



MEMORANDUM TO ASSERT JURISDICTION FOR SAS-2007-670

Subject: Jurisdictional Determination (JD) for SAS-2007-670 on Interdunal Wetlands Adjacent to Traditional Navigable Waters (TNWs)

Summary

The U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps) are asserting jurisdiction over 28 interdunal wetlands for JD SAS-2007-670. This determination is based on our finding that these wetlands are adjacent (as defined at 33 CFR 328.3(c) and 33 CFR 328.3(a)(7)) to Julienton River and Little Mud River, both TNWs since they are subject to the ebb and flow of the tide.¹ This JD is consistent with the CWA, the agencies' regulations, relevant case law and the legal memorandum *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States* ("Rapanos Guidance").

I. Introduction

This memorandum establishes the basis for asserting jurisdiction over 28 interdunal wetlands for JD SAS-2007-670. First, we provide a baseline assessment (in Section II) to demonstrate that all 28 wetlands are functioning as an integrated interdunal system. After the baseline assessment, we provide the basis for determining that the interdunal wetland system is adjacent to the TNWs. This determination is based upon an examination of a combination of factors including proximity, hydrologic connectivity, position in the landscape, and other physical factors that demonstrate the wetlands are adjacent to the TNWs.

II. Baseline Assessment for Interdunal Wetland System

Based on an examination of the site location and characteristics for the project wetlands, all 28 wetlands subject to this JD are part of an integrated interdunal wetland system. This is based on a variety of factors, including: proximity of the wetlands to each other and the TNWs, physical characteristics (size, shape, location in floodplain), and the dominant wetland soils.

¹See 33 C.F.R. § 328.3(a)(1), 40 C.F.R. 230.3(s)(1).

A. Location

The project site for this JD encompasses 1267.41 acres and is located at 31.575° north latitude and -81.294° west longitude on the Julienton Plantation site on Harris Neck. Harris Neck is a relic barrier island that is now a peninsula to the larger island complex including Harris Neck National Wildlife refuge and surrounding islands and wetlands. The wetlands of Wahoo Island Natural Area, the southern end of St. Catherine's Island (a barrier island) and Sapelo Sound separate the Harris Neck from the Atlantic Ocean. The project site on Harris Neck consists predominately of an interdunal environment, which supports 28 interdunal wetlands totaling approximately 154.72 acres in size. The wetlands are in close proximity to each other and to the surrounding TNWs, with Julienton River to the west and south and Little Mud River to the East. (See Exhibit 1.)

B. Site Characteristics for Project Area

The project area is located on a barrier island, which is a narrow strip of sand located some distance offshore of the mainland. Barrier islands form along seacoasts throughout the world whenever there is adequate supply of sand, a low sloping coastal plain, and a wave dominated energy regime with tidal ranges less than three meters.² The actions and energy of the ocean initiate the formation of barrier islands and its series of dune ridges, interdunal depressional areas, and freshwater interdunal wetlands. Barrier islands can be very transient in that sea level, anthropogenic effects, and storm events can cause barrier islands to migrate landward, seaward, or laterally with adequate sand supplies and longshore currents. As these barrier islands mature and migrate, they typically form a series of dunes. The primary and secondary dunes generally occur near the shorefront and migrate in direct response to the seasonal stresses of wind and oceanic processes.³ Behind these more active dune fields, more stable fields generally develop. These areas typically support vegetation, including perennial shrubs, trees and vines. As a result of the more stable environment and increased vegetation, topographic relief in these areas is generally less pronounced than those dunes on the shorefront. In both cases, the environmental conditions may create depressional areas behind the dune ridges; it is in these areas that freshwater interdunal wetlands may occur. Generally, precipitation will easily permeate sand and accumulate within a fresh water zone or freshwater lens beneath the surface of the barrier island. Where this freshwater table intersects the surface of the barrier island, freshwater wetlands may be found in the interdunal depressional areas atop a higher density salt water lens. This interface can be sharp or may grade slowly with depth into salt water in a transition zone discernible by increasing salinity.⁴ The project wetlands have formed all over the Harris Neck site, both

² Bascom, W. 1980. *Waves and beaches, the dynamics of the ocean surface*. Anchor Press, Garden City. 366 pp.

³ For example, during the summer, the beaches and dunes will generally grow in width as the mild summer waves supply the onshore areas with sand and the gentle breezes blow that sand back into the dune fields. During the winter, the processes reverse.

