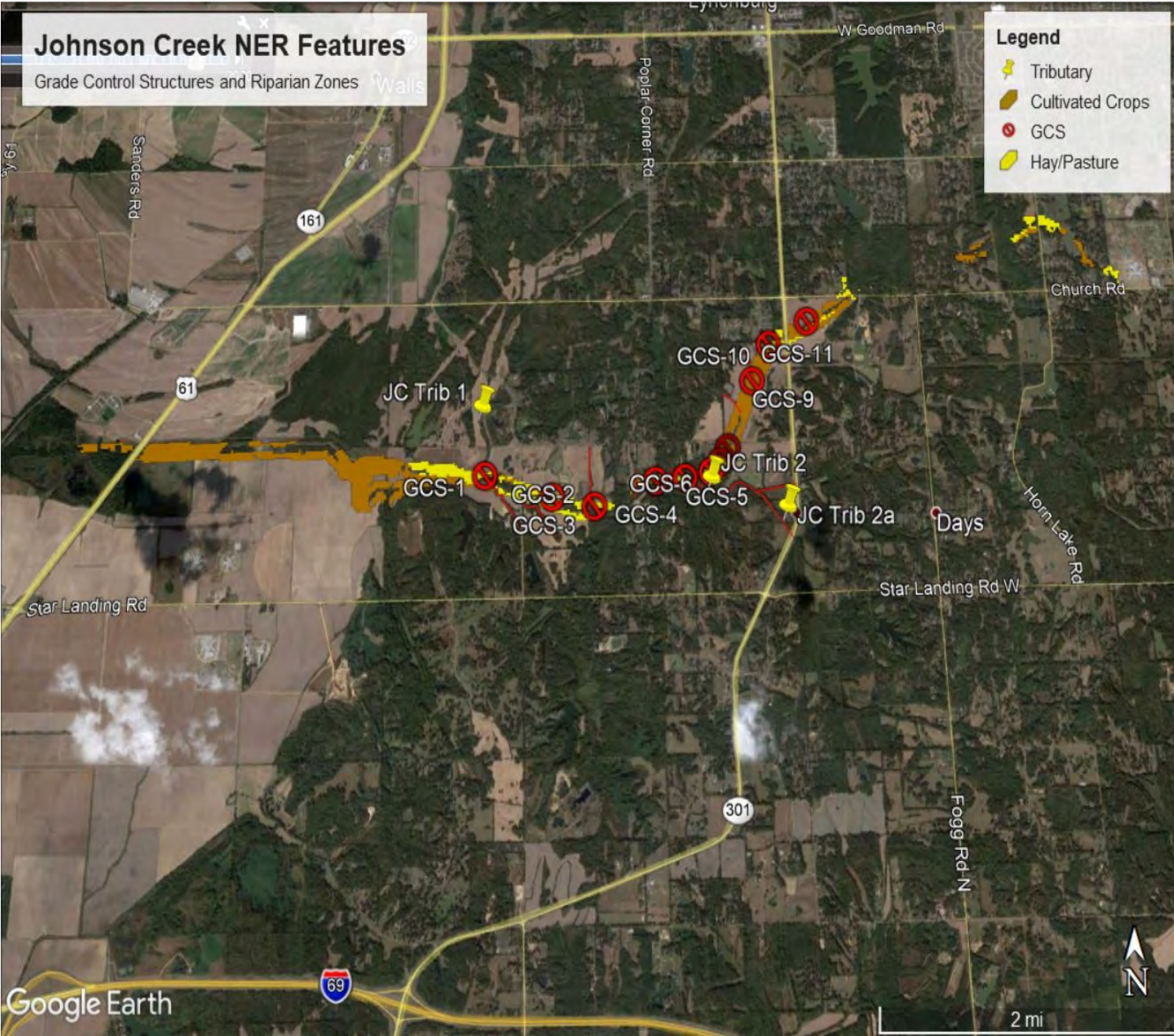




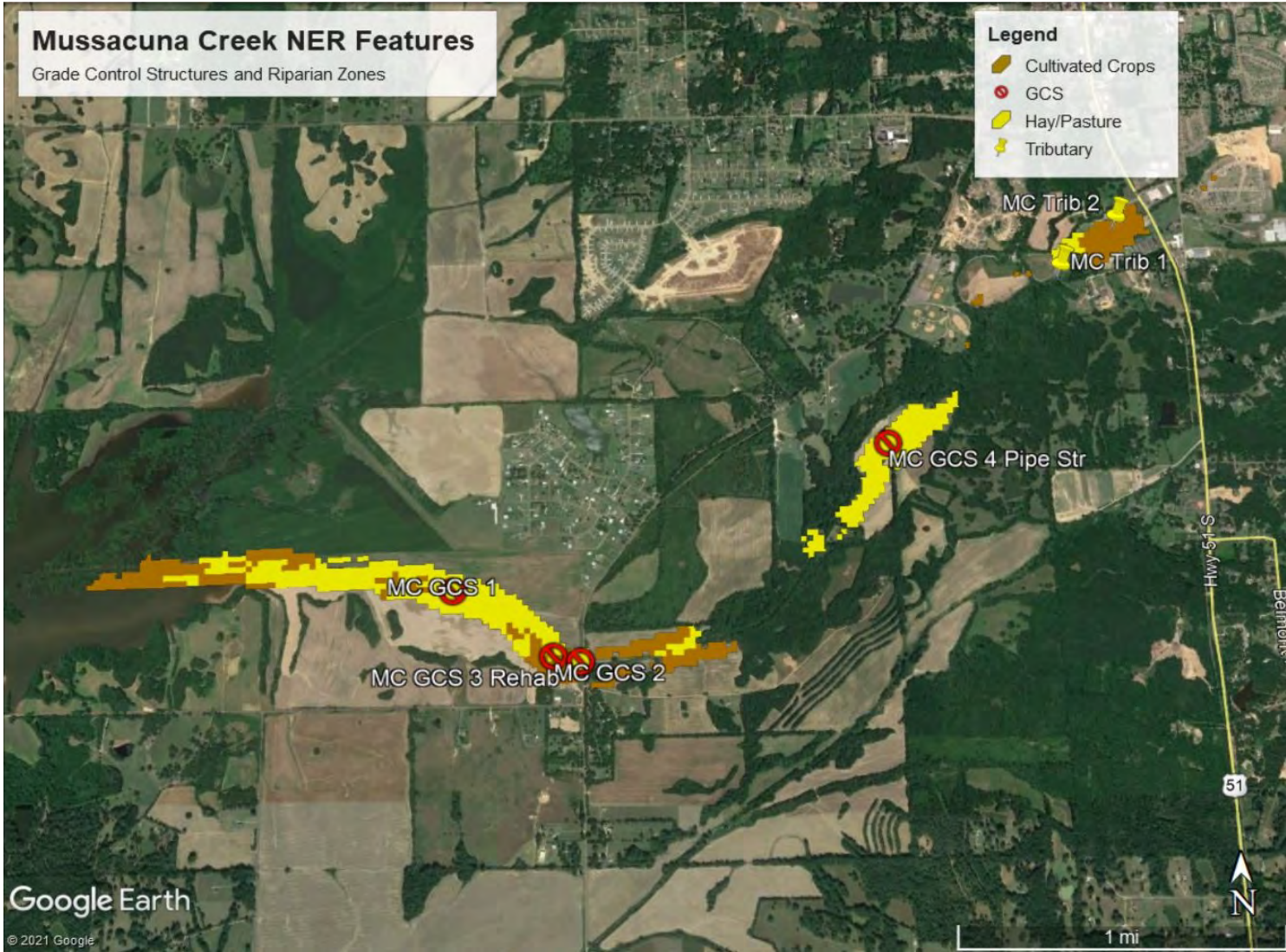


