

**REAL ESTATE PLAN
FOR
PROCTOR CREEK FEASIBILITY STUDY
AQUATIC ECOSYSTEM RESTORATION PROJECT
FULTON COUNTY, GEORGIA**



**US Army Corps
of Engineers**
Mobile District

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**PROCTOR CREEK FEASIBILITY STUDY
AQUATIC ECOSYSTEM RESTORATION PROJECT
REAL ESTATE PLAN**

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1. THE REAL ESTATE PLAN

This Real Estate Plan (REP) is tentative in nature and is to be used for planning purposes only in order to support the Feasibility Phase of the Proctor Creek, Aquatic Ecosystem Restoration Project. Although this report is written based on specific data research prepared by the Project Delivery Team (PDT), modifications to the proposed plan could occur during the review phase thus changing the final acquisition areas and/or administrative and land costs. Furthermore, due to the nature of this study, the level of detail provided herein is understood to be equivalent to the main report.

2. AUTHORITY

The Proctor Creek Watershed, in the City of Atlanta and Fulton County, Georgia, has been identified in multiple studies as an impacted watershed. House Resolution 2445 of 1994 set into motion legislation which authorized the U.S. Army Corps of Engineers to “conduct studies in the interest of environmental quality, water quality, water supply, flood damage risk reduction and other purposed, associated with stormwater runoff in watersheds in Fulton and DeKalb County area.” Accordingly, the City of Atlanta approved Ordinance 15-0-1357 which appropriated funds for the ecosystem restoration feasibility study.

On October 5, 2015, the City of Atlanta and USACE formally entered into a Feasibility Cost Sharing Agreement (FCSA) to facilitate an ecosystem restoration feasibility study, coupled with an overview of recreational opportunities and flood risk mitigation. The non-Federal share will be 35 percent of the total feasibility and implementation costs, including provisions of all Lands, Easements, Right-of-way, Relocations, and Disposals (LERRDs), feasibility, design, plans and specifications, materials and construction, and 100 percent of any OMRR&R costs in accordance with the decision document and the Feasibility Cost Share Agreement (FCSA). The entire sponsor share may be work-in-kind, including plans and specifications, materials, and project construction. However, if the value of the Non-Federal Sponsor’s (NFS) contributions is less than 50 percent of the total project costs, the NFS must make a cash payment so that its contributions equal 50 percent of total project costs (See ER 1105-2-100, Appendix F, Amendment #2). This study will use an innovative approach by leveraging other federal resources from the Proctor Creek Urban Waters Federal Partnership (UWFP).

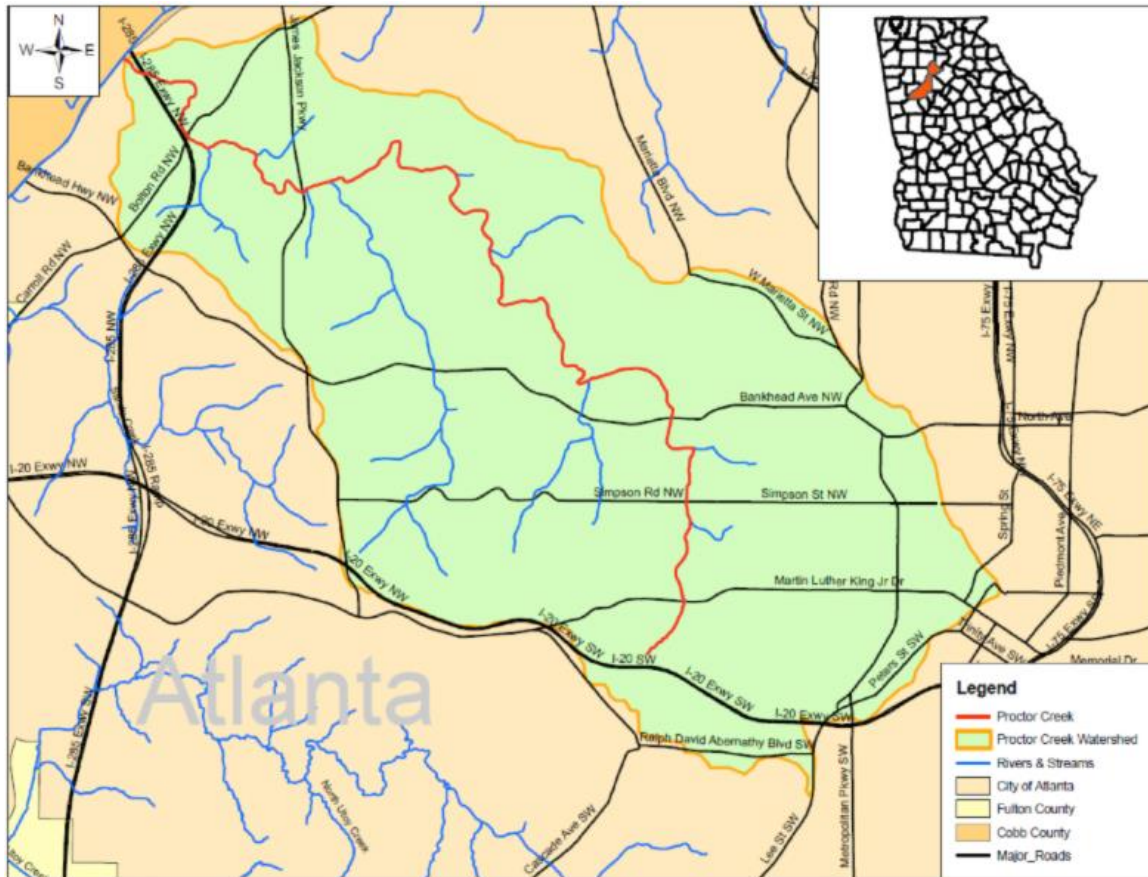
3. PROJECT DESCRIPTION

In 2013, the Urban Waters Federal Partnership designated Proctor Creek in Fulton County, Georgia as a priority Urban Waters location. The Partnership works to improve coordination and focus among federal agencies on problems in the watershed. As part of this larger effort, USACE has entered into a feasibility study with the City of Atlanta to evaluate alternatives for ecosystem restoration in the Proctor Creek watershed along with additional potential for restoration through Integrated Water Resources Management (IWRM). The Partnership promotes community-led efforts at economic social and ecological revitalization.

Proctor Creek is a roughly 16 square mile watershed located in the northwest portion of the City of Atlanta, Georgia, consisting of approximately nine stream miles. The creek and tributaries identified in this Real Estate Plan flow in a generally northwest direction beginning just west of Downtown Atlanta, running into the Chattahoochee River near the Interstate-285 crossing. Proctor Creek snakes through downtown Atlanta and eventually works its way to the Chattahoochee River. Along the way it passes through many neighborhoods including some of the most economically depressed areas of the city with high rates of poverty and crime. The Chattahoochee River Basin is part of the larger Apalachicola-Chattahoochee-Flint Rivers Basin (ACF Basin), which flows south to the Gulf of Mexico and also drains portions of Alabama and Florida. Proctor Creek Watershed encompasses a number of residential neighborhoods, commercial and industrial areas and several parks and municipal property uses.

The community has increased their capacity to interface with many parties interested in addressing these issues. These parties are working to build partnerships with governments, NGOs, foundations, corporations and academia.

According to the City of Atlanta, Department of Watershed Management, Proctor Creek is a tributary of the Chattahoochee River and is unique as the only major watershed which is located entirely within the City of Atlanta. Proctor Creek rises from small tributaries at the Atlanta University center, flowing through the English Avenue, Vine City, Mozley Park, West Highlands, and Bankhead neighborhoods. Tributaries (branches) flow through Maddox Park, Grove Park, Center Hill Park and Carey Park. A major tributary of Proctor Creek rises south of Joseph E. Boone Boulevard near Lincoln Cemetery and crosses Donald Lee Hollowell Parkway at Center Hill Park, meeting the main stem of Proctor Creek just downstream of the closed Hollywood Landfill. Proctor Creek flows northwest and meets the Chattahoochee River south of the Interstate 285 bridge, near Whittier Mill Village.



Location of Proctor Creek Watershed within 30318 ZIP code

For the purposes of existing conditions analysis, the watershed has been divided into 38 reaches within several creeks and tributaries: Proctor Creek, Terrell Creek, Grove Park tributary, and Proctor Creek tributary. A delineation of these subwatersheds is shown in Exhibit “B” attached hereto.

The Proctor Creek Watershed has experienced considerable socioeconomic challenges to development which have affected real estate values, as noted in USACE gross appraisal report with effective date of 31 March 2017.

The Proctor Creek Watershed Eco-Restoration project is primarily located within the 30318 ZIP code, a roughly 20 square mile area highlighted in red on the map above, within the City of Atlanta. According to a 2015 American Community Survey by the Census Bureau, the total population was 49,428 within the 30318 ZIP code. In contrast, the 2000 census data for the 30318 ZIP code was 53,229, representing a decrease of approximately 7 percent from 2000 - 2015. According to the US Census Bureau, the 2010 population estimate for the City of Atlanta was 420,256, and the 2014 population estimate was 456,002. This 8.5 percent increase is primarily due to expansive growth associated with the metropolitan Atlanta area. These population increases are associated with more intensive land uses, which can increase nonpoint source pollution and potentially impact streams.

Thus, land uses throughout the Proctor Creek Watershed were reviewed for this assessment and are described in the below sub-paragraphs. See Exhibit “C” attached hereto for all proposed stream restoration and BMP retrofit project vicinity locations.

The dominant land uses in the Proctor Creek Watershed are low-income residential housing and a mix of commercial, industrial and institutional uses along the primary traffic arteries including Donald Lee Hollowell Parkway NW, James Jackson Parkway NW, Hollywood Road NW, and Perry Boulevard NW. Median household income within the 30318 ZIP code estimated in 2015 by the Census Bureau was \$39,526 and residential vacancy among housing units was reportedly 22.2%.

Mobile District engineering and environmental personnel conducted a preliminary stream assessment in early 2016 to determine the scope of existing conditions in the Proctor Creek watershed. This assessment was intended to facilitate the planning process for Integrated Water Resources Management (IWRM), a key tenet of this feasibility study. At its heart, IWRM is a forward-thinking planning process which is focused at deriving the maximum level of quality and environmental stewardship for the community. The PDT identified three key problem statements from analysis of existing conditions in Proctor Creek, Terrell Creek, and the tributaries:

- Problem Statement #1 – Physical characteristics of the stream have drastically changed (morphology, lined channel, piping, etc.) due to land use practices the last 200 years. These land use changes along with altered hydrology have significantly altered the velocity and depth regimes that would support a wide diversity of native species.
- Problem Statement # 2 – Essential habitat for native fish, bird, reptile, amphibian, and small/medium size mammal species has been degraded and lost throughout the watershed. Only limited pockets of habitat capable of supporting reproduction and other critical life functions still exist.
- Problem Statement #3 – Bank erosion is prevalent throughout the watershed and the resultant sediment load is “burying” the aquatic habitat.

The tentatively selected plan described herein was chosen based on an in-depth Ecosystem Restoration Screening Process utilizing modeling and real estate acquisition costs as key metrics. The Watershed Assessment within this planning process resulted in 17 screened alternatives. Paragraph 4 provides a list of each site being considered, project site number, map sheet reference number, type of project, and the estimated acreage of these proposed restoration sites, access, and staging areas.

4. DESCRIPTION OF LANDS, EASEMENTS, RIGHTS OF WAY, RELOCATIONS AND DISPOSAL SITES (LERRD)

In April 2016, Mobile District Real Estate personnel analyzed the scope of probable LERRD acquisitions to facilitate the proposed array of 17 screened alternatives for ecosystem restoration efforts at Proctor Creek based upon consultations with the PDT and the delineation of proposed stream detention areas in GIS layer format. The City of Atlanta presently owns a sizeable portion of land adjacent to the stream bank and the PDT has accounted for this for planning purposes. This LERRD description is premised on preliminary knowledge based upon a rough order of magnitude estimation of the anticipated project footprint.

The requirements for lands, easements, rights-of-way and relocations, and disposal/borrow areas (LERRDs) should include the rights to construct, operate, maintain, repair, replace, rehabilitate, and patrol channel/streambank improvements, ecosystem restoration works, and BMP retention basin retrofits within the project area. The areas proposed for restoration will be acquired in fee by the Non-Federal Sponsor or by means of a formally approved Channel Improvement Easement, depending on the scope of restoration actions for the reach. However, fee simple is the estate generally required for ecosystem restoration projects per ER 405-1-12.


The proposed easement is restrictive in that the encumbered areas cannot be used for any buildings or structures by the property owners, and include the right by the sponsor to remove and /or plant trees and vegetation, excavate or cut the land and dredge, and place dredged or other materials on the site. The channel improvement easements are to be located on undeveloped areas of currently minimal use in the Proctor Creek Watershed.

In addition to the land rights needed for the restoration sites, there are also LERRD requirements detailed herein for perpetual road easements for access to the sites and temporary staging areas (1 year) for construction purposes. All proposed road easements should not exceed 20' in width. It should be noted that a great deal of consideration was put into identifying the location of the access and staging areas in order to avoid disruption of local businesses and residents, but still meet the needs of the proposed project. Of the proposed 10 project reaches, it is estimated that 96 parcels will be impacted, not including those lands which are currently vested to the Non-Federal Sponsor. Based on the proposed engineering project footprints, this correlates to an approximate total of 44.33 acres to be acquired for the restoration construction, staging, access, and detention areas. The acreage breakout and number of parcels impacted is provided in Table 4-1.

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Table 4-1

Reach ID	Acquisition Estate	Parcel ID	Plate	Zoning	Acq.	Private/Public
PC08-01	Fee Simple	17 0250 LL0325	C1	C1C	3.56	Private
PC08-01	" "	17 0258 LL1317	C1	R5	0.51	" "
PC08-01	Temp. Work Area Esmt	17 0250 LL0580	C1	R5	1.94	" "
PC08-01	" "	" "	C1	R5	0.01	" "
PC08-01	Perp. Non-Exclusive Road Esmt	17 0250 LL0309	C1	R5	0.21	" "
PC08-01	Temp. Work Area Esmt	" "	C1	R5	0.06	" "
PC08-01	Perp. Non-Exclusive Road Esmt	17 0258 LL1325	C1	R5	0.01	" "
-					6.29	
-						
PC08-02	Fee Simple	17 0250 LL0465	C1	RG3	0.05	" "
PC08-02	" "	17 0250 LL0259	C1	RG3	6.38	" "
PC08-02	" "	17 0250 LL0531	C1	R5	0.02	Private
PC08-02	Channel Improvement Esmt	17 0251 LL076	C1	RG3	0.13	Quasi-Municipal
PC08-02	Fee Simple	17 0250 LL0093	C1	R5	0.07	Municipal
-					6.66	
-						
PC09	Fee Simple	17 024600040863	C3	R5	0.12	Private
-					0.12	



PC10	Fee Simple	17 024600040855	C3	R5	0.05	" "
PC10	" "	17 024600040848	C3	R5	0.25	" "
PC10	" "	17 024600040830	C3	R5	0.13	" "
PC10	" "	17 024600040822	C3	R5	0.17	" "
PC10	" "	17 024600040814	C3/C4	R5	0.33	" "
PC10	" "	17 024600040806	C4	R5	0.12	" "
PC10	Perp. Non-Exclusive Road Esmt	17 024600040780	C4	R5	0.03	" "
PC10	Fee Simple	17 0247 LL1105	C4	RG3	0.18	Municipal
PC10	" "	17 024600040772	C4	R5	0.45	Private
PC10	Perp. Non-Exclusive Road Esmt	17 024600040772	C4	R5	0.01	" "
PC10	Fee Simple	17 024600040764	C5	R5	0.24	" "
PC10	" "	17 024600040756	C5	R5	0.15	" "
PC10	" "	17 024600041101	C5/C6	R5	0.78	Municipal
PC10	" "	17 024600050565	C6	R5	0.47	County

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3.35

PC13	Fee Simple	17 0227 LL0119	C1	RG3	1.32	Quasi-Municipal
PC13	Temp. Work Area Esmt	" "	C1	RG3	0.12	" "
PC13	Perp. Non-Exclusive Road Esmt	" "	C1	RG3	0.21	" "
PC13	Temp. Work Area Esmt	" "	C1	RG3	0.04	" "

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1.69


PC14	Fee Simple	17 0227 LL0119	C1	RG3	0.17	" "
PC14	Perp. Non-Exclusive Road Esmt	" "	C1	RG3	0.27	" "
PC14	Temp. Work Area Esmt	" "	C1	RG3	0.18	" "

-	0.62
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PC15	Fee Simple	17 022600020448	C1	R5	2.69	Municipal
PC15	Perp. Non-Exclusive Road Esmt	" "	C1	R5	0.20	" "
PC15	Temp. Work Area Esmt	17 0226 LL0235	C1	RG3	0.26	" "
PC15	Perp. Non-Exclusive Road Esmt	" "	C1	RG3	0.43	" "
PC15	Fee Simple	17 0227 LL0119	C1	RG3	1.29	Quasi-Municipal
PC15	" "	" "	C1	RG3	0.53	" "
PC15	" "	17 0226 LL0292	C1	R5	0.04	Private
PC15	" "	17 022600020299	C1	R5	0.09	" "