⁴ Collins, W.H. III, and D.H. Easley. 1999. Fresh-water Lens Formation in an Unconfined Barrier-Island Aquifer. *Journal of the American Water Resources Association* 35(1): 1-21.

between the NE-SW oriented dune ridges and along the tidal marsh fringe.

The overall land use in the immediate project area consists predominantly of a natural interdunal landscape, where the upland community extends to the marshes and open waters of Julienton River and Little Mud River. A few houses are scattered across the site and four artificial bodies of open water are located on the southwestern end of Harris Neck. Harris Neck in the project area is a peninsula reaching from northeast to southwest. The northeast to southwest length is approximately 12,960 feet and the northwest to southeast width is approximately 5,000 feet at the widest point.

C. Site Characteristics for Project Wetlands

The overall project site consists predominantly of an interdunal environment, supporting freshwater interdunal wetlands ranging from 0.35 acres to 31.71 acres and totaling approximately 154.72 acres. These wetlands are in close geographic proximity to one another and vary in distance from 0 to 1,820 feet from the above listed TNWs. The wetlands are shown on Exhibit 2.

The wetlands are in close proximity to each other and to the surrounding TNWs. The location of the wetlands range from abutting to 4,320 feet from open water or the marsh line of Julienton River and abutting to 4,240 feet from the open water or the marsh line of Little Mud River. However none of the 28 wetlands are further than 1,820 feet from either of TNWs. Eight of the wetlands abut the open water or tidal marshes of the TNWs. The twenty other wetlands lie among the dunes of Harris Neck. The wetlands' size (total of 154.72 acres) and location in relation to the short distance to the TNWs indicates a close physical relationship between the wetland system and the TNWs.

Interdunal wetlands are typically formed as a result of oceanic processes where the wetlands establish behind relic dune ridges. After being separated from the Atlantic Ocean by another barrier island, contemporary Harris Neck is functioning very similarly to a relic dune ridge. The interaction of the sediment laden Julienton River and Little Mud River together with the rise and fall of the tides continue to reshape the marshes, open water spaces, and upland edges of Harris Neck. Harris Neck is relatively protected from wave action. This has allowed the peninsula's dune ridges and interdunal wetlands to become vegetated. Moreover, the upland dune ridges on Harris Neck remain relatively protected, which has allowed these interdunal wetlands to form along both the east and west shores of the peninsula, as well as in between the central dune ridges. Harris Neck is dominated by marine deposited fine sands. Table 1 lists the soils found on Harris

Neck and shows that subsurface flow likely connects all of the wetlands on the peninsula through a free exchange of freshwater through the fine sands of the dunes.

| Soil Type | Map Unit Symbol | Parent Material | % Area on Site* | Texture | Depth to Restrictive Feature |
|------------|-----------------|-----------------|-----------------|-----------|------------------------------|
| Galestown | GrA | Marine Deposits | 36.6% | Fine Sand | 80 + inches |
| Klej | KfA | Marine Deposits | 0.9% | Fine Sand | 80 + inches |
| Leon | LrA | Marine Deposits | 16.9% | Fine Sand | 80 + inches |
| Ona | ObA | Marine Deposits | 16.2% | Fine Sand | 80 + inches |
| Palm Beach | PdA | Marine Deposits | 15.0% | Fine Sand | 80 + inches |
| Plummer | PcA | Marine Deposits | 0.2% | Fine Sand | 80 + inches |
| Rutlege | RkA | Marine Deposits | 5.3% | Fine Sand | 80 + inches |
| St. Johns | Stj | Marine Deposits | 8.8% | Fine Sand | 80 + inches |

* Area estimated using NRCS Web Soil Survey 2.0

Based on an examination of the physical characteristics of this wetland system, these wetlands are functioning as an integrated interdunal wetland system.

III. Jurisdictional Determination

The 28 interdunal wetlands in JD SAS-2007-670 are jurisdictional because they are adjacent (as defined at 33 CFR 328.3(c) and 33 CFR 328.3(a)(7)) to Julienton River, and Little Mud River, both of which are TNWs.

IV. Basis for Determination⁵

EPA and Corps regulations define “waters of the United States” to include wetlands adjacent to other covered waters.⁶ According to these regulations, a wetland is “adjacent” when it is “bordering, contiguous or neighboring” another water of the U.S.⁷ The regulations further specify that “[w]etlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes, and the like are ‘adjacent wetlands.’”⁸ The *Rapanos Guidance* states that finding a continuous surface connection is not required to establish adjacency under this definition.⁹

The interdunal wetland system (that includes the 28 wetlands subject to this JD) is adjacent to the Julienton River and Little Mud River. This is based on an examination of a combination of factors, including proximity and hydrologic connection (direct and/or indirect) to the Julienton River and Little Mud River found in the natural interdunal system that makes up Harris Neck.