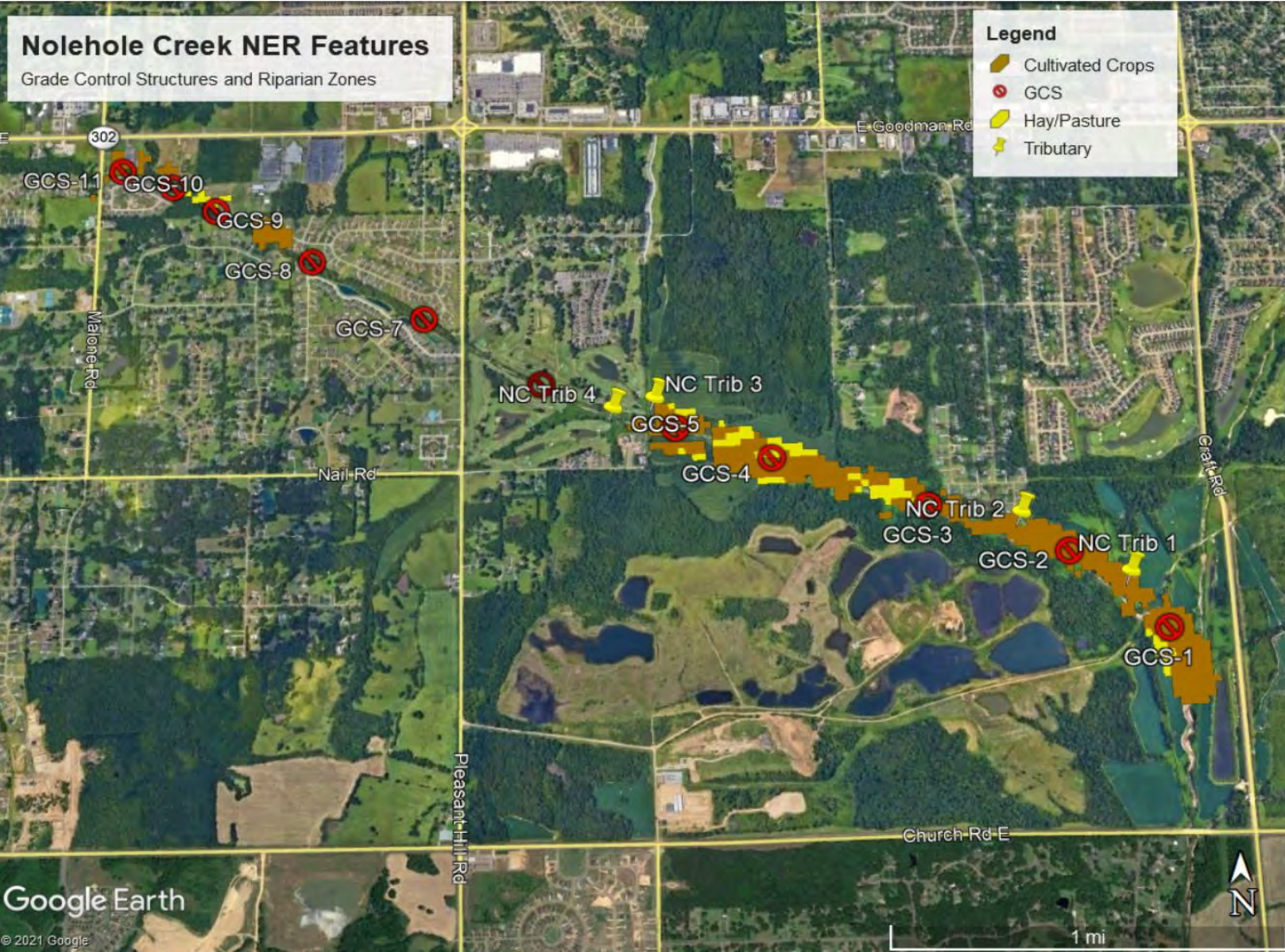


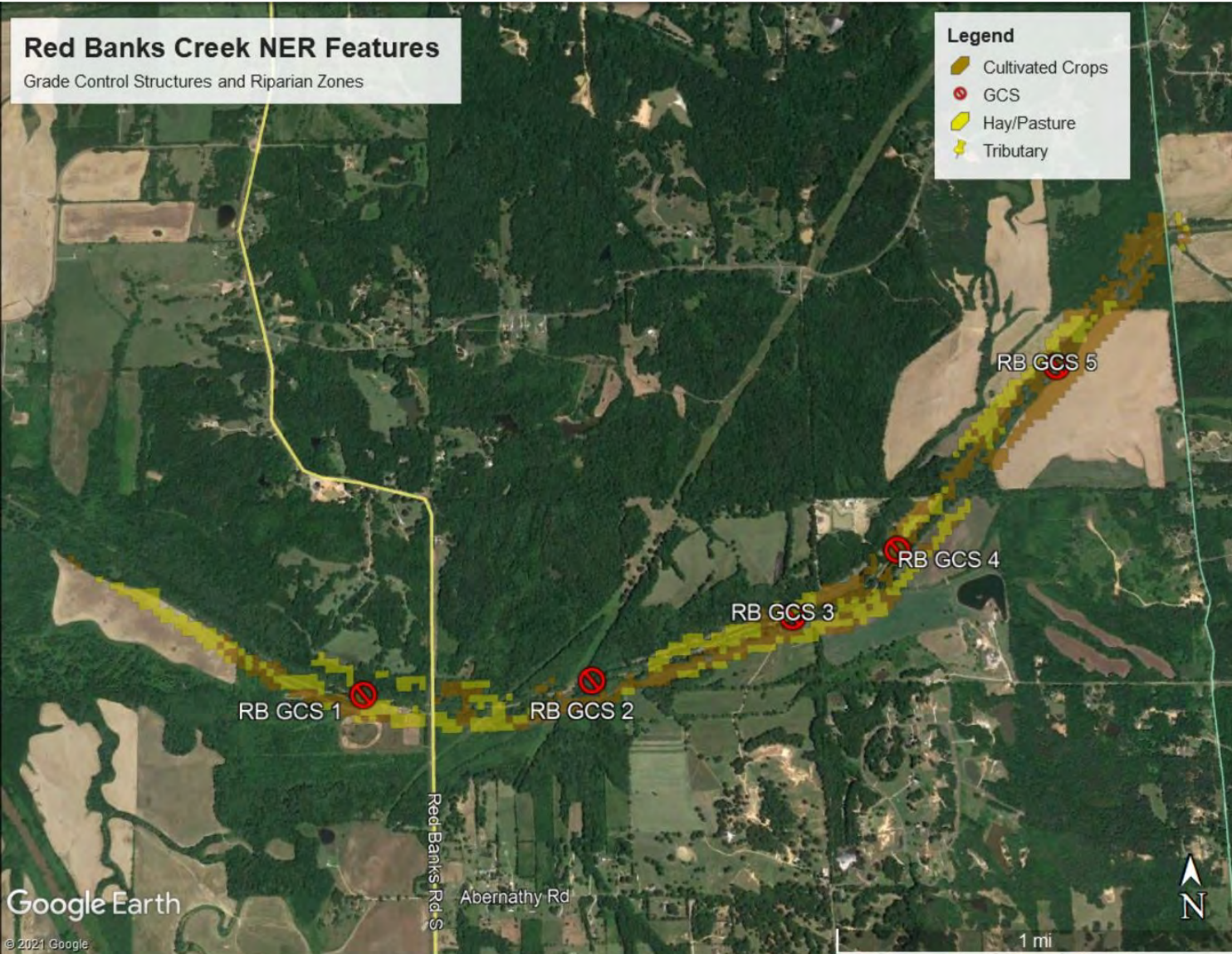
















ANNEX 3
ASSESSMENT OF NON-FEDERAL SPONSOR'S
ACQUISITION CAPABILITY



[The Capability Assessment will be included in the Final REP](#)