-	5.52
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PC21	Fee Simple	14 014300030618	C1	C2	0.05	" "
PC21	" "	14 014300030592	C1	C2	0.13	" "
PC21	" "	14 014300030683	C1	R5	0.08	" "
PC21	" "	14 014300030667	C1	R5	1.15	" "
PC21	" "	14 014300040674	C1	R5	0.95	" "
PC21	" "	14 014300030295	C1	R5	0.04	Municipal
PC21	" "	14 014300030303	C1	R5	0.11	" "
PC21	" "	14 014300030311	C1	R5	0.11	Private
PC21	" "	14 014300030329	C1	R5	0.11	" "
PC21	" "	14 014300030337	C1	R5	0.11	" "
PC21	" "	14 014300030345	C1	R5	0.11	Municipal
PC21	" "	14 014300030352	C1	R5	0.12	" "
PC21	" "	14 014300030360	C1	R5	0.11	" "
PC21	" "	14 014300040112	C1	R5	0.12	Private
PC21	" "	14 014300040120	C1	R5	0.11	Municipal



PC21	" "	14 014300040138	C1	R5	0.11	" "
PC21	" "	14 014300040146	C1	R5	0.10	" "
PC21	" "	14 014300040724	C1	R5	0.12	" "
PC21	" "	14 014300040732	C1	R5	0.12	Private
PC21	" "	14 014300030436	C1	R5	0.10	County
PC21	" "	14 014300030444	C1	R5	0.11	Municipal
PC21	" "	14 014300030428	C1	R5	0.11	Private
PC21	" "	14 014300030451	C1	R5	0.11	Municipal
PC21	" "	14 014300030410	C1	R5	0.11	" "
PC21	" "	14 014300030469	C1	R5	0.11	" "
PC21	" "	14 014300030402	C1	R5	0.11	" "
PC21	" "	14 014300030477	C1	R5	0.11	" "
PC21	" "	14 014300030394	C1	R5	0.11	" "
PC21	" "	14 014300030485	C1	R5	0.11	" "
PC21	" "	14 014300030386	C1	R5	0.11	" "
PC21	" "	14 014300030493	C1	R5	0.11	" "
PC21	" "	14 014300030378	C1	R5	0.11	" "
PC21	" "	14 014300030501	C1	R5	0.11	" "
PC21	" "	14 014300040203	C1	R5	0.11	" "
PC21	" "	14 014300040195	C1	R5	0.11	" "
PC21	" "	14 014300040187	C1	R5	0.12	" "
PC21	" "	14 014300040179	C1	R5	0.12	" "
PC21	" "	14 014300040161	C1	R5	0.21	" "
PC21	" "	14 014300040252	C1	R5	0.27	" "
PC21	" "	14 014300030543	C1	R5	0.00	County
PC21	" "	14 014300030535	C1	R5	0.02	Quasi-Municipal
PC21	" "	14 014300030626	C1	R5	0.11	" "
PC21	" "	14 014300040260	C1	R5	0.14	Municipal
PC21	" "	14 014300040278	C1	R5	0.14	" "
PC21	" "	14 014300040286	C1	R5	0.14	" "



PC21	" "	14 014300040617	C1	R5	0.15	" "
PC21	" "	14 014300040625	C1	R5	0.13	" "
PC21	" "	14 0143 LL0018	C1	I1C	4.84	" "
PC21	" "	14 0114 LL0088	C1	I1C	4.40	" "

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10.08

GP01-02	Fee Simple	14 0145 LL0172	C1	R4	2.02	Municipal
GP01-02	Perp. Non-Exclusive Road Esmt	" "	C1		0.22	" "
GP01-02	Temp. Work Area Esmt	" "	C1		0.34	" "

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2.58

D-17	Fee Simple	14 014000020125	C1	R4	0.32	" "
D-17	" "	14 014000020117	C1	R4	0.31	" "
D-17	" "	14 014000020075	C1	R4	0.57	" "
D-17	" "	14 014000020109	C1	R4	0.20	" "
D-17	" "	14 014000020083	C1	R4	0.21	" "
D-17	" "	14 014000020752	C1	R4	0.01	Private
D-17	" "	14 014000020745	C1	R4	0.20	Municipal
D-17	" "	14 014000020737	C1	R4	0.24	" "
D-17	" "	14 014000020943	C1	R4	0.19	Private
D-17	" "	14 014000020091	C1	R4	0.18	Municipal

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2.42

TC02	Fee Simple	17 025000030305	C1	R5	4.24	Private
TC02	Perp. Non-Exclusive Road Esmt	17 0250 LL0424	C1	R5	0.28	" "

-						4.51
TC05	Fee Simple	17 024800140281	C1	R5	0.45	Quasi-Municipal
TC05	" "	17 0248 LL0908	C1	R5	0.66	Private
TC05	" "	17 0248 LL0890	C1	R5	1.19	" "
TC05	" "	17 024800140307	C1	R5	0.86	" "
TC05	" "	17 024800140323	C1	RG3	0.07	" "
-						3.22

96 distinct parcels
impacted

44.33

Furthermore, it is anticipated that materials excavated during construction will be used for fill where needed or hauled from the project area to an approved designated disposal area. If additional fill is required, it will be obtained from an approved commercial source. Fill obtained from a commercial source is considered a construction cost and would not be credited as part of the LERRD.

The Proctor Creek Watershed encompasses an expansive portion of the northwestern quadrant of metropolitan Atlanta and features a large proportion of industrial development. As previously mentioned in Section 3 of this report, all subwatersheds exhibit a high degree of development, but portions of upstream Proctor Creek subwatershed are almost completely built out. To better describe each site and its associated LERRD requirements, the following real estate acquisition narrative will be broken down by reach below. The specific project sites are identified by their respective site number.

PC08-01, Situated in Land Lots 250 and 258, 17th District of the City of Atlanta

- a. **SHEET REFERENCE NO:** C-1 (Exhibit “A”, Page 1)
- b. **LOCATION:** Reach PC08-01 is situated along both banks of Proctor Creek, lying west of James Jackson Parkway NW, south of the Lincoln Homes subdivision and north of Northwest Drive, NW.
- c. **DESIGN TYPE:** Ecosystem Restoration / Streambank Stabilization
- d. **SITE DESCRIPTION:** The proposed project consists of approximately 1,400 feet of streambank restoration west of James Jackson Pkwy NW and south of Jackson Way. These restorative features are continuously planned for both sides of the creek along this distance. There are no improvements that will be impacted by site footprint as no development is allowed in the stream buffer and no developments currently exist outside of the buffer in the project footprint. The zoning along this stretch of creek is a mixture of Residential and Community Business uses. A fee ownership estate covering approximately 6.29 acres is required for the proposed streambank restoration.
- e. **DESIGN FEATURES/RESTORATION COMPONENTS:**
 - i. Invasive Species Control: Approximately 6.29 acres of invasive species control is estimated in this reach, situated primarily on the right bank of the creek.

- ii. Plantings: Approximately 0.8 acres of plantings are estimated. Plantings will occur on low floodplain areas that are existing and on those that will be created with the movement of bar material.
 - iii. Bar Cut: Approximately 1030 square yards of bar material area will be moved within the reach to create and/or facilitate bar creation along the LB in order to protect the pet cemetery and narrow the base and low flow channel. 180 cu yards is the estimated volume of material expected to be moved. Bar material will not be moved far and it is not anticipated that bar material will be moved more than 100'. Bars located at station 2+00, 5+00, 10+50, and 12+00 are targeted to be moved to the left bank.
 - iv. Bar Creation/Augmentation: Material from the bar cuts will be moved towards the LB in order to create low planted floodplain bars. The approximately 365 cubic yards of cut material will need to be graded to the final design elevation and slope.
 - v. Cross Vanes: Three cross vanes are designed to reduce flow stresses on both the LB and RB. Three cross vanes are designed in the project at stations 8+80, 11+40, and 13+10. .
 - vi. Longitudinal Peaked Stone Toe (LPST): LPST will be placed along approximately 640' of the RB in the reach. The LPST runs from station 1+60 to 8+00.
 - vii. Other: Two concrete pier structures that are presently sitting as debris in the creek will be moved approximately 40 feet to the other side of the creek. The structures will need to be placed in an orientation as to facilitate the formation of a LB bar. The structures are currently located at station 5+80 and will be moved across the creek.
- f. **O&M CONSIDERATIONS**: Stabilization and vegetative management of streambank. Fee simple ownership estate is recommended per ER 1105-2-100, Para. E-30.f.
- g. **ACCESS**: A perpetual road easement containing approximately .22 acres is expected to be acquired along an existing access road available off of James Jackson Pkwy which leads to the pet cemetery parking lot.
- h. **STAGING**: A temporary work area easement (1 years) containing approximately 2900 square feet will be required near the Pet Cemetery adjacent to the project footprint in order to construct. Locations of

these staging areas have been placed in existing clear areas along the access road.

PC08-02, Situated in Land Lot 250, 17th District of the City of Atlanta

- a. **SHEET REFERENCE NO:** C-1 (Exhibit “A”, Page 1)
- b. **LOCATION:** Reach PC08-02 is upstream of James Jackson Pkwy NW. This section includes a large, high, and open field on the right bank and a wooded area and the Terrell Creek (aka Center Hill Tributary) confluence on the left bank.
- c. **DESIGN TYPE:** Ecosystem Restoration / Streambank Stabilization
- d. **SITE DESCRIPTION:** The proposed project consists of approximately 1,300 feet of streambank restoration between James Jackson Parkway NW and Hollywood Road NW. These restorative features are continuously planned for the right bank of the creek along this distance with improvements on a smaller portion of the left bank. There are no improvements that will be impacted by site footprint as no development is allowed in the floodway. The zoning along this stretch of creek is a mixture of Residential uses. A fee ownership estate covering approximately 6.53 acres is required for the proposed streambank restoration. A channel improvement easement is recommended for 5,700 square feet of invasive control located in the Atlanta Housing Authority development property.
- e. **DESIGN FEATURES/RESTORATION COMPONENTS:**
 - i. Wetland Area: The wetland area will cover approximately 1.25 acres. There will be from 2 to 4 pools within the wetland for shallow ponding. Ponding depths should not exceed more than 18” to 2’. Overflow weirs made of earthen embankment and/or riprap will be used to pond water. Earthen benches should be created for wildlife and plants.
 - ii. Offline Diversion Channel: An offline diversion channel will be created in order to divert stream flow from Terrell Creek to an offline wetland area. A concrete or rock diversion weir will be set at an elevation such that base flows continue in the channel but during stormflows some of the flow is diverted to the wetland. Based on LiDAR data the streambed is at approximately 782 ft in the vicinity of the proposed diversion inlet.

- iii. Diversion Channel: A small channel with a 3' bottom width for diverting flow to the wetland. The area will be confined between the existing stream and a utility line.
- iv. Bank shaping: Approximately 900 feet of the LB will be reshaped to create a low floodplain for floodwaters to access. The proposed section extends from STA 17+00 to STA 26+00. A single proposed section was created in order to estimate ROM quantities and space requirements. The existing creek is approximately 36' wide. Plantings are proposed to occur on the new slopes. The 1-yr wsel in this area is around 771 ft. Therefore, the low floodplain would be flooded frequently. Additional erosion protection might be needed up on the proposed floodplain and/or where the grade break occurs and velocities are not expected to be extreme so vegetation may be sufficient.
- v. Plantings: Approximately 1.4 acres of area is expected to be disturbed from the bank shaping. This area will need to be planted. In addition, an additional 3.9 acres will involve plantings.
- vi. Invasive Species Control: Approximately 6.7 acres of stream bank is estimated to facilitate invasive species control for privet and kudzu.
- vii. Bank Stabilization: Three locations were identified for bank stabilization. Two areas were identified for LPST protection and one area was identified for bioengineered revetment type protection. There is about 125' section of LPST on the RB in the upstream-most section of the reach. There is about 200' of LPST on the LB midway on the reach. There is about a 60' section of reach on the RB midway on the reach where locked logs or other bioengineered revetment could be used.
- f. **O&M CONSIDERATIONS**: Stabilization and vegetative management of streambank. Fee simple ownership estate is recommended per ER 1105-2-100, Para. E-30.f.
- g. **ACCESS**: Inasmuch as project restorative actions encompass an existing parallel utility road that is used for maintaining the sanitary sewer line. This route will allow for the least amount of disruption to adjoining landowners. It is possible that the NFS already holds the necessary rights for this access road, but alternatively could be acquired through fee simple ownership since the surrounding land would be also purchased in fee for restorative features.

Access to the features on the left bank will require a perpetual non-exclusive road easement of approximately 0.21 of an acre immediately south of the Hollywood Road NW bridge over Proctor Creek

- h. **STAGING:** Fee lands purchased for the project site are sufficient for staging purposes

PC09, Situated in Land Lot 246, 17th District of the City of Atlanta

- a. **SHEET REFERENCE NO:** C-2 (Exhibit "A", Page 3)
- b. **LOCATION:** Reach PC09 entails a small riprap restorative action located off of Abner Place NW on an undeveloped private parcel.
- c. **DESIGN TYPE:** Ecosystem Restoration / Streambank Stabilization
- d. **SITE DESCRIPTION:** The proposed project consists of approximately 38 feet on the left bank of the creek adjacent to PC-10. There are no improvements that will be impacted by site footprint as no development is allowed in the floodway. The zoning along this stretch of creek is Single Family Residential uses. A fee ownership estate covering approximately 5700 square feet is required for the proposed streambank restoration.
- e. **DESIGN FEATURES/RESTORATION COMPONENTS:**
 - i. Stone Toe Protection: One outer bend is proposed to be protected with longitudinal peaked stone toe. Approximately 150' of stone toe is proposed for the bend. The stone toe is expected to be about 3' high with 1V:1.5H side slopes.
- f. **O&M CONSIDERATIONS:** Stabilization and vegetative management of streambank. Fee simple ownership estate is recommended per ER 1105-2-100, Para. E-30.f.
- g. **ACCESS:** A perpetual road easement containing approximately 1350 square feet is expected to be acquired across private residential parcels which continues through to the PC10 reach.
- h. **STAGING:** A temporary work area easement (1 year) containing approximately 2000 square feet will be required on the right bank of the creek adjacent to the access road.

PC10, Situated in Land Lots 246 and 247, 17th District of the City of Atlanta

- a. **SHEET REFERENCE NO:** C-3 to C-6 (Exhibit “A”, Pages 4-7)
- b. **LOCATION:** Reach PC10 is situated on the right bank of Proctor Creek, along the back lots of residential parcels on Abner Place, NW.
- c. **DESIGN TYPE:** Ecosystem Restoration / Streambank Stabilization
- d. **SITE DESCRIPTION:** The proposed project consists of approximately 1,700 feet of streambank restoration opposite Abner Place between N-2,205,529.71, E-1,382,392.82 and N-2,206,710.28, E-1,382,295.16. These restorative features are continuously planned for the right bank of the creek with the exception of a short break along this distance. There are no improvements that will be negatively impacted by site footprint since project features adjacent to structures consist of invasive control and plantings. The zoning along this stretch of creek is Single Family Residential uses. A fee ownership or channel improvement easement estate covering approximately 3.31 acres is required for the proposed streambank restoration.
- e. **DESIGN FEATURES/RESTORATION COMPONENTS:**
 - i. Plantings: Approximately 3.6 acres on the RB will be planted to improve the riparian condition.
 - ii. Invasive Species Control: Large portions of the right bank will be treated for invasive species including kudzu. Total treated area is estimated at 3.6 acres
 - iii. Rock Stream Barbs: Riprap is proposed for use as stream barbs off of the right bank. The purpose of the weirs is to reduce erosion along the right bank and to encourage sedimentation for a small low floodplain between the weirs. The proposed weirs are 30 feet apart and six weirs are proposed.
 - iv. Log Debris Jam or Log Stream Barbs: At the inside bend of the upstream end of PC10 there is an opportunity to turn an island into a left bank point bar. Engineered woody debris jams and/or log stream barbs are proposed to encourage sedimentation along the left bank. Natural vegetation is expected to take hold

if the sedimentation occurs. Estimate three locations along the left bank where barbs and/or log jams are needed.

- f. **O&M CONSIDERATIONS:** Stabilization and vegetative management of streambank. Fee simple ownership estate is recommended per ER 1105-2-100, Para. E-30.f, but a lesser easement estate (channel improvement easement) may be warranted given the residential nature of the property.
- g. **ACCESS:** Access will be along the invasive control corridor, which will either require fee or easement ownership. An additional non-exclusive perpetual road easement of approximately 1,500 square feet will be necessary in the break between project features at the approximate location of N-2,206,213.32, E-1,381,867.65.
- h. **STAGING:** Any necessary staging will be within project footprint.

PC13, Situated in Land Lot 227, 17th District of the City of Atlanta

- a. **SHEET REFERENCE NO:** C-1 (Exhibit "A", Page 8)
- b. **LOCATION:** Reach PC13 extends from approximate coordinates 33.796283, -84.4558 to 33.793467, -84.456383. The reach runs adjacent to the Gun Club area and the West Highlands subdivision. The reach maintains a narrow riparian corridor due to encroachment from the Gun Club area and the subdivision.
- c. **DESIGN TYPE:** Ecosystem Restoration / Streambank Stabilization
- d. **SITE DESCRIPTION:** The proposed project consists of approximately 750 feet of streambank restoration commencing at a point near N-1,380,000, E-2,208,600 and extending to a point near N-1,380,600, E-2,208,600. These ecosystem restorations are continuously planned for the left bank of the creek along this distance. There are no improvements that will be impacted by site footprint as no development is allowed in the floodway. The zoning along this stretch of creek is General Residential uses. A fee ownership estate covering approximately 1.32 acres is required for the proposed streambank restoration.
- e. **DESIGN FEATURES/RESTORATION COMPONENTS:**
 - i. Invasive Species Control: Large portions of the left bank will be treated for invasive species, including kudzu and privet. Total treated area is estimated at 1.76 acres.