⁵The memorandum summarizes the evidence considered by the agencies in reaching this conclusion. Additional information regarding the determination is contained in the administrative record for this action.

⁶ 33 C.F.R. § 328.3(a)(7).

⁷ 33 C.F.R. § 328.3(c).

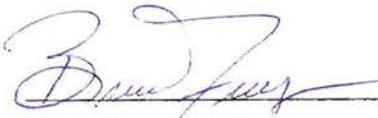
⁸ 33 C.F.R. § 328.3(c).

⁹ See *Rapanos Guidance*, page 5.

As discussed in more detail in Section II above, Harris Neck is essentially a back dunal zone that is generally a stable environment characterized by dunal ridges. These ridges transition across the project site and have created interdunal depressional areas, allowing for the formation of the freshwater wetlands onsite. Topographically, the site has very little relief, varying from 1.5 to 6 feet above sea level with dunes oriented in a Northeast – Southwest direction. Drainage from the site occurs through several wetland paths extending from interior interdunal spaces to the open waters and marshes of surrounding TNWs. The wetlands range in distance from abutting to 4,320 feet to the marsh / open water line of the Julienton River; and range in distance from abutting to 4,240 feet from the marsh / open water line of Little Mud River. Eight of the wetlands directly abut the open water or marshes of Julienton River or Little Mud River. The other wetlands have an indirect hydrologic connection to Julienton River and Little Mud River via overland and subsurface flow during precipitation events. As stated above, the agencies' regulations specify that "[w]etlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes, and the like are 'adjacent wetlands'."¹⁰ even if there is not a continuous surface connection.¹¹

V. Conclusion

The agencies have determined that the wetlands for JD SAS-2007-670 are jurisdictional because they are adjacent (as defined by 33 CFR 328.3(c) and 33 CFR 328(a)(7)) to Julienton River and Little Mud River, both TNWs. This determination is based on our finding that all 28 wetlands subject to this JD are part of an interdunal system that is in close proximity to and has a direct and/or indirect hydrologic connection to Julienton River and Little Mud River, and are part of the natural interdunal landscape that makes up Harris Neck.



Brian Frazer, Chief
Wetlands & Aquatic Resources Regulatory Branch
U.S. Environmental Protection Agency

Date: 12 Feb 2008



David Olson, Regulatory Program Manager
Regulatory Community of Practice
U.S. Army Corps of Engineers

Date: 12 Feb 2008

¹⁰ 33 C.F.R. § 328.3(c).

¹¹ See Rapanos Guidance, page 5.