- ii. **Plantings:** Approximately 1.76 acres on the LB will be planted to improve the riparian condition.
- iii. **Engineered Log Jam (ELJ):** At the upstream end of the project area at approximate STA 8+40 there is a right bank bar forming with a high flow chute cutting around the bar on the right bank toe. Alternative includes developing woody debris jams to further cut off this chute and encourage bar formation, vegetation, and woody debris habitat. Possibility to move the bar to the left bank as woody debris jams may encourage erosion on the opposite bank. Example typical concept for an ELJ is shown below.
- iv. **Rock Stream Barbs:** A riprap and rootwad combination is proposed for use as stream barbs off of the left bank. The purpose of the stream barbs is to reduce erosion along the left bank and improve habitat under the key-ins. The rootwad will add woody debris for habitat and also increase roughness along the outer bank for improved erosion control. Five barbs are proposed with spacing of approximately 40 feet between barbs from approximate STA 7+00 to 6+60. The radius of curvature in this location is estimated at 110 ft.
- f. **O&M CONSIDERATIONS:** Stabilization and vegetative management of streambank. Fee simple ownership estate is recommended per ER 1105-2-100, Para. E-30.f.
- g. **ACCESS:** The NFS already owns the rights to the land proposed for access.
- h. **STAGING:** A temporary work area easement (1 year) containing approximately 2900 square feet will be required near the Pet Cemetery adjacent to the project footprint in order to construct. Locations of these staging areas have been placed in existing clear areas along the access road.

PC14, Situated in Land Lot 227, 17th District of the City of Atlanta

- a. **SHEET REFERENCE NO:** C-1 (Exhibit "A", Page 8)
- b. **LOCATION:** Reach PC14 is situated from approximate coordinates latitude 33.793467, longitude -84.456383 to the crossing with Sanford Dr/Kerry Cir NW. The reach runs adjacent to the West Highlands subdivision on the right and left bank.

c. **DESIGN TYPE:** Ecosystem Restoration / Streambank Stabilization

d. **SITE DESCRIPTION:** The proposed project consists of approximately 400 feet of streambank restoration between Stations 13+00 and 19+00. These stabilizations are intermittently planned for both sides of the creek along this distance. There are no improvements that will be impacted by site footprint as no development is allowed in the floodway. The zoning along this stretch of creek is Mixed Use District. A fee ownership estate covering approximately 0.17 of an acre is required for the proposed streambank restoration, but this may need to be re-evaluated if the proposed alternatives change to include plantings and other design features.

e. **DESIGN FEATURES/RESTORATION COMPONENTS:**

- i. J-Hook Vanes: J-hook vanes are proposed at the creek bend at STA 14+00 to 15+00. The radius of curvature at the bend is estimated at approximately 190 ft. The bankfull width is estimated at 50 ft. The structures would be constructed with rock. Root wads and/or logs can be added for improved habitat. The structures would come off of the LB in order to reduce outer bend erosion and direct flow to the channel center.
 - ii. Rock Stream Barbs: Riprap has been incorporated into project design at stream barbs off of the right bank from STA 15+80 to 17+40. The purpose of the barbs is to reduce erosion along the right bank. Rootwads are proposed under the key-ins. Four barbs are proposed with spacing of approximately 50 feet between barbs.
 - iii. Engineered Log Jam: At STA 14+00 woody log jams have been incorporated into the project design.
 - iv. Tree Revetment: Tree revetment has been incorporated into project design from STA 15+00 to 16+40 on the outside of a bend on the RB.
- f. **O&M CONSIDERATIONS:** Stabilization and vegetative management of streambank. Fee simple ownership estate is recommended per ER 1105-2-100, Para. E-30.f.
- g. **ACCESS:** Access is possible from the Western Highlands subdivision and along the hike/bike trail along the creek. A perpetual road easement containing approximately .27 of an acre is expected to be acquired on Atlanta Housing Authority property.

- h. **STAGING:** A temporary work area easement (1 year) containing approximately 7,900 square feet will be required adjacent to the project footprint in order to construct. Locations of these staging areas have been placed in existing clear areas along the access roads.

PC15, Situated in Land Lots 226 and 227, 17th District of the City of Atlanta

- a. **SHEET REFERENCE NO:** C-1 (Exhibit "A", Page 9)
- b. **LOCATION:** Reach PC15 reach extends along Proctor Creek between the intersection of Sanford Dr/Kerry Cir NW to Johnson Rd. The reach runs adjacent to the West Highlands subdivision on the right and left bank at the downstream end of the reach. The hike/bike trail runs along the right bank. Towards Johnson Road there is an elementary school off of the RB and a neighborhood off of the LB.
- c. **DESIGN TYPE:** Ecosystem Restoration / Streambank Stabilization
- d. **SITE DESCRIPTION:** The proposed project consists of approximately 2,300 feet of streambank restoration between Kerry Circle NW to a point adjacent to the municipal River Park Trail. These restorative features are planned for both sides of the creek along this distance. There are no improvements that will be impacted by site footprint as no development is allowed in the floodway. The zoning along this stretch of creek is a mixture of Residential uses. A fee ownership estate covering approximately 4.64 acres is required for the proposed streambank restoration, including land required for wetland features at the project site.
- e. **DESIGN FEATURES/RESTORATION COMPONENTS:**
 - i. Wetland: A wetland is proposed for the LB overbank area adjacent to the bank shaping. The proposed wetland would be excavated down to elevation 800 to 803 depending on location. Elevation 804 to 805 is the predominant existing condition elevation. A pilot channel is proposed to run through the wetland in order to allow stream flow to enter and exit the wetland. The channel would be approximately 5 ft wide with mild slopes tying in to the wetland. The slopes would be mild at approx. 0.5% in order to prevent erosion. A small log dam staging up an inundated area 18"-24" could be placed in the wetland in order to create a frequently inundated area. Rip rap is proposed at the outlet and inlet in order to reduce erosion. A concrete diversion will likely be needed at the inlet of the

channel where flow is diverted from the main creek. A sewer line runs underneath this property. Design to incorporate the line may need to occur depending on elevations.

- ii. Bank Shaping: Bank shaping of the LB has been incorporated from STA 22+20 to STA 31+00.
- iii. Bar Cut/Creation: At STA 14+00 there is a bar forming on the LB. Propose moving the bar material over to the RB in order to improve the flow alignment prior to entering the downstream bend in the creek. At STA 32+60 to STA 34+41 propose moving RB bar material over to the LB in order to realign the creek as it exits the bridge crossing and enters a downstream bend.
- iv. Tree Revetment: A tree revetment will be used to prevent toe and bank erosion from STA 27+00 to 29+00 on the outside of a bend on the RB. Woody revetments can provide habitat while also reducing erosion.
- v. Longitudinal Peaked Stone Toe (LPST): LPST is proposed in areas where a hard structure is needed to prevent further toe erosion and channel widening. LPST will be located at two locations. The first is along the outer RB bend from STA 23+00 to STA 25+40. The second is from STA 31+00 to STA 33+00 along the LB.
- vi. Cross Vanes: Cross vanes are proposed at STA 2+40, 23+20, 27+00, 31+00, and 34+40.
- vii. Engineered Log Jams: Engineered Log Jams have been incorporated into project design at STA 21+20 and 21+50 to encourage bar formation further upstream of the existing bar and to decrease LB erosion. Four ELJs are also proposed between STA 31+20 and STA 32+00 on the RB.
- viii. Stream Barbs: Riprap and logs are proposed for use as stream barbs throughout this reach. They are located off of the left bank and right bank from STA 3+00 to 11+00, off of the LB from STA 23+50 to STA 30+40, and two barbs are located on the LB at STA 33+30 and 33+80.
- ix. J-Hook Vanes: Three J-hook vanes are proposed in the creek at STA 4+00 to STA 8+00. The structures would come off of the LB in order to reduce outer bend erosion and direct flow to the channel center.

- x. Plantings: Approximately 2.7 acres of plantings are proposed in the wetland area and bank shaping with the possibility of plantings on the existing bars.
- xi. Invasive Species Removal: Invasive species will be removed from an approximately 2.1 acre area at the proposed wetland site.
- xii. Sewer Line Demolition: There is an old sewer line identified in the streamwalk that could be removed upon verification with the city of Atlanta. The line is located at 14+70.
- f. **O&M CONSIDERATIONS**: Stabilization and vegetative management of streambank. Fee simple ownership estate is recommended per ER 1105-2-100, Para. E-30.f.
- g. **ACCESS**: An access road containing approximately 0.62 acres is expected to be situated on land which the NFS already holds fee ownership.
- h. **STAGING**: A staging area containing approximately 11,150 square feet will be required on City Property adjacent to the project footprint in order to construct. Locations of these staging areas have been placed in existing clear areas along the access road.

PC21 with Wetland Areas, Located in Land Lots 114, 143, and 144 of the 14th District of the City of Atlanta

- a. **SHEET REFERENCE NO**: C-1 (Exhibit "A", Pages 10-11)
- b. **LOCATION**: Reach PC21 extends on Proctor Creek between the crossings of Donald Lee Hollowell Parkway to North Avenue. The majority of the reach runs along Proctor Park which is located on the right bank. The hike/bike trail runs along the right bank. The downstream half of the left bank includes industrial areas that limit the riparian buffer. At the upstream end of the reach, just below North Ave, the English Avenue Tributary enters Proctor Creek in an area known locally as the Mosquito Hole.
- c. **DESIGN TYPE**: Ecosystem Restoration / Streambank Stabilization
- d. **SITE DESCRIPTION**: The proposed project consists of approximately 4,500 feet of streambank restoration within Land Lots 143 and 144 of the 14th District. These stabilizations are intermittently planned for both sides of the creek along this distance. There are no improvements that will be impacted by site

footprint as no development is allowed in the floodway. The zoning along this stretch of creek is a mixture of General Business, Industrial, and Residential uses. A fee ownership estate covering approximately 10.08 acres is required for the proposed streambank restoration.

e. DESIGN FEATURES/RESTORATION COMPONENTS:

i. Wetland Area: A wetland is proposed for the RB overbank area adjacent STA 4+60 to STA 14+80 in the creek. The proposed wetland would be excavated down to elevation 862 to 858 depending on location. Elevation 865 to 867 is the predominant existing condition elevation. A pilot channel is proposed to run through the wetland in order to allow stream flow to enter and exit the wetland. The entrance to the channel is estimated at the approximate 1-year wsel at about 862 ft. The outlet would tie into elevation 858 ft at the downstream end. The channel would be approximately 5 ft wide with mild slopes tying in to the wetland. The slopes would be mild at approx. 0.5% in order to prevent erosion. Two small log dams staging up an inundated area 18"-24" could be placed in the wetland in order to create a frequently inundated area. Rip rap is proposed at the outlet and inlet in order to reduce erosion. A concrete diversion will likely be needed at the inlet of the channel where flow is diverted from the main creek. A sewer line runs underneath this property. Design to incorporate the line may need to occur depending on elevations.

ii. Bank Shaping: Bank shaping will occur in several locations throughout reach PC-21. Bank shaping will serve to create gentler slopes on the banks so erosion is reduced and plants can more easily take hold. Bank shaping involving the creation of a low bench allows smaller floods to access a low level floodplain.

At STA 3+90 to 4+50 a hard point along the RB toe will be removed and the slope graded to a 3H:1V slope.

From STA 4+40 to 6+00 approximately 160' of the LB will be shaped to a 3H:1V slope. The shaping will start at the toe and terminate around elevation 860 to 861. This will allow smaller floods to access a floodplain and the milder slope will reduce erosion.

From STA 5+80 to STA 9+40 the RB will be shaped with a low bench and a 2H:1V bank slope connecting to existing overbank ground. The low bench will take up approximately 8' of the

existing channel in order to narrow the channel in proposed conditions. The proposed section starts on the left with a 2H:1V rise up approximately 1 foot at the toe, then transitions to an approximate 10H:1V slope to elevation 857, then transitions to a 2H:1V slope up to existing ground at approximately 863 ft.

At STA 13+40 approximately 80' of steep bank on the RB will be shaped to a 3H:1V slope. The top of bank will be graded down towards the stream. The purpose of this feature is to improve upon a section of bank that is very steep and shows significant potential for erosion.

At STA 21+60 in the Mosquito Hole area a section of approximately 100' of steep bank will be graded down towards the creek in order to create a 3H:1V bank. The purpose is to reduce erosion with a more gradual bank slope. There is a sewer line underneath the proposed work.

- iii. Plantings: Approximately 7.2 acres of plantings are proposed in the wetland area, on newly shaped banks, and on existing condition banks.
- iv. Invasive Species Removal: Invasive species will be removed from approximately 12.5 acres in the reach. Invasive species are found on both banks of the creek and in the proposed wetland area.
- v. Log Revetment: Log revetments will extend from station 10+00 to 14+00.
- vi. Training Weirs: Twelve rip rap training weirs have been incorporated into project alternatives from STA 6+00 to STA 9+40 on the right bank. The training weirs will hold the shaped bank in place by preventing excessive erosion. The training weirs will also cause the channel in the area to narrow and therefore assist in the movement of sediment downstream.
- vii. Stream Barbs: Riprap and logs are proposed for use as stream barbs throughout this reach. Five log barbs are proposed on the right bank from STA 4+80 to STA 5+80. Rock barbs with root wads are proposed on the left bank from STA 10+00 to STA 15+00. Six log barbs are proposed on the RB from STA 16+20 to STA 17+60. The purpose of the barbs is to reduce erosion along the banks, encourage sedimentation along the toe, and narrow the channel. The barb spacing will vary between 25 and 100 feet.

- viii. Engineered Log Jam (ELJ): From STA 9+50 to STA 12+50 there is a right bank bar forming. Propose four ELJs from STA 13+00 to 14+50 to encourage bar formation further upstream of the existing bar and to decrease RB erosion.
- ix. Cross Vanes: One cross vane is proposed at STA 4+60. The cross vane is designed for reducing shear stress along both banks, encouraging sedimentation along the banks, creating habitat through scour in the stream centerline, and for grade control. The cross vane will be made of stone with key-ins made of rip rap.
- x. Longitudinal Peaked Stone Toe (LPST): LPST is proposed in areas where a hard structure is needed to prevent further toe erosion and channel widening. LPST will be located at three locations. The first is along the outer LB bend from STA 2+60 to STA 4+40. The second is from STA 5+80 to STA 9+30 along the LB straightaway. The third location is at the Mosquito Hole area along the right bank from STA 20+20 to STA 21+00. The LPST will encourage sedimentation to accumulate behind it and it will prevent further erosion of the toe of the bank.
- xi. Demolition: There are concrete pads and an asphalt driveway that pass through the wetland or are in the vicinity of the wetland. Since the site was previously developed there may be more demolition of concrete pads or asphalt that is presently covered with vegetation.
- f. **O&M CONSIDERATIONS**: Stabilization and vegetative management of streambank. Fee simple ownership estate is recommended per ER 1105-2-100, Para. E-30.f.
- g. **ACCESS**: Existing public right-of-way will be sufficient for access to project areas in conjunction with acquisition of land for project features.
- h. **STAGING**: Staging should be situated within project footprint or within the public right of way (paper roads).

GP01 and GP02, Situated in Land Lot 145, 14th District of the City of Atlanta

- a. **SHEET REFERENCE NO**: C-1 (Exhibit "A", Page 12)

b. **LOCATION:** Reach GP01 extends from the confluence of Valley Park Branch (VPB) with Proctor Creek to the Grove Park driveway culvert at latitude 33.773883, longitude -84.440343. The reach runs adjacent to Grove Park, with a community garden off of the left bank and tennis courts and ball fields off of the right bank. There is minimal room for overbank improvement on the right bank, with the courts and ball fields in the way. On the left bank the riparian buffer is not large with some areas along the community garden encroaching right up to the streambank.

c. **DESIGN TYPE:** Ecosystem Restoration / Streambank Stabilization

d. **SITE DESCRIPTION:** The proposed project consists of approximately 675 feet of streambank restoration continuously planned for both sides of the creek along this distance. There are no improvements that will be impacted by site footprint as land is located on existing municipal park facilities. The project footprint for the proposed streambank restoration for this area is approximately 0.92 acres.

e. **DESIGN FEATURES/RESTORATION COMPONENTS:**

- i. Log Stream Barbs: Log stream barbs are proposed for both the LB and the RB downstream of the proposed log cross vane. The stream barbs would be spaced approximately every 50 feet along both banks from STA 1+00 to STA 5+40. The proposed design calls for a pair of barbs on each side of the tributary.
- ii. Cross Vanes: There are two existing, log K-dams located in the reach. One of the K-dams, the downstream-most dam at approximate STA 2+40, appears to be a fish barrier during low flows. A rock cross vane is proposed for the downstream end of GP01 near the confluence with Proctor Creek. The vane would be located at approximate STA 0+70.
- iii. Root Wads: Approximately 3-6 root wads are proposed for the downstream end of the reach near the confluence with Proctor Creek. The root wads will be located at approximate STA 0+50.
- iv. Plantings: Plantings are proposed at the confluence of Proctor Creek and VPB as well as along the banks of VPB through the GP01 reach.

f. **O&M CONSIDERATIONS:** Stabilization and vegetative management of streambank. Fee simple ownership estate is recommended per ER 1105-2-100, Para. E-30.f.

- g. **ACCESS:** An access road containing approximately 0.23 of an acre is expected to be situated on land which the NFS already holds fee ownership, which will run from Hortense Place to the project location.
- h. **STAGING:** Two staging area containing an aggregate size of approximately 0.34 of an acre will be required on City property adjacent to the project footprint in order to construct. Locations of these staging areas have been placed in existing clear areas along the access road.

GP02, Situated in Land Lot 145, 14th District of the City of Atlanta

- a. **SHEET REFERENCE NO:** C-1 (Exhibit "A", Page 12)
- b. **LOCATION:** Reach GP02 extends along Valley Park Branch from the Grove Park driveway culvert at latitude 33.773883, longitude - 84.440343 up to the crossing with Donald Lee Hollowell Pkwy. The reach runs through Grove Park and the majority is currently piped through two 10'x5' box culverts. There is a grass field above the culverts that the community uses for playing casual sports.
- c. **DESIGN TYPE:** Ecosystem Restoration / Streambank Stabilization
- d. **SITE DESCRIPTION:** The proposed project consists of approximately 750 feet of streambank restoration which is continuously planned for both sides of the creek along this distance. There are no improvements that will be impacted by site footprint as land is located on existing municipal park facilities. The project footprint for the proposed streambank restoration for this area is approximately 1.1 acres.
- e. **DESIGN FEATURES/RESTORATION COMPONENTS:**
 - i. Channel: A proposed channel concept is designed to replace the culvert section of the reach with an open channel. The open channel will need to have the same or better conveyance capabilities as the existing culvert so as to not increase flood risk. The channel is proposed to bend to the east side of the field so that open space will remain to the west for the community. Excavation and material haul off will be required.

- ii. Culvert Demolition: Portions of the existing culvert will have to be demolished and hauled off. Since the proposed channel will bend to the east much of the culvert can remain intact underground. Either the remaining culvert can be plugged or it can remain as an overflow path for high flows to take some of the pressure off the proposed channel. Approximately 125 ft of the culvert is anticipated to need to be demolished and removed at the DS end of the reach. At the upstream end of the reach approximately 100 ft of concrete lined channel will need to be removed.
- iii. Cross Vanes: Three cross vanes have been incorporated into the design in the new open channel and located at STA 6+90 and STA 12+00 and at STA 9+70.
- iv. Stream Barbs: Log stream barbs are proposed for both the LB and the RB along the reach. The stream barbs would be spaced approximately every 50 feet along both banks from STA 7+90 to STA 11+40.
- v. J-hook Vanes: Two J-hook vanes are proposed in the new channel at STA 7+50 to STA 8+60.
- vi. Rip rap/Baffles: Rip rap or baffling structures for erosion control and energy dissipation are proposed for the 25' section of the reach directly downstream of Donald Lee Hollowell Pkwy.
- f. **O&M CONSIDERATIONS**: Stabilization and vegetative management of streambank. Fee simple ownership estate is recommended per ER 1105-2-100, Para. E-30.f.
- g. **ACCESS**: See access under feature GP01.
- h. **STAGING**: See staging under feature GP01.

TC02, Situated in Land Lot 250, 17th District of the City of Atlanta

- a. **SHEET REFERENCE NO**: C-1 (Exhibit "A", Page 13)
- b. **LOCATION**: Reach TC02 is bounded by the Terrell Creek (a.k.a. Center Hill Tributary) crossings with Hollywood Road NW at the upstream and downstream end. The majority of the work will be in an area adjacent to a cemetery owned by Monte Vista Biblical Gardens/Lincoln Cemetery.

c. DESIGN TYPE: Ecosystem Restoration / Streambank Stabilization

d. SITE DESCRIPTION: The proposed project consists of approximately 1,050 feet of streambank restoration adjacent to Hollywood Road NW south of the intersection with Hightower Road and ending south of the intersection with Saint Paul Avenue. These stabilizations are intermittently planned for both sides of the creek along this distance. There are no improvements that will be impacted by site footprint as no development is allowed in the floodway. The zoning along this stretch of creek is Single Family Residential uses. A fee ownership estate covering approximately 4.24 acres is required for the proposed streambank restoration which includes wetland features.

e. DESIGN FEATURES/RESTORATION COMPONENTS:

- i. Diversion: An offline diversion channel will be created in order to divert stream flow from Terrell Creek to an offline wetland area. A concrete or rock diversion weir will be set at an elevation such that baseflows continue in the channel but during stormflows some of the flow is diverted to the wetland. It will be located at approximate STA 15+90.
- ii. Diversion Channel: Proposed a small channel with a 3' bottom width for diverting flow to the wetland. The area will be confined between the existing stream and a utility line. The channel will return to the creek at approximate STA 7+00. Rip rap erosion protection will be provided where the diversion channel returns flow to the creek.
- iii. Wetland Area: The wetland area will cover approximately 1.25 acres. There will be from 2 to 4 pools within the wetland for shallow ponding. Ponding depths should not exceed more than 18" to 2'. Check dams / weirs made of earthen embankment and/or riprap will be used to pond water.
- iv. Bank Stabilization: Three locations were identified for bank stabilization. Two areas were identified for LPST protection and one area was identified for bioengineered revetment type protection. There is about 125' section of LPST on the RB in the upstream-most section of the reach at STA 18+00 to 16+80. There is about 220' of LPST on the LB midway on the reach from STA 10+20 to 12+40. There is about a 70' section of reach on the RB from STA 9+50 to 10+20 where locked logs or other bioengineered revetment has been recommended.

v. Invasive Species Removal: Approximately 3.9 acres will be treated for invasive species removal including kudzu and privet.

vi. Plantings: Approximately 3.9 acres will be planted.

- f. **O&M CONSIDERATIONS**: Stabilization and vegetative management of streambank. Fee simple ownership estate is recommended per ER 1105-2-100, Para. E-30.f.
- g. **ACCESS**: Inasmuch as project restorative actions parallel an existing parallel utility road that is used for maintaining the sanitary sewer line, it is recommended that this route be utilized for right bank work and Hollywood Road NW for left bank access. This route will allow for the least amount of disruption to adjoining landowners. It is possible that the NFS already holds the necessary rights for this access road. Alternatively, a perpetual road easement could be purchased on cemetery property for access to the right bank of the project, which would be approximately 0.28 of an acre.
- h. **STAGING**: Staging should be sufficient on site adjacent to Hollywood Road, NW.

TC05, Situated in Land Lots 248 and 249, 17th District of the City of Atlanta

- a. **SHEET REFERENCE NO**: C-1 (Exhibit "A", Page 14)
- b. **LOCATION**: Reach TC05 extends from a reach with the Baker Road crossing at the upstream end and extending approximately 800 feet downstream. The area is adjacent to forested areas with abandoned apartment buildings on the right bank. There is a concrete encased sewer crossing at the upstream end of the project.
- c. **DESIGN TYPE**: Ecosystem Restoration / Streambank Stabilization
- d. **SITE DESCRIPTION**: The proposed project consists of approximately 600 feet of streambank restoration adjacent to Lotus Avenue and Brooks Avenue. These stabilizations are continuously planned for both sides of the creek along this distance. Within the scope of this alternative in Terrill Creek, there are no improvements that will be impacted by site footprint as no development is allowed in the floodway. The zoning along this stretch of creek and the detention area is Single Family Residential uses. A fee ownership estate covering approximately 3.22 acres is required for the proposed streambank restoration.

e. DESIGN FEATURES/RESTORATION COMPONENTS:

- i. Wetland: A wetland is proposed on the LB of the reach. The wetland area would be approximately 0.65 acres with a depth ranging from 810 to 808 ft.
- ii. Diversion: An offline diversion to a proposed LB wetland would be located off the LB of the tributary entering Terrell Creek upstream of the sewer crossing. The elevation for the inlet channel is estimated at 811.
- iii. Plantings: Approximately 1.4 acres on the LB will be planted to improve the riparian condition
- iv. Invasive Species Removal: Both the LB and RB will be treated for invasive species including English ivy and privet. Total treated area is estimated at 1.7 acres on the RB and 1.4 acres on the LB.
- v. Invasive Species Removal: Approximately 3.9 acres will be treated for invasive species removal including kudzu and privet.
- vi. Plantings: Approximately 3.9 acres will be planted.
- vii. Stone Toe Protection: Two, hard outer bends are proposed to be protected with stone toe and root wads. Approximately 90' of stone toe is proposed for the upstream bend and approximately 100' is proposed for the downstream bend. A total of 10-15 root wads are estimated to be needed for the two bends combined.
- viii. Cross Vane: One rock cross vane is proposed at the downstream end of the proposed bar.
- ix. Training / Bendway Weirs: Wood logs are proposed for use as training weirs off of the left bank. The proposed weirs are 25 feet apart and seven weirs have been incorporated into project design.
- x. Bar Cut and Creation: Project alternative includes moving the rocky bar forming on the RB to the left bank. Approximately 285 square yards of material will be moved. Estimate an average of 24" in depth to be moved for a total of 190 cubic yards of material to be moved. Bar material will only be moved across the creek, approximately 20 feet.

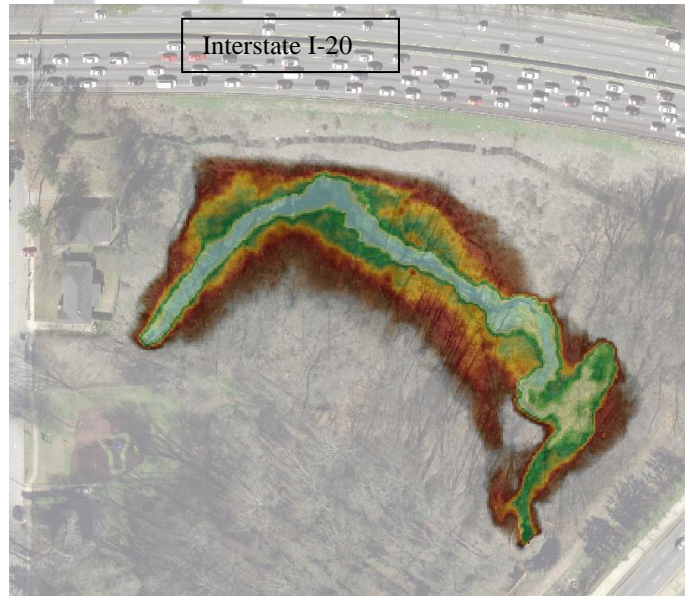
xi. Fish Passage Ramp: A fish passage ramp made of rocks would be strategically placed in the creek.

- f. **O&M CONSIDERATIONS**: Stabilization and vegetative management of streambank. Fee simple ownership estate is recommended per ER 1105-2-100, Para. E-30.f.
- g. **ACCESS**: The main stem of Terrill Creek in this area can be accessed by Lotus Avenue NW once fee simple property rights have been acquired from private landowners in this area. The Ridge Avenue detention area is accessible from Ridge Avenue.
- h. **STAGING**: Staging has been included in project footprint.

Pond D-17, Situated in Land Lots 248 and 249, 17th District of the City of Atlanta

- a. **SHEET REFERENCE NO**: C-1 (Exhibit "A", Page 14)
- b. **LOCATION**: Pond D-17 is located at the crossing of Proctor Creek and Interstate Highway I-20 and is also adjacent to Atlanta Beltline Trail / Langhorn Street SW and Enota Place Park. The upstream area was identified in person and with LiDAR DEM as having a reasonable impoundment area free of property or high value land.
- c. **DESIGN TYPE**: Detention Area
- d. **SITE DESCRIPTION**: The proposed project will entail the installation of a riser pipe into vacant land primarily owned by the City of Atlanta adjacent to Interstate 10 and Enota Place Park for the creation of a detention area. Based on induced flooding analysis by Engineering, the 100-year return interval storm will result in a peak pool elevation of 971.1ft at Detention Area D17, compared to 971.0ft for existing conditions. Similar effects on pool elevation and inundation footprint will be seen for the more frequently occurring events. The zoning in the area of the project site is Single Family Residential uses. A fee ownership estate covering approximately 2.42 acres is required for the proposed detention area.
- e. **DESIGN FEATURES/RESTORATION COMPONENTS**:
- i. Wetland: A wetland is proposed on the LB of the reach. The wetland area would be approximately 0.65 acres with a depth ranging from 810 to 808 ft.

- f. **O&M CONSIDERATIONS:** Maintenance of riser pipe and detention area. Fee simple ownership estate is recommended per ER 1105-2-100, Para. E-30.f.
- g. **ACCESS:** The detention area is accessible through the Enota Place Park owned by the City of Atlanta.
- h. **STAGING:** Staging has been included in project footprint, but could also be located on the public right of way for Chicamauga Ave NW, adjacent to project site. This public ROW is a paper road, which is owned by the City and was planned to become a subdivision, but the road was never constructed.



Inundation of private structures is not anticipated. There are several property lines that cross the project site. If the project moves forward future study into the backwater effects of the upstream drainage system should be performed per hydrology.

5. UTILITY RELOCATION

There are no known utility relocations which have been identified within the footprint required for the project. It is duly noted that a sewer line traverses the area for the PC-15 wetland area, and close coordination between USACE Engineering Division, City of Atlanta Department of Watershed Management, and the contractor is necessary to ensure that this sewer line is not impacted. If it is determined that the sewer line must be altered, this may impact real estate costs and result in a utility relocation for this project feature.

Adjacent to the TC-02 site, there is a sewer utility which runs along the right bank of the project area. Some areas may prove to be too confined to the project footprint and if this proves to be the case, the possibility of a sewer relocation may become evident, thereby resulting in real estate implications.

Possible sewer line issues have also been identified within the PC-21 reach by Engineering Division.

6. EXISTING PROJECTS

There are no known existing Federal projects that lie fully or partially within the footprint required for the proposed project.

7. ENVIRONMENTAL IMPACTS & POTENTIAL HAZARDOUS, TOXIC, RADIOACTIVE WASTE (HTRW)

Construction of the proposed project is not expected to cause adverse environmental impacts. However, the National Environmental Policy Act (NEPA) portion of the combined report will be formalized into the combined NEPA document. Several key components of the NEPA document have essentially been completed as part of the planning process to date and are incorporated into this study report. The NEPA document will be completed concurrently with the study report. All relevant issues typically addressed in the NEPA process will be included in the final report.

EPA has evaluated the waterway over the course of many years and has provided a general conclusion that the watershed is plagued with pollution erosion and high bacteria levels from regular storm water flooding and sewage overflows. In particular the poor ecological health of this urban creek is attributed to illegal tire dumping/litter and combined and sanitary sewer overflows (CSO) (SSO). The communities surrounding Proctor Creek suffer public health threats related to flooding and pathogens released from sewer overflow discharges. As new development and gentrification occur environmental justice issues are also becoming more prominent. The area is also characterized by brownfields and little greenspace.

Details about chemical and/or biological pollutants in Proctor Creek are provided in the Visual Field Survey and Monitoring Report from ARC and EPD, published in September 2010. The sampling effort focused on E. coli and attempted to specifically identify contamination from human/sanitary sewer sources. In summary, high levels of E. coli were found in samples from all six monitoring locations within Subarea 10 (Johnson Rd crossing). While the report clarifies that more sampling will be required before results can be considered statistically significant, it also clearly states that the monitoring locations in Subarea 10, with readings of greater than 1,000 colony forming units per 100 milliliters (1,000

cfu/mL), are considered to be “problem areas” with the highest contaminations levels in Proctor Creek.

For additional evaluation of environmental concerns, refer to the Environmental Appendix.

8. NON-FEDERAL SPONSOR RESPONSIBILITIES, CAPABILITIES, AND RISK NOTIFICATION

The City of Atlanta is the Non-Federal Sponsor (NFS) for the proposed project. The NFS has the responsibility to acquire all real estate interests required for the project. The NFS shall accomplish all alterations and relocations of facilities, structures and improvements determined by the government to be necessary for construction of the project.

Title to any acquired real estate will be retained by the NFS and will not be conveyed to the United States Government. The government will require access rights be provided by the NFS for entry to the project. Prior to advertisement of any construction contract, the NFS shall furnish to the government an Authorization for Entry for Construction (Exhibit “F”) to all lands, easements and rights-of-way, as necessary. The NFS will also furnish to the government evidence supporting their legal authority to grant rights-of-way to such lands.

The condemnation authority of the City of Atlanta is based on Atlanta City Charter, Part I, Subpart A, Article 1, with designated power in subparagraph (8), *“To condemn property, inside or outside the corporate boundaries of the city, for present or future use, and for any corporate purpose deemed necessary by the council, under Title 22 of the O.C.G.A., as now or hereafter amended, including but not limited to an Act approved Feb. 20, 1945 (Ga. L. 1945, p. 690), granting to the city a fee simple title to property condemned upon payment of the condemnation of money, or under other applicable state Acts, including but not limited to an Act of the General Assembly of Georgia, approved March 2, 1953 (Ga. L. 1953, Jan.-Feb. Sess., p. 360), as now or hereafter amended, and Section 6 of an Act of the General Assembly of Georgia, approved March 7, 1955 (Ga. L. 1955, p. 3025, Sec. 6).”* In accordance with the standards outlined in Title 22 of Georgia Law, the acquiring entity must certify to the court that such lands being condemned are for a public use. Furthermore, this code has a provision for a special master, which would facilitate the “quick-take” requirement.

During the acquisition process, the NFS shall comply with applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, approved 2 January 1971, and amended by Title IV of the Surface Transportation Uniform Relocation Assistance Act of 1987, Public Law 100-17, effective 2 April 1989, in acquiring real estate interests for the

proposed project, and inform all affected persons of applicable benefits, policies, and procedures in connection with said Act(s).

An Assessment of Non-Federal Sponsor's Real Estate Acquisition Capability Form was accepted and acknowledged by the NFS on [REDACTED] which is attached hereto as Exhibit "H". The NFS does have the legal authority to acquire and hold title to real property. It is the intent of the NFS to use in-house personnel or contractor support to acquire the necessary land interests for the proposed project.

The NFS is entitled to receive credits against its share of project costs for the value of lands it provides and the value of any relocation that may be required for the project. The value of the real property interests will also include the documented incidental costs of acquiring such interests, as determined by the Government, to be reasonable. Credit for sponsor owned lands that may have been acquired more than 5 years from the effective date of the Project Partnership Agreement (PPA) will not include incidental costs. Credit for real property owned by the sponsor at the effective date of the PPA will be based on the fair market value of the land at that time. For land acquired after the effective date of the PPA, credit will be based on the fair market value at time of acquisition and administrative costs will be based on actual documented costs submitted by the sponsor.