Exhibit 1: SAS-2007-670 Julienton Plantation

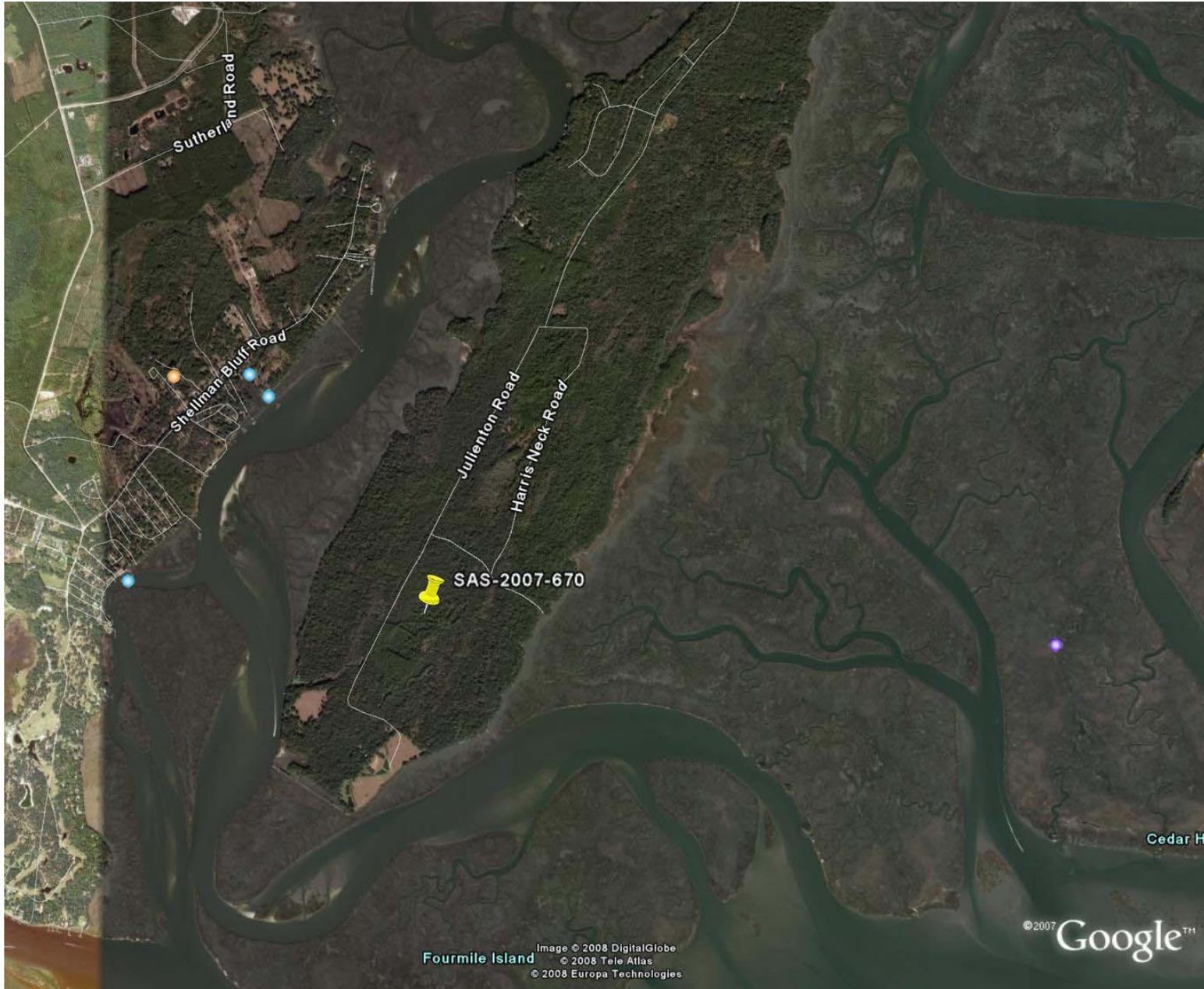