9. GOVERNMENT OWNED PROPERTY

No federal government owned lands are within the proposed restoration lands required for the project.

10. HISTORICAL SIGNIFICANCE

At this time, there are no known significant cultural resources in the proposed project area. However, to comply with Section 106 of the National Historic Preservation Act, the restoration feature locations that comprise the selected feature formulation(s) that will be carried forward must be investigated for archaeological resources or documented as to why no archaeological survey was conducted. If an archaeological site is encountered during the Phase I investigation, sufficient work shall be conducted so as to definitively determine the site's National Register of Historic Places eligibility. Sites determined eligible for the NRHP will be avoided, or, if not possible, mitigated in accordance with 36 CFR 800.

11. MINERAL RIGHTS

There are no mineral rights to be acquired within the scope of the proposed project. During site visits, no mineral activity was observed.

12. PUBLIC LAW 91- 646 RELOCATION ASSISTANCE BENEFITS

Public Law 91-646, Uniform Relocation Assistance provides entitlement for various payments associated with federal participation in acquisition of real property. Title II makes provision for relocation expenses for displaced persons, and Title III provides for reimbursement of certain expenses incidental to transfer of property.

Currently, there have been no properties identified as potential P.L. 91-646 relocations.

13. ATTITUDE OF PROPERTY OWNERS

Through the course of the feasibility study, Mobile District Planning Division has spearheaded the Integrated Water Resources Management effort and the coordination of proposed restorative actions with local stakeholder entities, the City of Atlanta, and local engagement have been indicative of a generally positive reception to improvements upon the creek. The selected alternatives avoid residential and business areas to a very large extent, and the City of Atlanta has engaged in similar restoration efforts along Proctor Creek in the past with the support of the public.

The City of Atlanta has acquired properties in the Proctor Creek area as part of a separate Greenway Acquisition Plan over the course of the past decade with the support of various stakeholder groups. The City has held public workshops and meetings with regards to its acquisitions and the possibility of future acquisitions, and it is anticipated that USACE will engage in a public landowner meeting in advance of final submission of the array of alternatives for the project.

14. ACQUISITION SCHEDULE

Proposed commencement of acquisition – 1st Qtr of Fiscal Year 2020
Anticipated completion of LERRD acquisition – June 2021

The NFS has indicated that existing in-house personnel are capable of acquiring the real estate interests necessary for the proposed project. If needed, the NFS can also obtain contractor support in a timely fashion in order to meet future acquisition milestones. It is projected that land acquisitions and interagency allocations will require approximately 18 months, and can begin when final plans and specs have been completed and the PPA has been executed. The NFS, USACE Project Manager and Real Estate Technical Manager will formulate the milestone schedule upon project approval to allow adequate time to complete the real estate acquisition to meet the advertisement for construction date(s).

In addition, the NFS has accepted and acknowledged the terms and conditions set out in the Non-Federal Sponsor Risk Notification Letter which is attached hereto as Exhibit "I". In sum, this risk notification letter advises the NFS of the risks associated with land acquisition prior to the execution of the PPA or prior to the Government's formal notice to proceed with said acquisition.

15. RECOMMENDED ESTATES FOR PROPOSED PROJECT

In accordance with ER 405-1-12, chapter 12, the standard estate for an ecosystem restoration project is Fee Simple title. Nevertheless, this regulation permits an easement interest "based on the extent of interest required for the operation or other requirements of a project."

- a) **FEE SIMPLE TITLE:** This standard easement is recommended for the proposed streambank restoration footprints along Proctor Creek, unless a lesser easement interest is warranted based upon the extent of work.

The fee simple title to the land, subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines; excepting and excluding all (coal) (oil and gas), in and under said land and all appurtenant rights for the exploration, development, production and removal of said (coal) (oil and gas), but without the right to enter upon or over the surface of said land for the for the purpose of exploration, development, production and removal therefrom of said (coal) (oil and gas).

- b) **BANK PROTECTION EASEMENT:**

A perpetual and assignable easement and right-of-way in, on, over and across the land hereinafter described for the location, construction, operation, maintenance, alteration, repair, rehabilitation and replacement of a bank protection works, and for the placement of stone, riprap and other materials for the protection of the bank against erosion; together with the continuing right to trim, cut, fell, remove and dispose therefrom all trees, underbrush, obstructions, and other vegetation; and to remove and dispose of structures or obstructions within the limits of the right-of-way; and to place thereon dredged, excavated or other fill material, to shape and grade said land to desired slopes and contour, and to prevent erosion by structural and vegetative methods and to do any other work necessary and incident to the project; together with the right of ingress and egress for such work; 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.

- c) **TEMPORARY WORK AREA EASEMENT:** The standard Temporary Work Area Easement will be used for those sites identified as staging areas for construction.

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 City of Atlanta, the Non-Federal Sponsor, for use by the Non-Federal Sponsor, its representatives, agents, and contractors as a (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 Proctor Creek Aquatic Ecosystem Restoration 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.

- d) ROAD EASEMENT:** Due to the Operation and Maintenance (O&M) requirements expected after construction of these restoration measures, the standard perpetual road easement is recommended for the future access to the project sites.

A perpetual and assignable 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; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

16. REAL ESTATE ESTIMATE

A Gross Appraisal Value Estimate, effective date of 31 March 2017, was prepared by USACE staff appraiser to determine an estimated fair market value of the lands required for the proposed project. The Sales Comparison Approach was determined to be a sound approach in that sales in the subject neighborhood were used to provide a value indicator for the subject properties. The Sales Comparison Approach is almost exclusively used by market participants in determining acquisition / sale prices among land properties. The immediate neighborhood area and surrounding localities were researched for sales of similar properties that have occurred within the past several years. Land class and other site specific information was used in the valuation. According to current guidance provided by SAD, a gross appraisal was the prudent means of applying land values for this particular project. Land values are

shown in Table 16-1. These values were determined using data from public records, field study of subject neighborhoods, and from interviews with local professionals. The sales of comparable properties that are used in the valuation represent the best available comparisons in terms of physical proximity, location, access and highest and best use. A number of bona fide vacant land sales for each property type were compiled to offer reasonable support for unit land values to be used in calculating aggregate real estate costs for the project. *(Note: It is recognized that a less stringent reconnaissance level appraisal can sometimes be performed in lieu of a gross appraisal. This can be due to budgetary restrictions imposed by the project and the limited site information available which would render a gross appraisal inefficient from an administrative cost standpoint).*

The estimated real estate costs in Table 16-1 include the cost for acquisition of land and federal and non-federal administrative costs. Administrative costs are those costs incurred for verifying ownership of lands, surveys, mapping and legal descriptions, certification of those lands required for project purposes, appraisals, title insurance/legal opinions, negotiations, oversight analysis and/or other requirements that may be necessary during Planning, Engineering and Design (PED). A 25% contingency is applied to the estimated total for these items.

Table 16-1
Real Estate Cost Estimate Summary

REAL ESTATE PLAN TABLE 16-1 BCERE				
a. Lands and Improvements				
PC08-01 and PC08-02			\$115,222	
PC09 and PC10			\$17,487	
PC13 and PC14			\$46,471	
PC15			\$31,120	
PC21			\$39,606	
GP01 and GP02			\$4,790	
TC02			\$11,325	
TC05			\$12,575	
Detention area D-17			\$12,630	
			Subtotal (rounded)	\$291,000.00
			Contingencies (25%)	\$73,000.00
			Subtotal (rounded)	\$364,000.00
b. Mineral Rights				\$0.00
c. Damages				\$0.00
d. *Facility/Utility Relocation costs (02 Relocation Account)				\$0.00
e. 25% contingency from abbreviated risk analysis				\$0.00
f. P.L. 91-646 Relocation costs				\$0.00
g. Administrative Cost (Incl. 25% Contingency)				\$125,000.00
	Relocation	Acquisition	Total	
Federal	0	31,250	31,250	
Non-Fed	0	93,750	93,750	
	0	125,000	125,000	
Sub-Total				\$489,000.00
Item a = 22% cont. / Items d,g = 25% cont.)				
Total (Rounded)				\$490,000.00

REAL ESTATE PLAN TABLE 16-2 CHART OF ACCOUNTS				
01A	PROJECT PLANNING	FEDERAL	NON-FEDERAL	TOTALS
	Other			
	Project Cooperation Agreement	-	-	
01AX	Contingencies (25%)	-	-	
	Subtotal	-	-	
01B	LANDS AND DAMAGES/PERMITS			
01B40	Acquisition/Review of NFS	25,000.00		25,000.00
01B20	Acquisition by NFS		75,000.00	75,000.00
01BX	Contingencies (25%)	6,000.00	19,000.00	25,000.00
	Subtotal	31,000.00	94,000.00	125,000.00
01F	PL 91-646 ASSISTANCE		N/A	N/A
01F20	By NFS		N/A	N/A
01FX	Contingencies (25%)		N/A	N/A
RELO 02	Facility/Utility Relocation by NFS without credit		0.00	0.00
	Facility/Utility Relocation		0.00	0.00
	Risk Based Contingencies (25%)	0.00	0.00	0.00
	Subtotal	0.00	0.00	0.00
01R	REAL ESTATE LAND PAYMENTS			
01R1B	Land Payments by NFS(rounded)		291,000.00	291,000.00
01R2B	PL91-646 Relocation Payment by NFS		N/A	N/A
01R2D	Review of NFS	N/A		N/A
01RX	Contingencies (25% - rounded)	0.00	73,000.00	73,000.00
	Subtotal	0.00	364,000.00	364,000.00
TOTALS (ROUNDED)		30,000.00	460,000.00	490,000.00

17. NAVIGATIONAL SERVITUDE

The Federal Navigational Servitude doctrine arises from two related components: navigation power which is derived from the commerce clause of the U.S. Constitution giving Congress regulatory power over navigable waters; and navigation servitude which provides that certain private property may be taken, without compensation to the landowner, if the taking is necessary to exercise the navigation power. Private ownership of land below navigable or tidal waters is acquired and held subject to the dominant public right of navigation. This dominant public right may be exercised by Congress without giving rise to a compensable taking. Exercise of Federal Navigational Servitude is not applicable to the subject project as the focus of this project is for ecosystem restoration rather than for commerce related purposes.

18. EXTENT OF INDUCED FLOODING

The 100-year return interval storm will result in a peak pool elevation of 971.1ft at Detention Area D17, compared to 971.0ft for existing conditions. Any inundated acreage will be identified once extents are identified (if any) by the engineering analysis.

19. APPLICATION OF ZONING ORDINANCES

Currently, there is no expectation of the NFS enacting zoning ordinances in lieu of, or to facilitate, land acquisition in connection with the proposed project.

To help combat negative stream impacts, the City of Atlanta and Fulton County have implemented stream protection buffers and buffer setback requirements under Code of Ordinances Section 74-303 and Article VII, respectively. While there are specific property exemptions (e.g. environmental monitoring, remediation activities including stream gauging, permanent removal of impervious surfaces, etc...) and variances that can be considered by the local planning director, this ordinance is influential to the land valuation and subsequent acquisition being proposed herein.

These buffer and setback limits and restrictions are identified as follows:

- (a) An undisturbed vegetative stream protection buffer shall be maintained for seventy-five (75) feet, measured perpendicularly or horizontally, on both banks (as applicable) of the stream as measured from the point of wrested vegetation.
- (b) For those streams that are both tributary to a water supply and within a seven-mile radius of a water reservoir, additional stream buffer setback shall be maintained for one hundred fifty (150) feet, measured perpendicularly and horizontally on both sides of the stream from the point

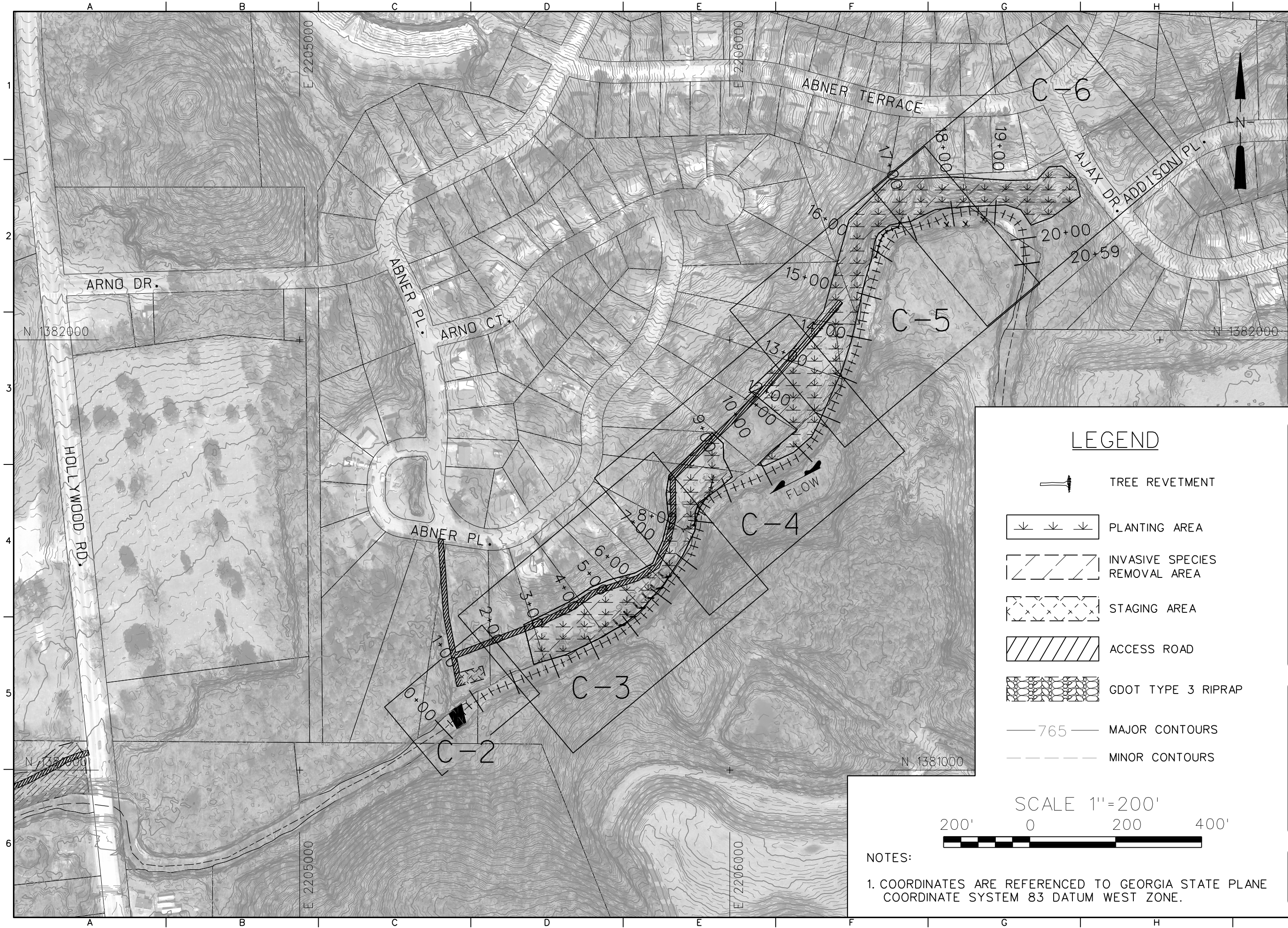
of wrested vegetation. Furthermore, no septic systems are permissible within this area.

20. EXHIBITS/FIGURES/TABLES

1. Exhibit “A” – Project Design Plates for all Project Sites
2. Exhibit “B” – Vicinity Map of Study Area
3. Exhibit “C” – Fulton County, Proctor Creek Subwatersheds
4. Exhibit “D” – Stream Restoration – Proctor Creek Watershed
5. Exhibit “E” – Project Site Tax Map & Photos
6. Exhibit “F” – Authorization for Entry for Construction
7. Exhibit “G” – Assessment of NFS RE Acquisition Capability
8. Exhibit “H” – NFS Risk Notification Letter

Exhibit “A” – Project Design Plates for all Sites

D
R
A
F
T



US Army Corps of Engineers
Mobile District

Symbol	Description	Date	Approved

Designed By:	Date:
N. HALLBERG	OCTOBER, 2016

Drawn By:	File No.
J. GIBSON	X

Checked By:	I.S.O. Sheet File Name:
	PC09_10_16.dgn

Reviewed By:	Solicitation Number:
	X

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ATLANTA, GEORGIA
PROCTOR CREEK ECOSYSTEM
RESTORATION STUDY

PC-09 AND PC-10
OVERALL SITE DRAFT

Sheet
Reference
Number:
C-1

LEGEND

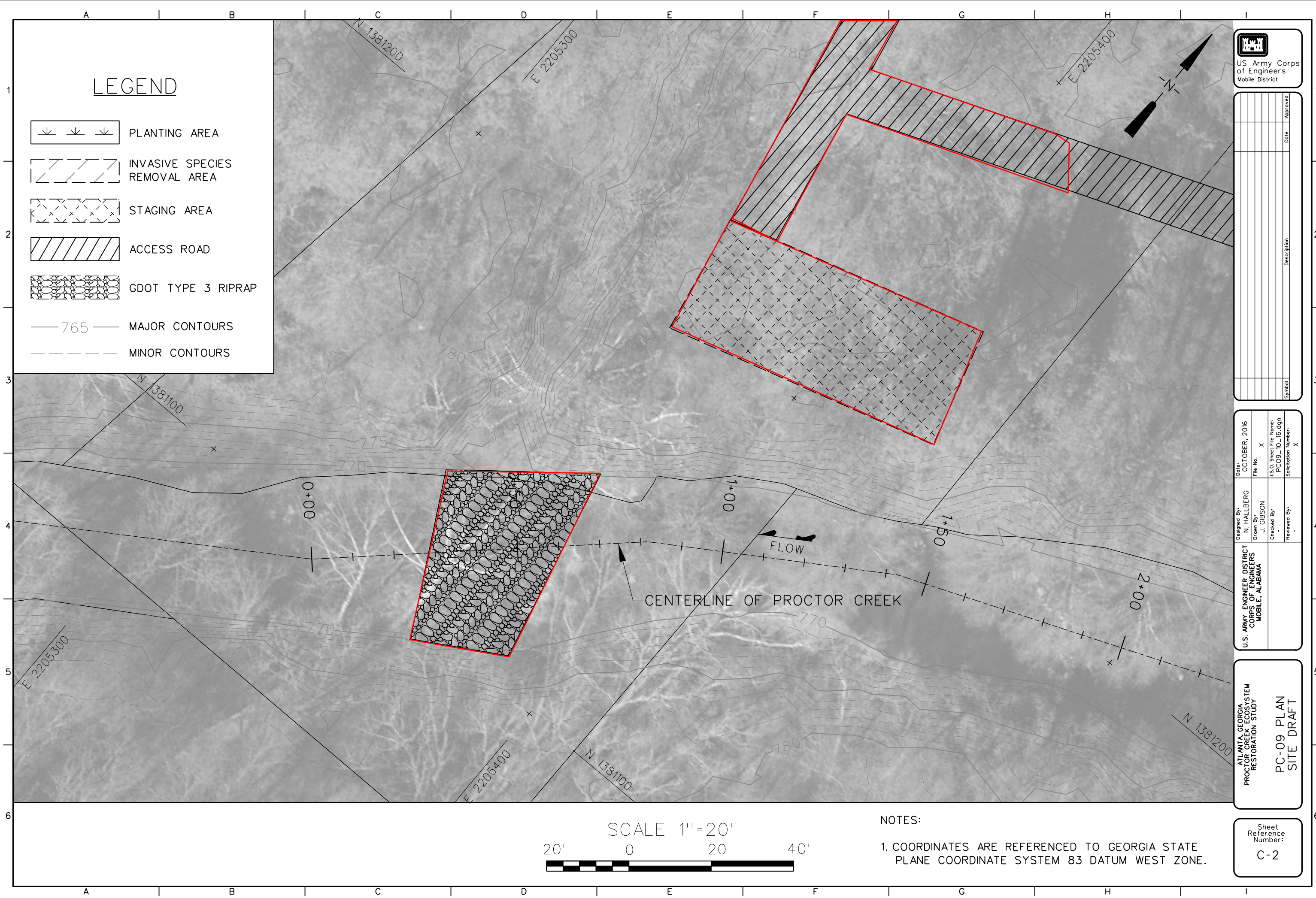
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- PLANTING AREA
- INVASIVE SPECIES REMOVAL AREA
- STAGING AREA
- ACCESS ROAD
- GDOT TYPE 3 RIPRAP
- 765 MAJOR CONTOURS
- MINOR CONTOURS

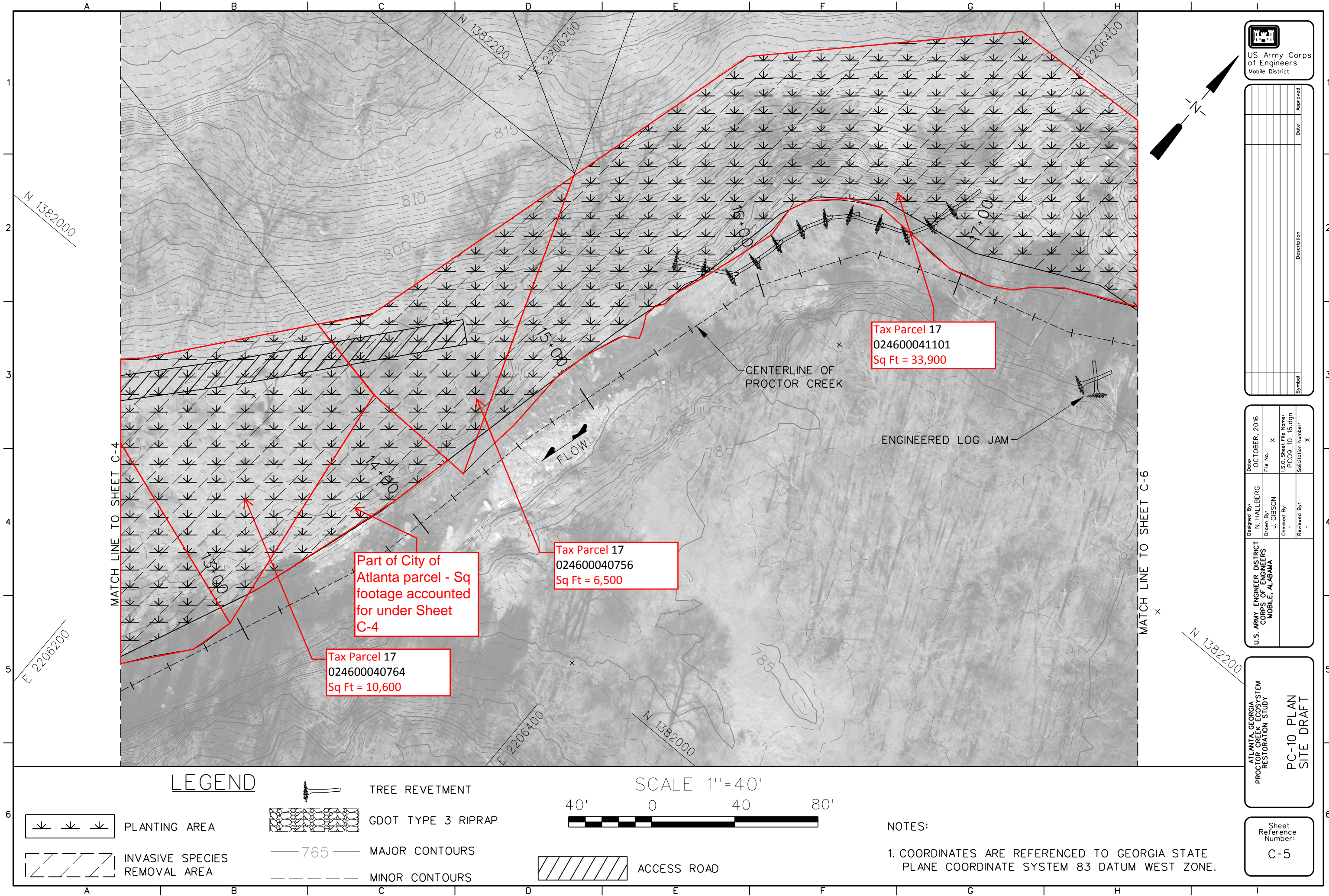
SCALE 1"=200'



NOTES:

1. COORDINATES ARE REFERENCED TO GEORGIA STATE PLANE COORDINATE SYSTEM 83 DATUM WEST ZONE.





US Army Corps
of Engineers
Mobile District

Symbol	Description	Date	Approved

Designed By:	Date:	File No.
N. HALLBERG	OCTOBER, 2016	X

Drawn By:	I.S.O. Sheet File Name:
J. GIBSON	PC09_10_16.dgn

Checked By:	Solicitation Number:
	X

Reviewed By:	Solicitation Number:
	X

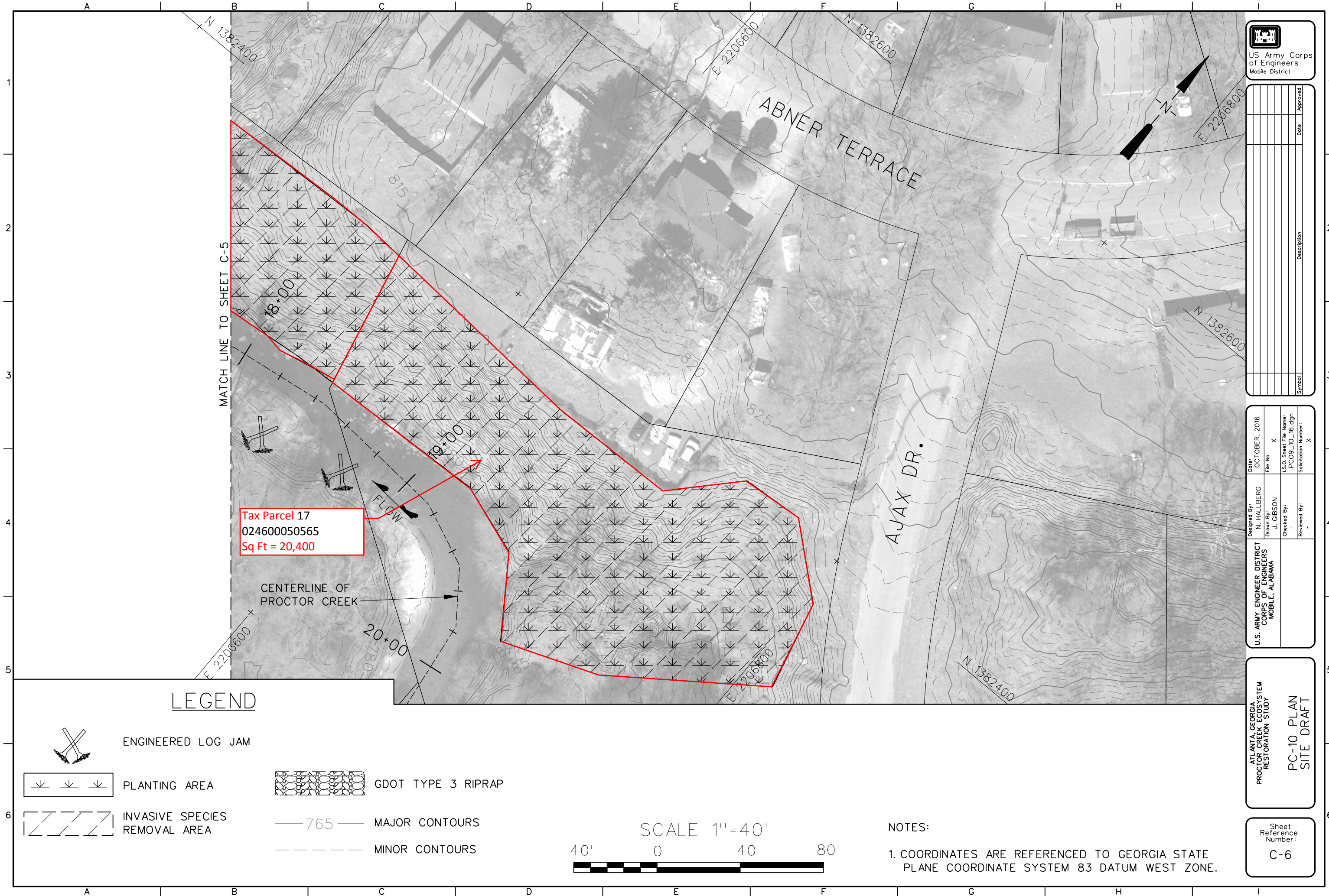
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

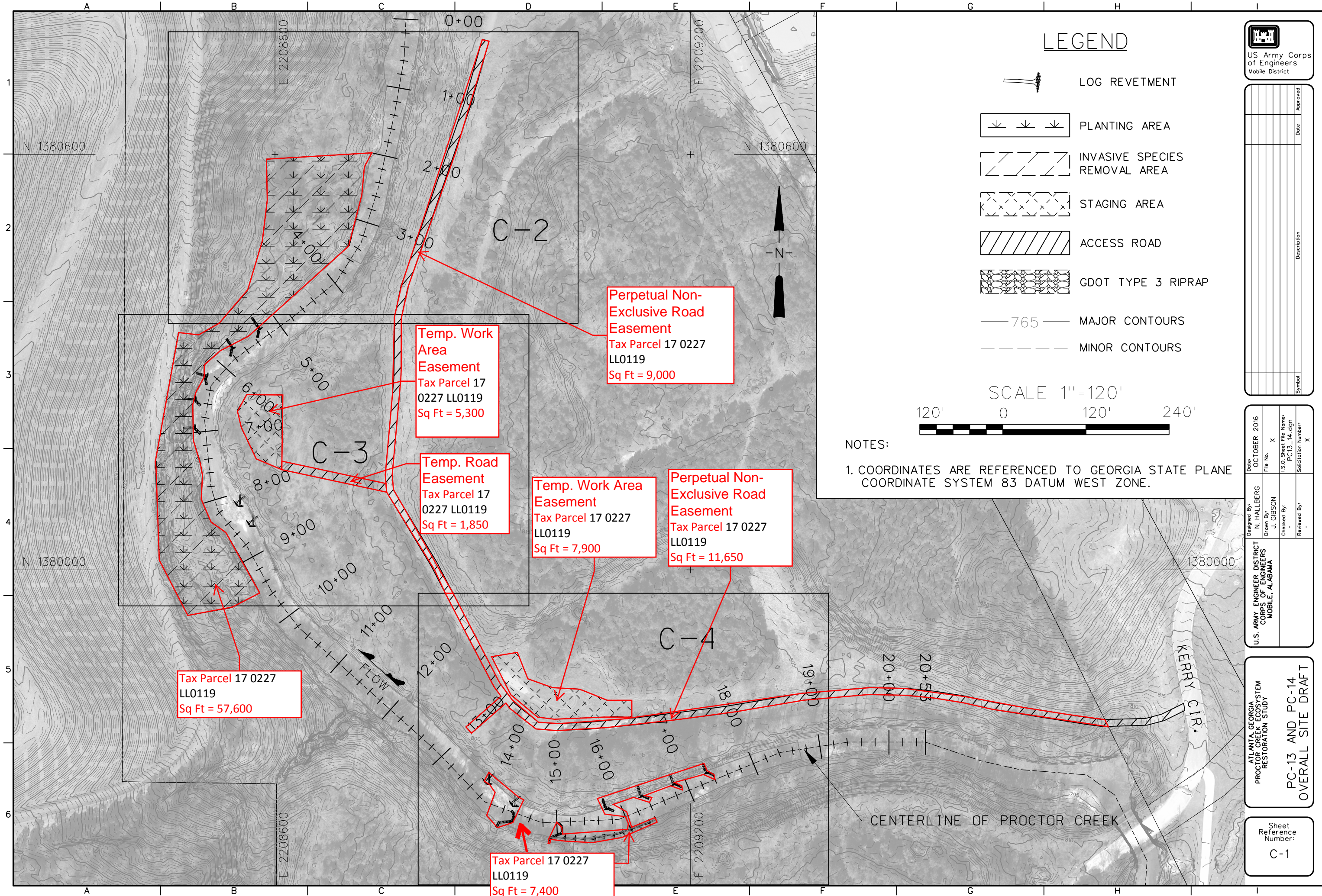
ATLANTA, GEORGIA
PROCTOR CREEK ECOSYSTEM
RESTORATION STUDY

PC-10 PLAN
SITE DRAFT

Sheet
Reference
Number:
C-5

NOTES:
1. COORDINATES ARE REFERENCED TO GEORGIA STATE
PLANE COORDINATE SYSTEM 83 DATUM WEST ZONE.





LEGEND

- LOG REVETMENT
- PLANTING AREA
- INVASIVE SPECIES REMOVAL AREA
- STAGING AREA
- ACCESS ROAD
- GDOT TYPE 3 RIPRAP
- MAJOR CONTOURS
- MINOR CONTOURS



NOTES:
1. COORDINATES ARE REFERENCED TO GEORGIA STATE PLANE COORDINATE SYSTEM 83 DATUM WEST ZONE.