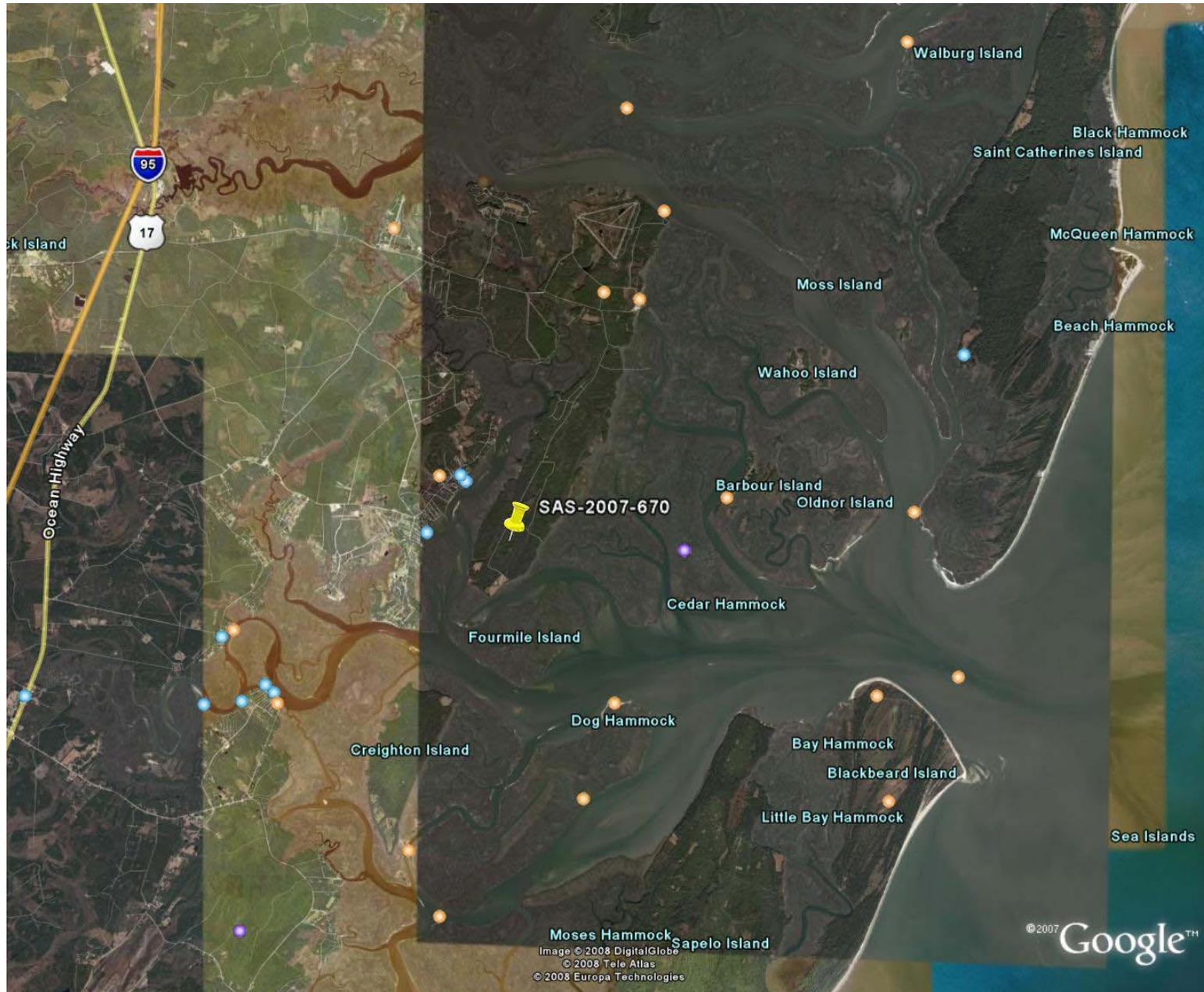
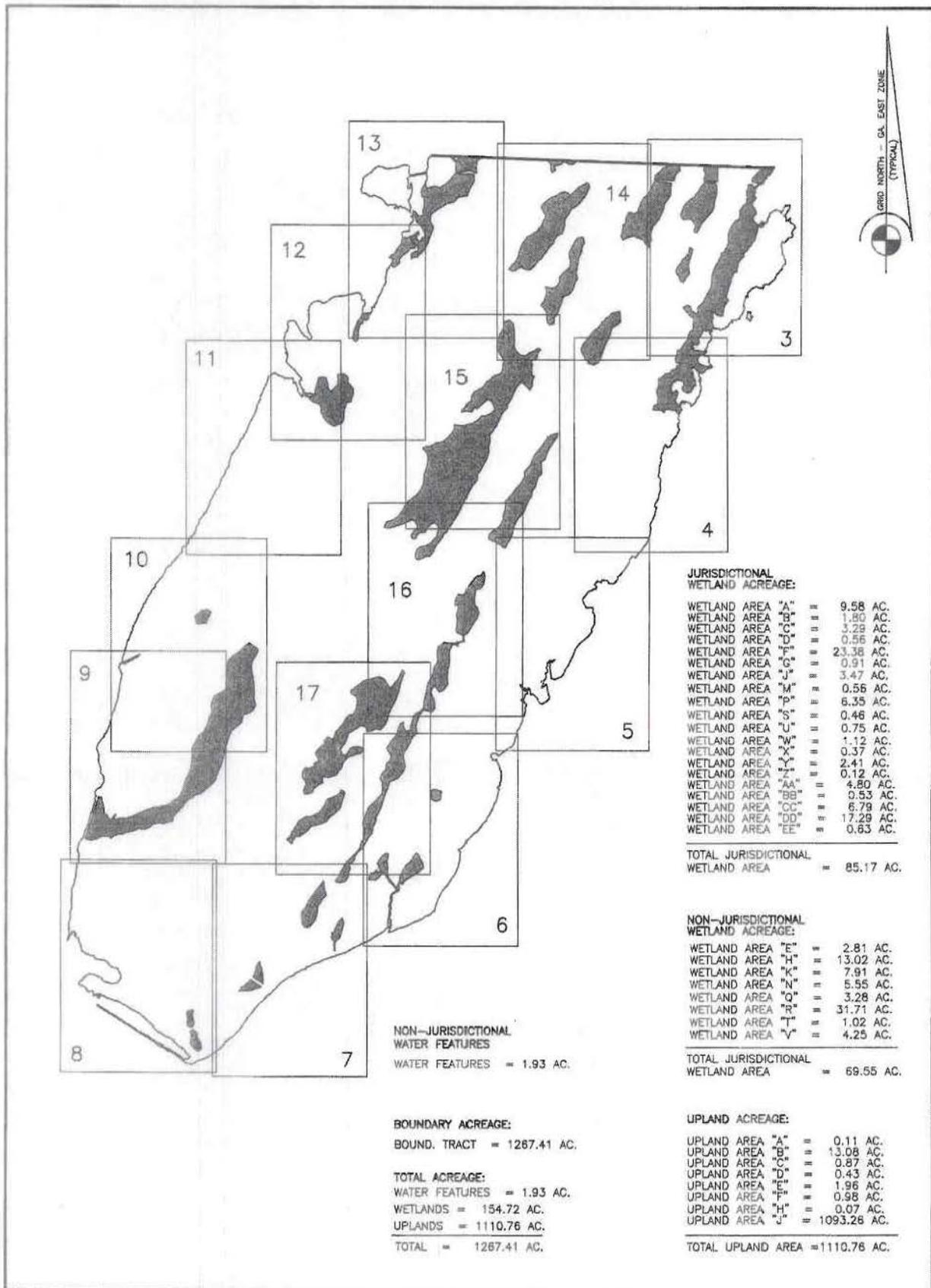