US Army Corps of Engineers
Mobile District

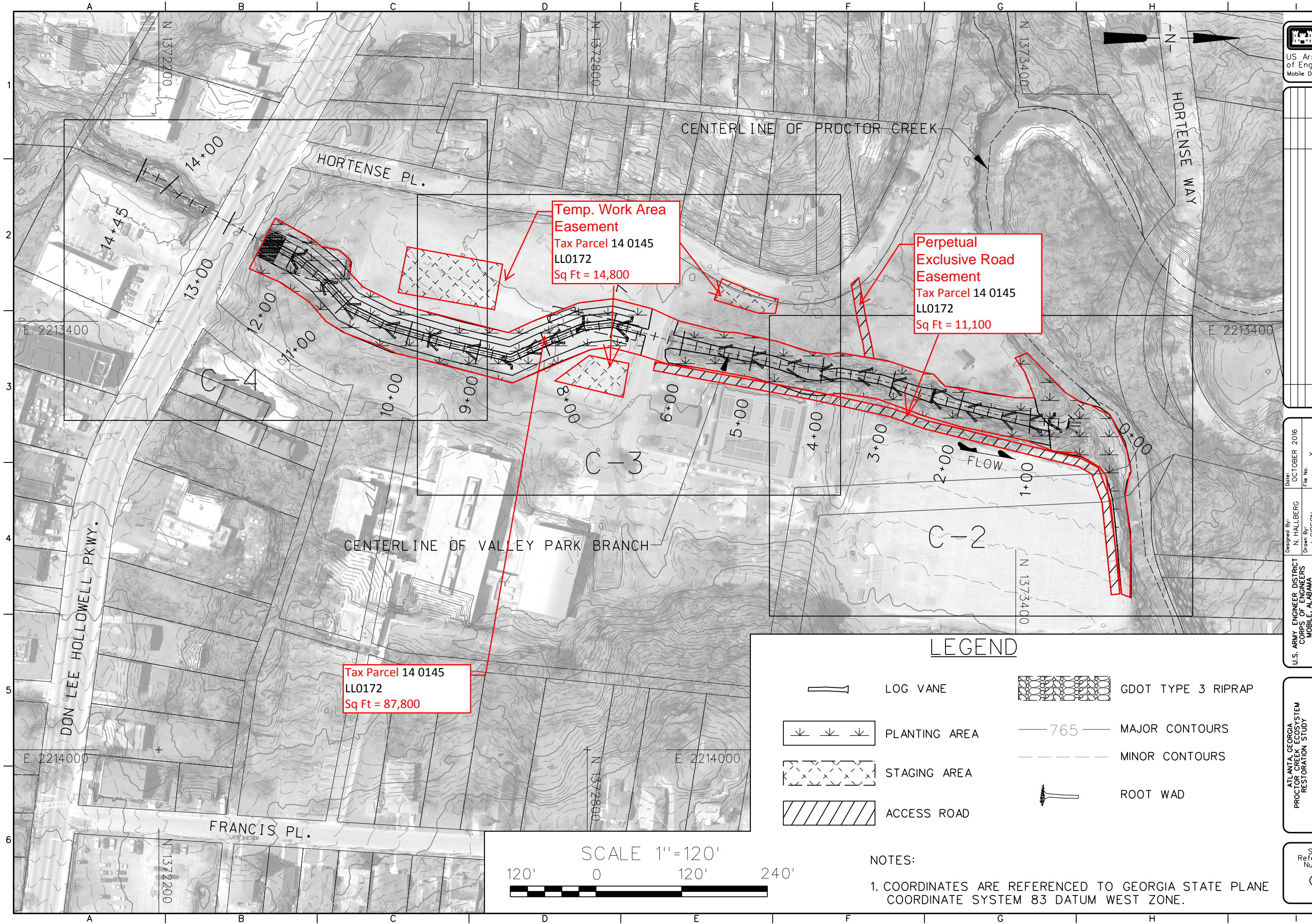
Date	Designed By	Drawn By	Checked By	Reviewed By
OCTOBER 2016	N. HALLBERG	J. GIBSON		

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ATLANTA, GEORGIA
PROCTOR CREEK ECOSYSTEM
RESTORATION STUDY

PC-13 AND PC-14
OVERALL SITE DRAFT

Sheet
Reference
Number:
C-1



US Army Corps of Engineers
Mobile District

Symbol	Description	Date	Approved

Designed By:	Date:
N. HALLBERG	OCTOBER 2016

Drawn By:	File No.
J. GIBSON	X

Checked By:	I.S.O. Sheet File Name:
	GP01_02.dgn

Reviewed By:	Solicitation Number:
	X

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ATLANTA, GEORGIA
PROCTOR CREEK ECOSYSTEM
RESTORATION STUDY

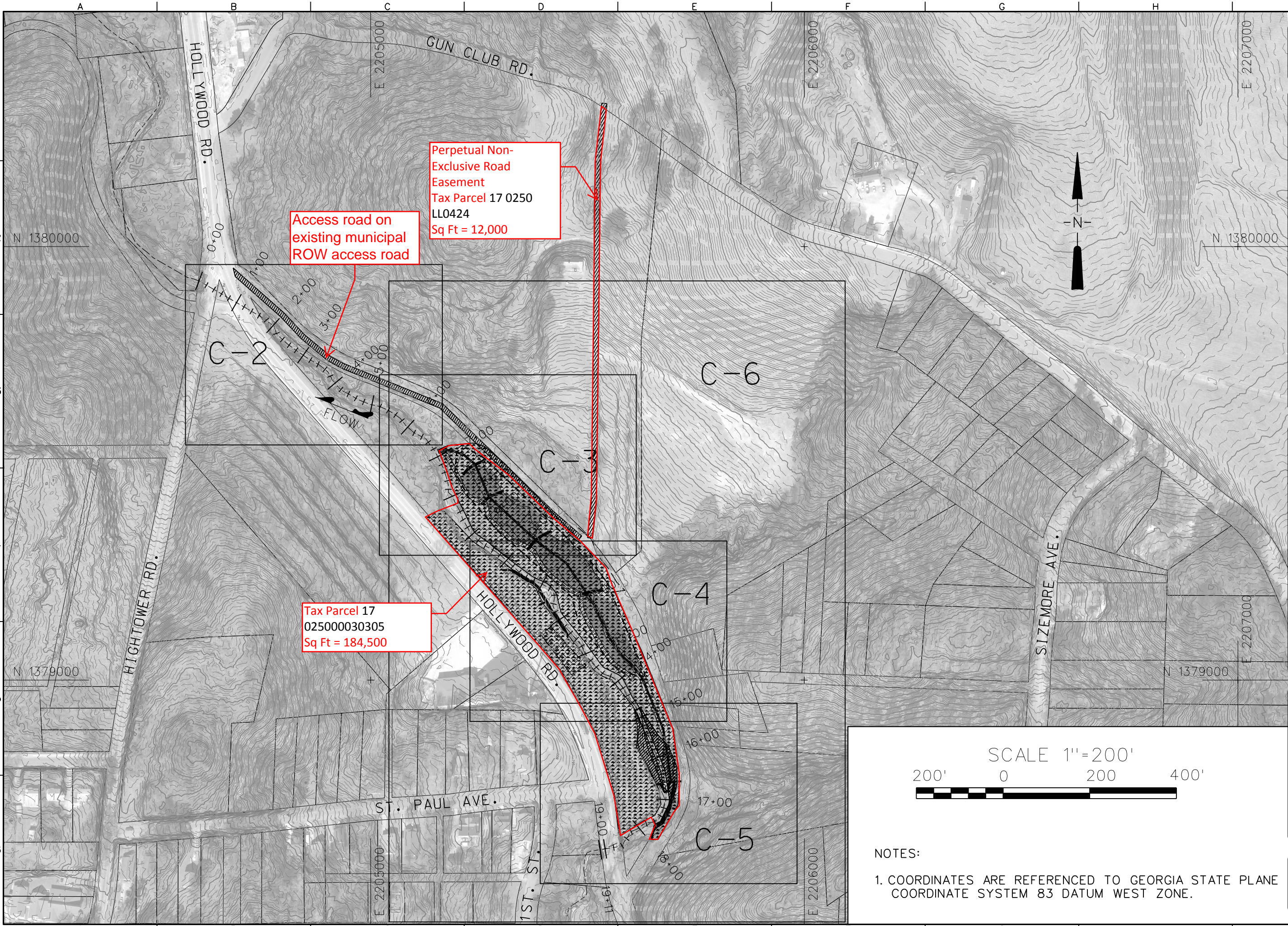
GP-01 AND GP-02
OVERALL SITE DRAFT

Sheet
Reference
Number:
C-1

LEGEND

- LOG VANE
- PLANTING AREA
- STAGING AREA
- ACCESS ROAD
- GDOT TYPE 3 RIPRAP
- 765 MAJOR CONTOURS
- MINOR CONTOURS
- ROOT WAD

NOTES:
1. COORDINATES ARE REFERENCED TO GEORGIA STATE PLANE
COORDINATE SYSTEM 83 DATUM WEST ZONE.



US Army Corps
of Engineers
Mobile District

Symbol	Description	Date	Approved

Designed By:	Date:	File No.
N. HALLBERG	AUGUST, 2016	X

Drawn By:	I.S.O. Sheet File Name:	Solicitation Number:
J. GIBSON	PC02_2016.dgn	X

Checked By:	Reviewed By:

ATLANTA, GEORGIA
PROCTOR CREEK ECOSYSTEM
RESTORATION STUDY

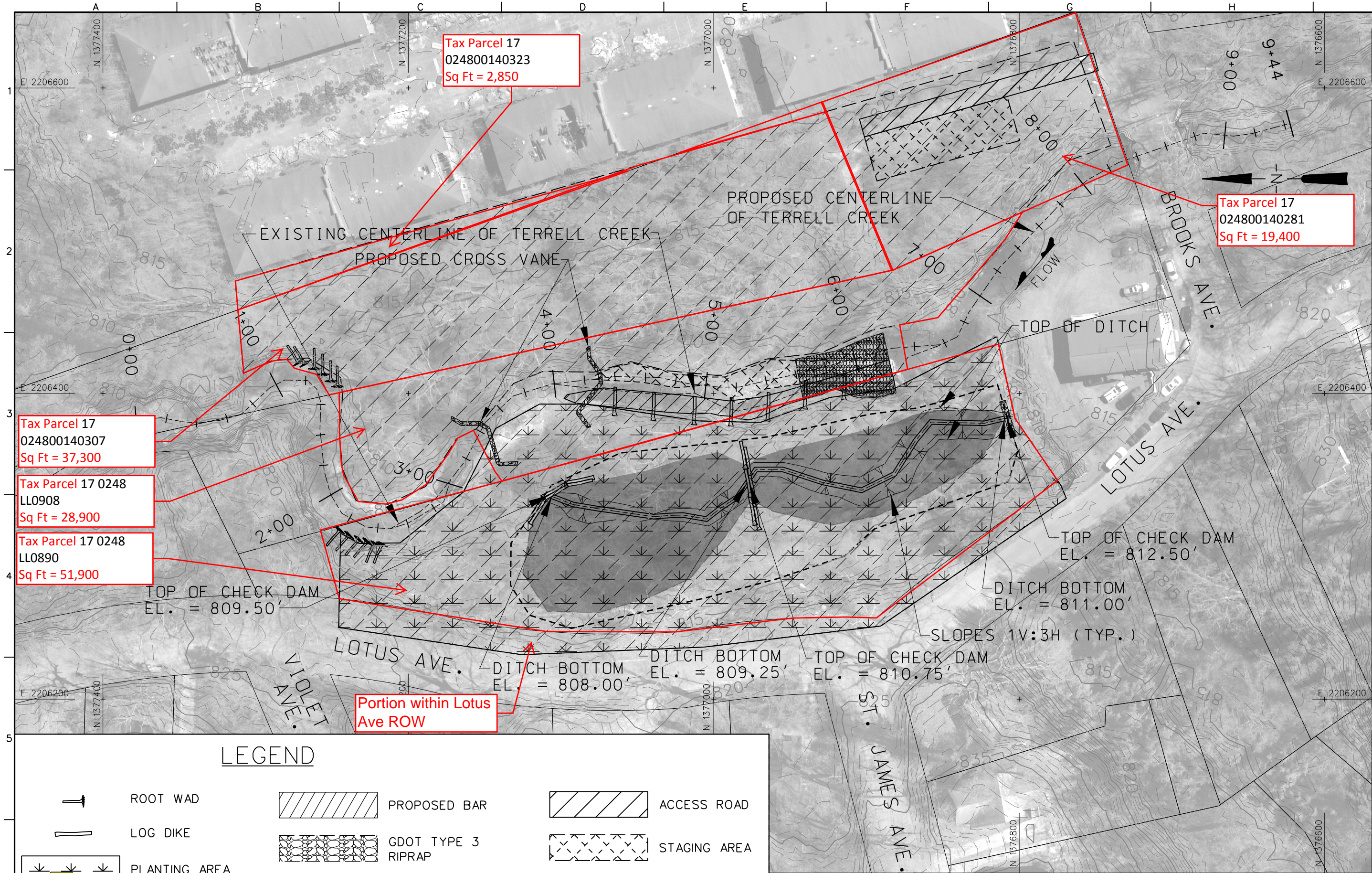
TC-02 PLAN
OVERALL SITE DRAFT

Sheet Reference Number:
C-1



NOTES:

1. COORDINATES ARE REFERENCED TO GEORGIA STATE PLANE COORDINATE SYSTEM 83 DATUM WEST ZONE.



Tax Parcel 17
024800140323
Sq Ft = 2,850

Tax Parcel 17
024800140281
Sq Ft = 19,400

Tax Parcel 17
024800140307
Sq Ft = 37,300

Tax Parcel 17 0248
LL0908
Sq Ft = 28,900

Tax Parcel 17 0248
LL0890
Sq Ft = 51,900

Portion within Lotus
Ave ROW

LEGEND

- | | | | | | |
|--|----------------------------------|--|-----------------------|--|--------------|
| | ROOT WAD | | PROPOSED BAR | | ACCESS ROAD |
| | LOG DIKE | | GDOT TYPE 3
RIPRAP | | STAGING AREA |
| | PLANTING AREA | | MAJOR CONTOURS | | |
| | INVASIVE SPECIES
REMOVAL AREA | | MINOR CONTOURS | | |
| | BAR CUT AREA | | INUNDATED AREA | | |



NOTES:
1. COORDINATES ARE REFERENCED TO GEORGIA STATE PLANE
COORDINATE SYSTEM 83 DATUM WEST ZONE.

US Army Corps
of Engineers
Mobile District

Symbol	Description	Date	Approved

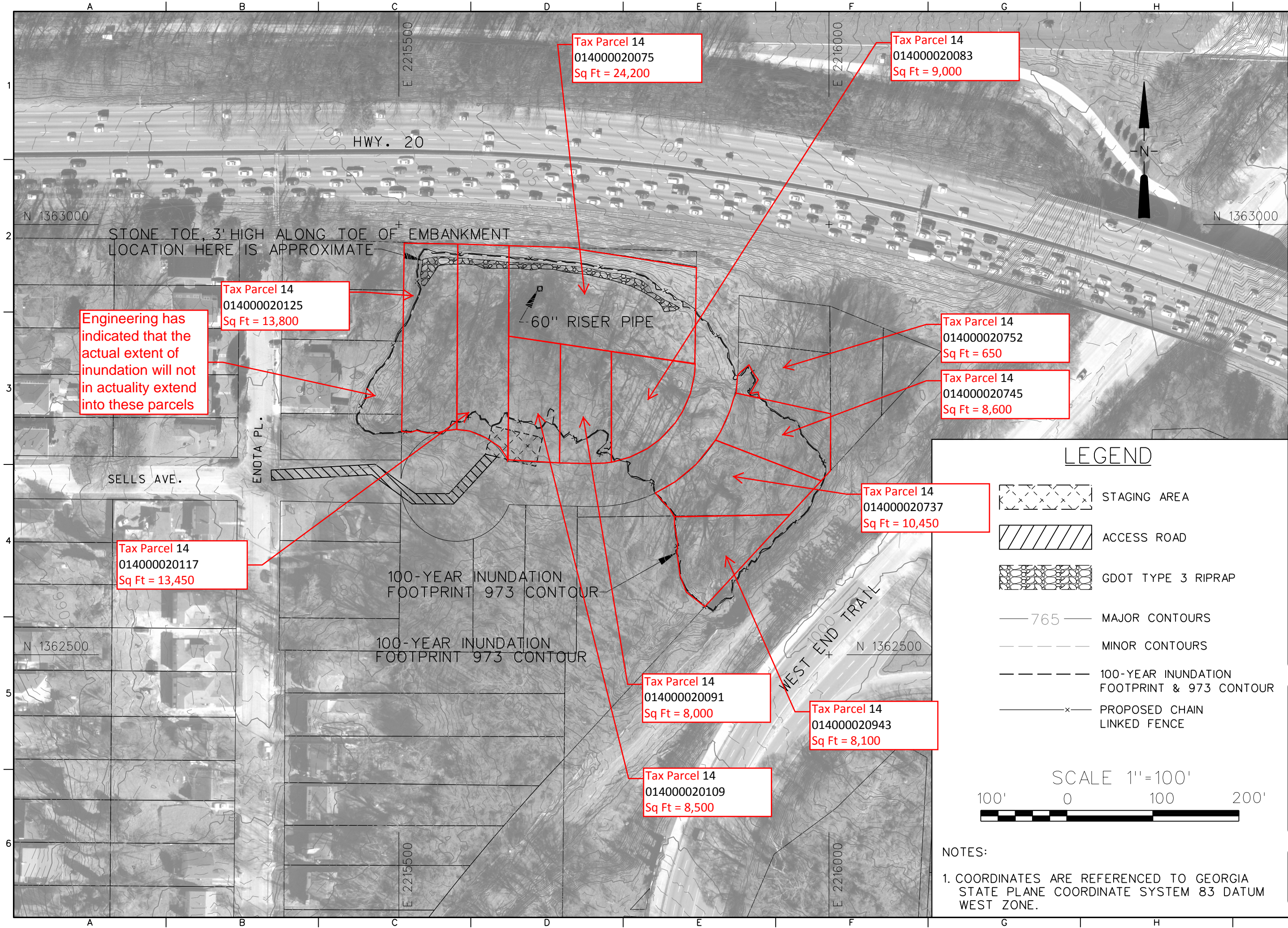
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OCTOBER, 2016	X	N. HALLBERG	J. GIBSON		TC05-2016.dgn

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ATLANTA, GEORGIA
PROCTOR CREEK ECOSYSTEM
RESTORATION STUDY

TC-05 PLAN
OVERALL SITE DRAFT

Sheet
Reference
Number:
C-1



US Army Corps
of Engineers
Mobile District

Symbol	Description	Date	Approved

Date	January 2017
Designed By:	V. MOODY
Drawn By:	J. GIBSON
Checked By:	
Reviewed By:	

File No.	X
I.S.O. Sheet File Name:	D17.dgn
Solicitation Number:	X

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

ATLANTA, GEORGIA
PROCTOR CREEK ECOSYSTEM
RESTORATION STUDY

D-17
SITE DRAFT

Sheet
Reference
Number:
C-1

LEGEND

- STAGING AREA
- ACCESS ROAD
- GDOT TYPE 3 RIPRAP
- 765 MAJOR CONTOURS
- MINOR CONTOURS
- 100-YEAR INUNDATION FOOTPRINT & 973 CONTOUR
- PROPOSED CHAIN LINKED FENCE



NOTES:
1. COORDINATES ARE REFERENCED TO GEORGIA STATE PLANE COORDINATE SYSTEM 83 DATUM WEST ZONE.

Exhibit “B” – Vicinity Map of Study Area

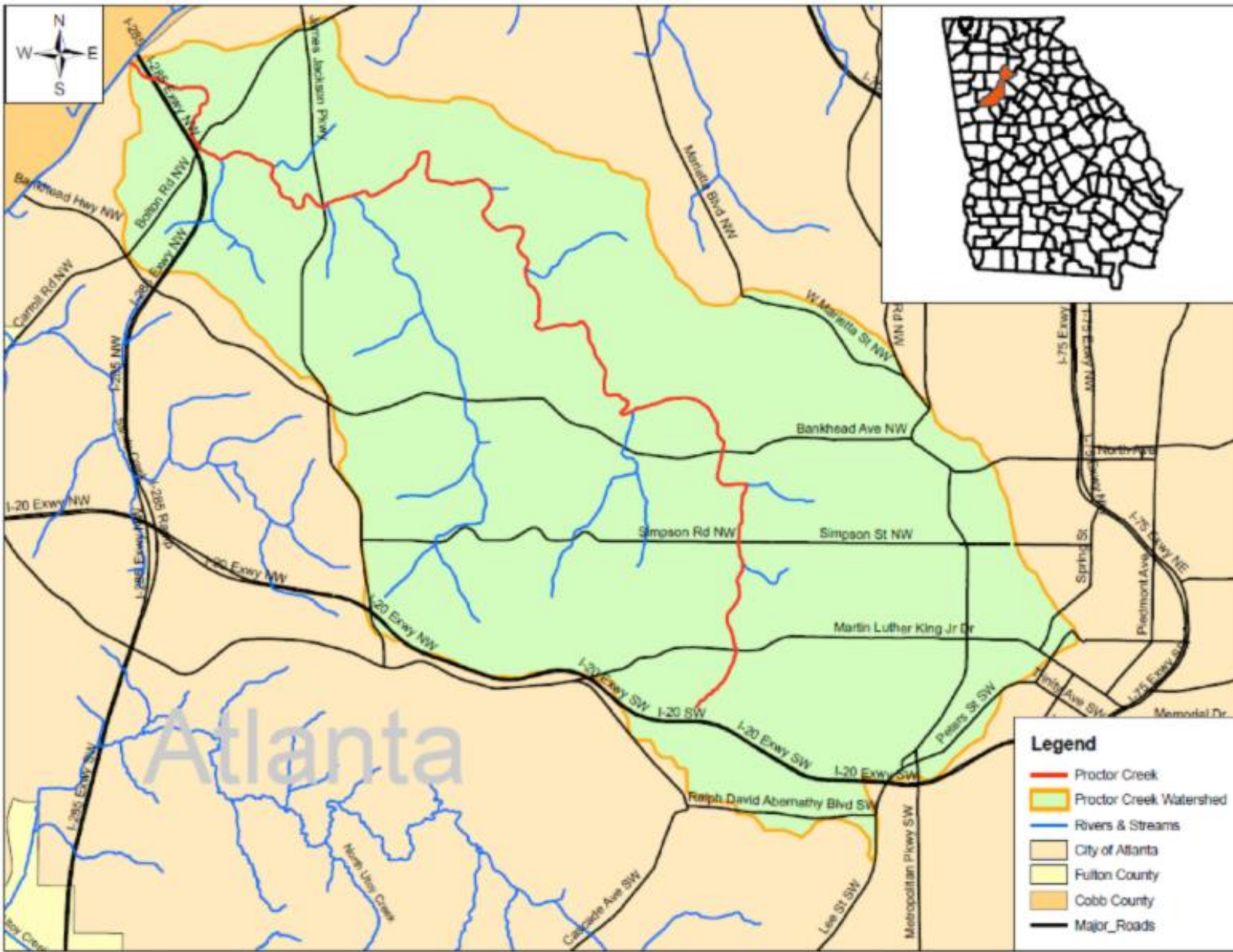




Exhibit “C” – Fulton County, Proctor Creek Subwatersheds

Note: “PC” = Proctor Creek; “TC” = Terrell Creek; “GPT” = Grove Park Tributary; “PCT” = Proctor Creek Tributary; “PCU” = Proctor Creek Upstream

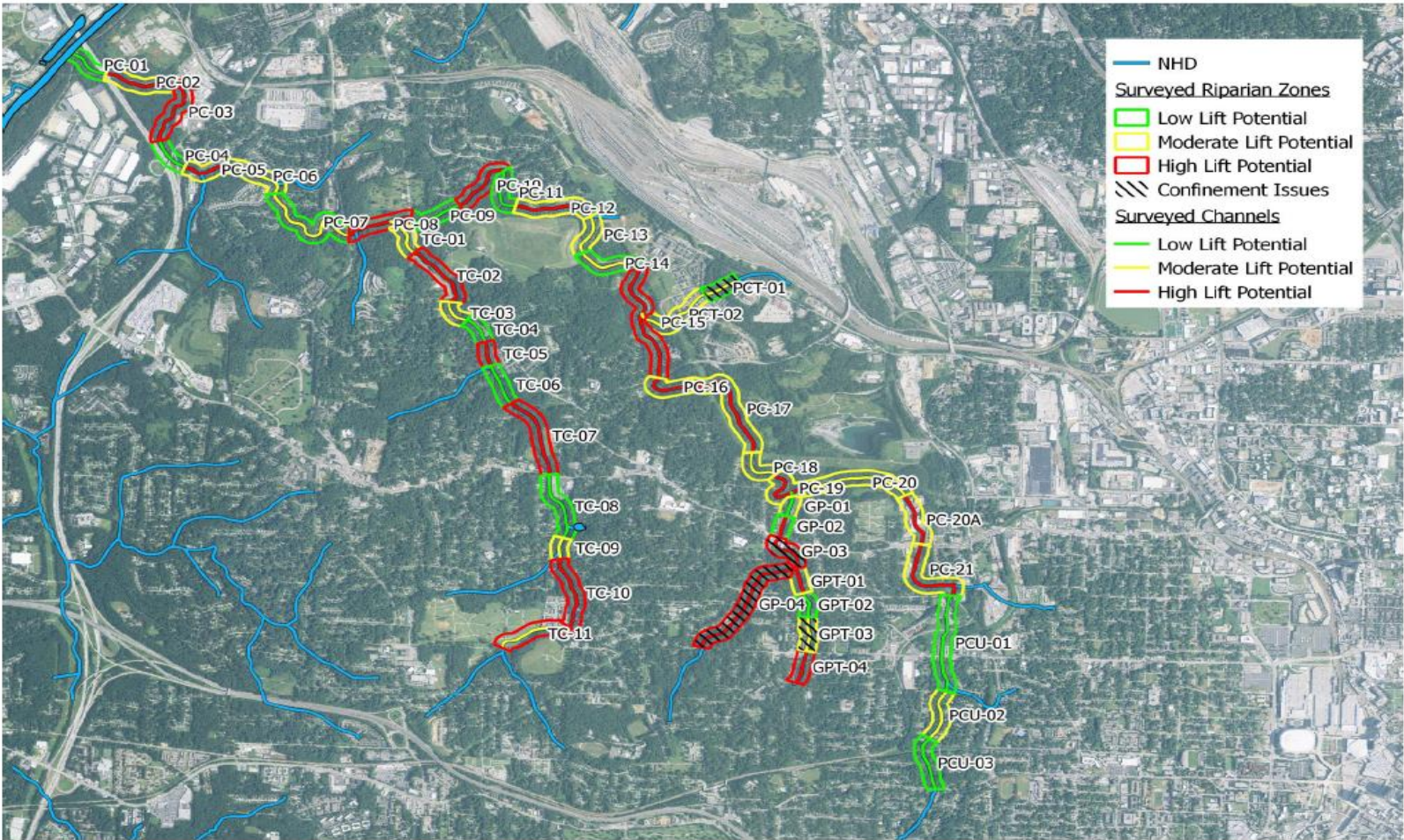
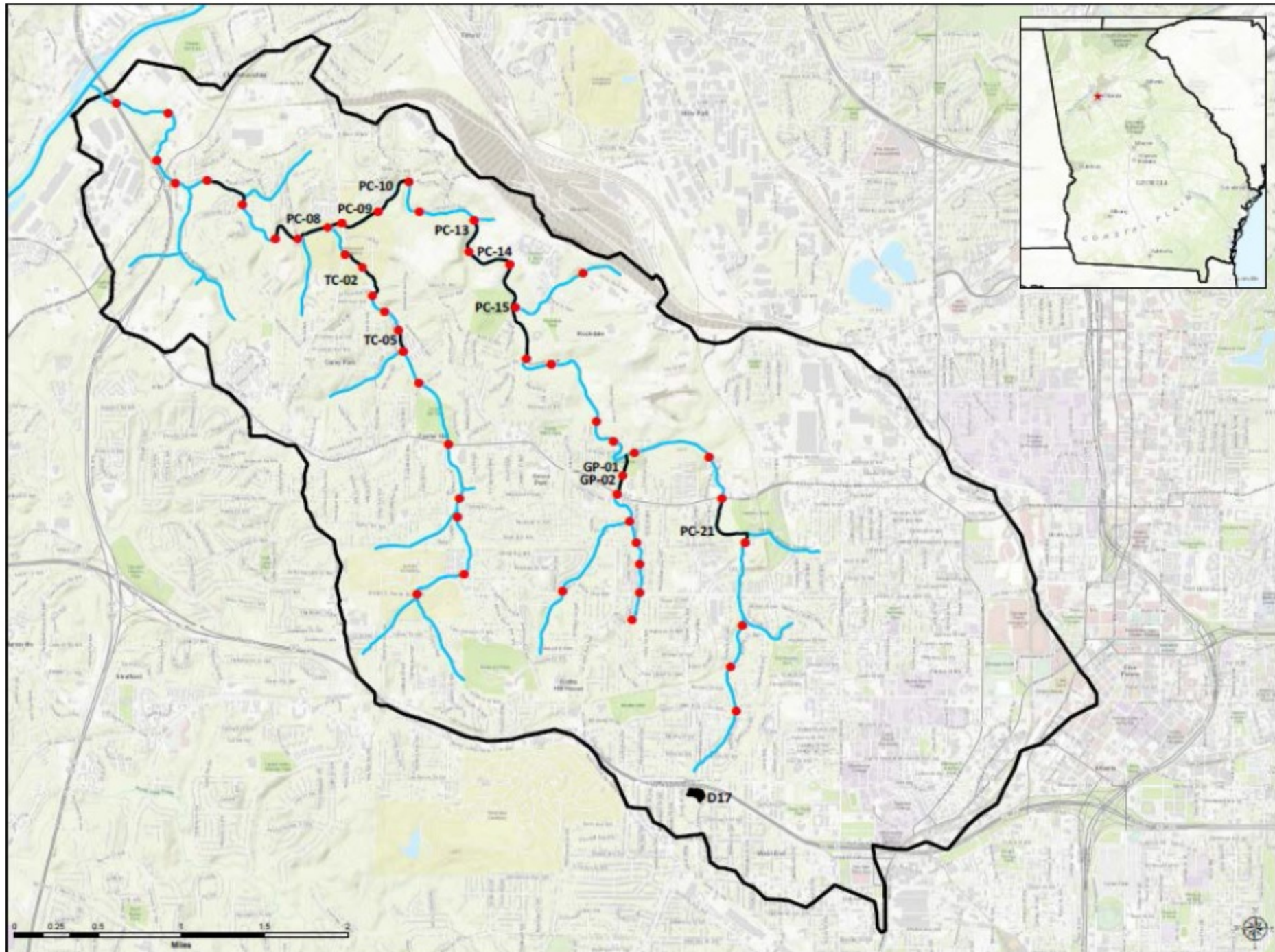


Exhibit “D” – Stream Restoration – Proctor Creek Watershed

DRAFT



DRAFT

Exhibit “E” – Tax Map / Photos

Proctor Creek Watershed
Fulton County, Georgia

- Mainstem of Proctor Creek
- Streams and tributaries
- Watershed boundary



Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, i-cubed, etc.





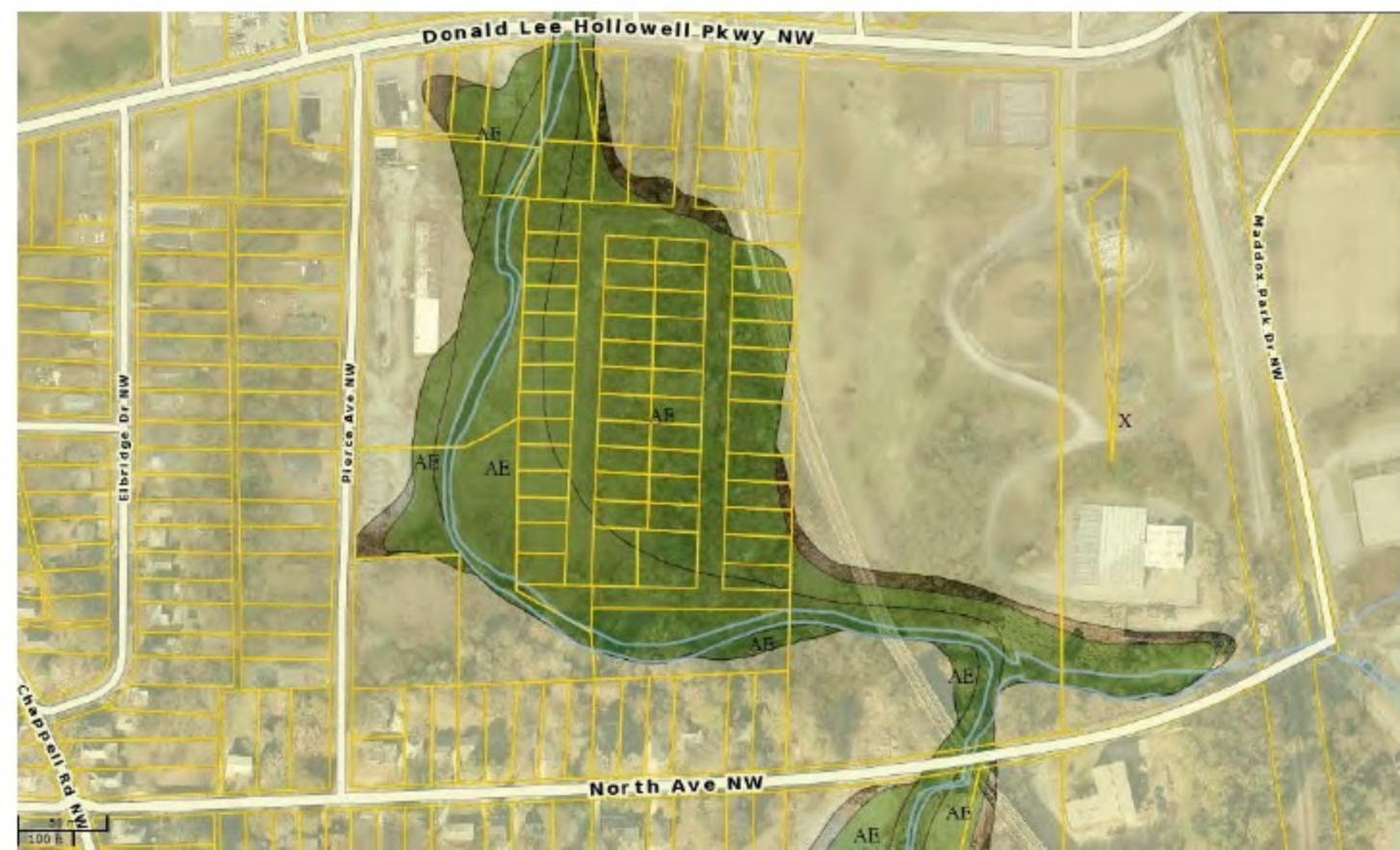
Fulton County GIS Map in vicinity of PC09 & PC10



Fulton County GIS Map in vicinity of PC13 & PC14



Fulton County GIS Map in vicinity of PC15





Fulton County GIS Map in vicinity of GP01 & GP02







Fulton County GIS Map in vicinity of Pond D17

Exhibit "F"

AUTHORIZATION FOR ENTRY FOR CONSTRUCTION AND ATTORNEY'S CERTIFICATE OF AUTHORITY

I, (name of accountable official), (title) for (name of non-Federal sponsor), do hereby certify that the (name of non-Federal sponsor) has acquired the real property interests required by the Department of the Army, and otherwise is vested with sufficient title and interest in lands to support construction of (project name, specifically identified project features, etc.). Further, I hereby authorize the Department of the Army, its agents, employees and contractors, to enter upon (identify tracts) to construct (project name, specifically identified project features, etc.) as set forth in the plans and specifications held in the U. S. Army Corps of Engineers' _____ District Office, (city and state)

WITNESS my signature as (title) for (name of non-Federal sponsor) this _____ day of _____, 20____.

BY: (name)
(title)

I, (name), (title of legal officer) for (name non-Federal sponsor), certify that (name of non-Federal sponsor) has authority to grant Authorization for Entry; that said Authorization for Entry is executed by the proper duly authorized officer; and that the Authorization for Entry is in sufficient form to grant the authorization therein stated.

WITNESS my signature as (title) for (name of non-Federal sponsor), this _____ day of _____, 20____.

BY: (name)
(title)

Exhibit “G” – Assessment of Non-Federal Sponsor’s Real Estate Acquisition Capability (with NFS 4/2017)

DRAFT

Exhibit “H” – NFS Risk Notification Letter (with NFS 4/2017)

DRAFT