Exhibit 1: SAS-2007-670 Julienton Plantation





JURISDICTIONAL WETLAND ACREAGE:

| | | |
|-------------------|---|-----------|
| WETLAND AREA "A" | = | 9.58 AC. |
| WETLAND AREA "B" | = | 1.80 AC. |
| WETLAND AREA "C" | = | 3.29 AC. |
| WETLAND AREA "D" | = | 0.56 AC. |
| WETLAND AREA "F" | = | 23.38 AC. |
| WETLAND AREA "G" | = | 0.91 AC. |
| WETLAND AREA "J" | = | 3.47 AC. |
| WETLAND AREA "M" | = | 0.56 AC. |
| WETLAND AREA "P" | = | 6.35 AC. |
| WETLAND AREA "S" | = | 0.46 AC. |
| WETLAND AREA "U" | = | 0.75 AC. |
| WETLAND AREA "W" | = | 1.12 AC. |
| WETLAND AREA "X" | = | 0.37 AC. |
| WETLAND AREA "Y" | = | 2.41 AC. |
| WETLAND AREA "Z" | = | 0.12 AC. |
| WETLAND AREA "AA" | = | 4.80 AC. |
| WETLAND AREA "BB" | = | 0.53 AC. |
| WETLAND AREA "CC" | = | 6.79 AC. |
| WETLAND AREA "DD" | = | 17.29 AC. |
| WETLAND AREA "EE" | = | 0.63 AC. |

TOTAL JURISDICTIONAL WETLAND AREA = 85.17 AC.

NON-JURISDICTIONAL WETLAND ACREAGE:

| | | |
|------------------|---|-----------|
| WETLAND AREA "E" | = | 2.81 AC. |
| WETLAND AREA "H" | = | 13.02 AC. |
| WETLAND AREA "K" | = | 7.91 AC. |
| WETLAND AREA "N" | = | 5.55 AC. |
| WETLAND AREA "Q" | = | 3.28 AC. |
| WETLAND AREA "R" | = | 31.71 AC. |
| WETLAND AREA "T" | = | 1.02 AC. |
| WETLAND AREA "V" | = | 4.25 AC. |

TOTAL JURISDICTIONAL WETLAND AREA = 69.55 AC.

NON-JURISDICTIONAL WATER FEATURES
WATER FEATURES = 1.93 AC.

BOUNDARY ACREAGE:
BOUND. TRACT = 1267.41 AC.

TOTAL ACREAGE:
WATER FEATURES = 1.93 AC.
WETLANDS = 154.72 AC.
UPLANDS = 1110.76 AC.
TOTAL = 1267.41 AC.

UPLAND ACREAGE:

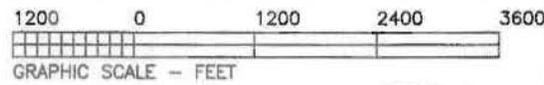
| | | |
|-----------------|---|-------------|
| UPLAND AREA "A" | = | 0.11 AC. |
| UPLAND AREA "B" | = | 13.08 AC. |
| UPLAND AREA "C" | = | 0.87 AC. |
| UPLAND AREA "D" | = | 0.43 AC. |
| UPLAND AREA "E" | = | 1.96 AC. |
| UPLAND AREA "F" | = | 0.98 AC. |
| UPLAND AREA "H" | = | 0.07 AC. |
| UPLAND AREA "J" | = | 1093.28 AC. |

TOTAL UPLAND AREA = 1110.76 AC.

WETLANDS MAP OF:
JULIENTON PLANTATION

WETLANDS MAP FOR:
GENE SLIVKA

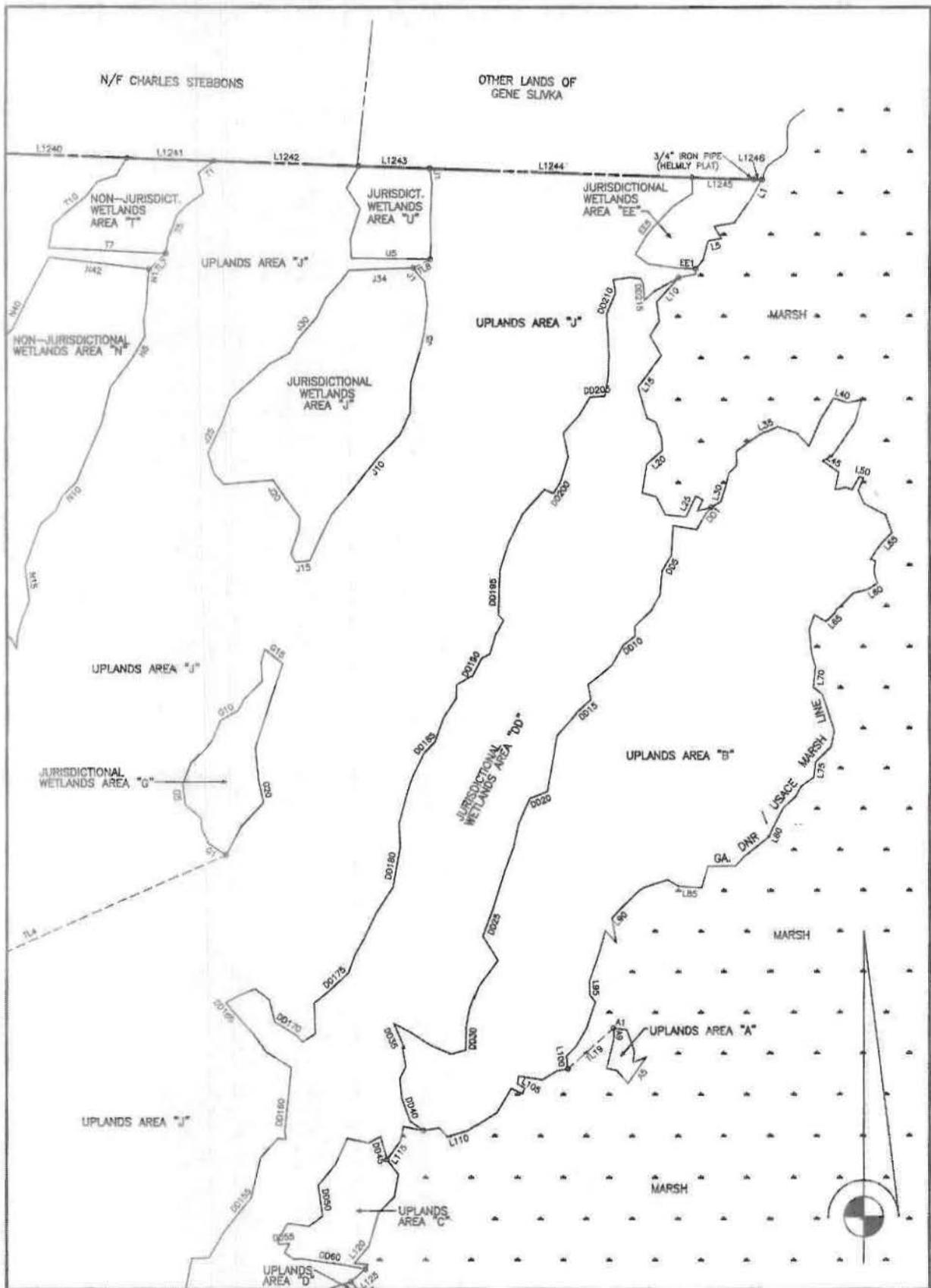
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BY: JAMES M. ANDERSON-GA. R.L.S. 2113
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JN07030.CRD & JN07030.DWG
SHEET 2



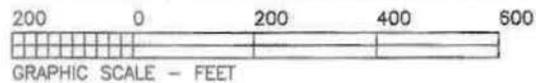
I HEREBY CERTIFY THAT THE WETLANDS AS SHOWN ON THIS SURVEY WERE LOCATED USING GPS EQUIPMENT AT SUB-METER ACCURACY. THE PURPOSE OF THIS SURVEY IS FOR THE LOCATION OF WETLANDS ONLY AND NOT BOUNDARY ESTABLISHMENT OR PROPERTY CONVEYANCE.

James M. Anderson





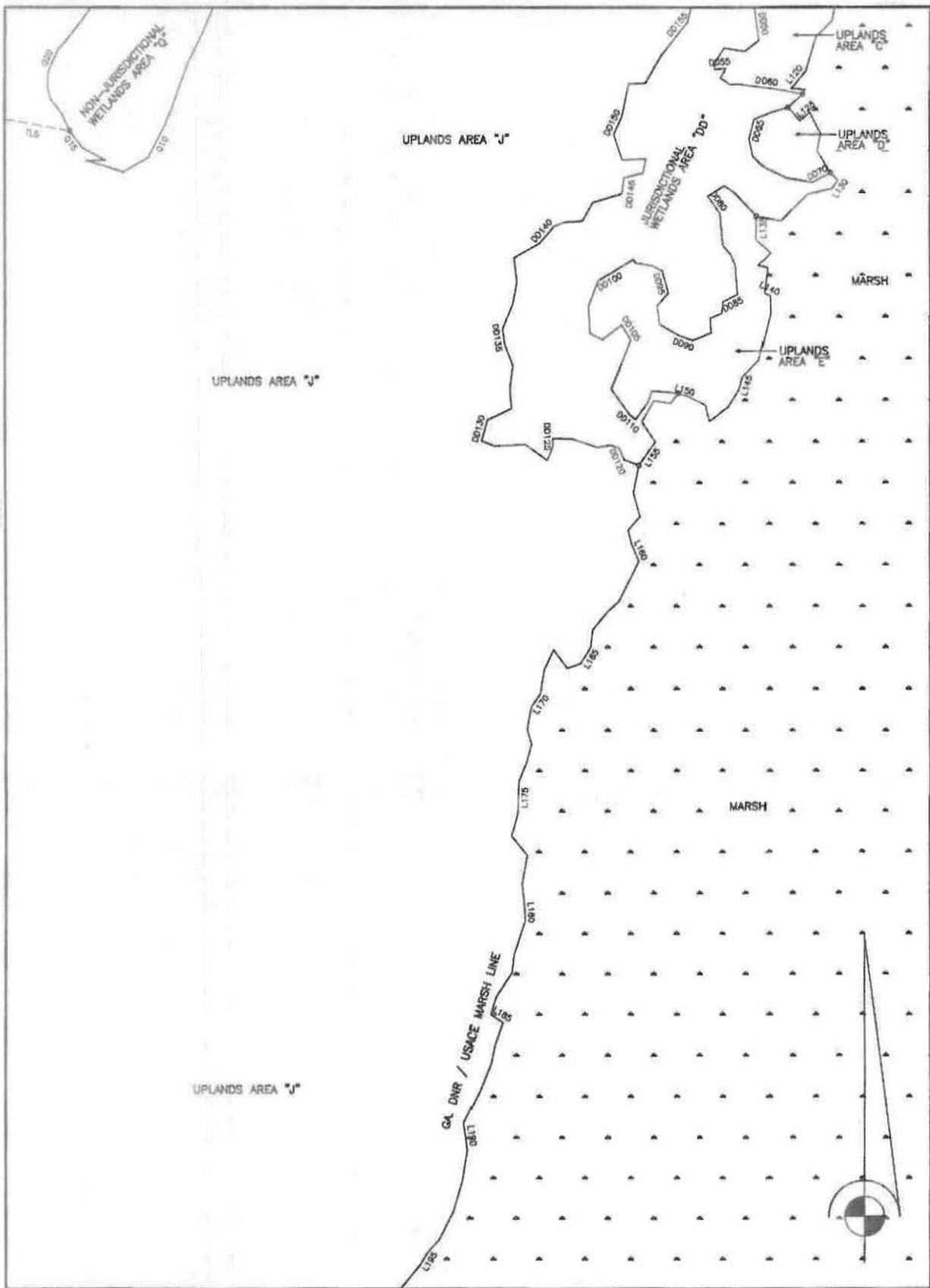
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JULIENTON PLANTATION



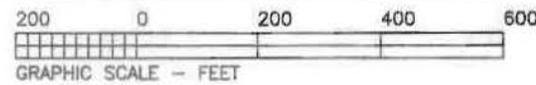
WETLANDS MAP FOR:
GENE SLIVKA

LOCATION: 22ND. G.M.D. McINTOSH CO., GA.
 SURVEYED: MARCH 15, 2007
 BY: JAMES M. ANDERSON-GA. R.L.S. 2113
 SCALE: 1" = 200'
 JN07030.CRD & JN07030.DWG
 SHEET 3

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 PHONE: (912) 764-2002



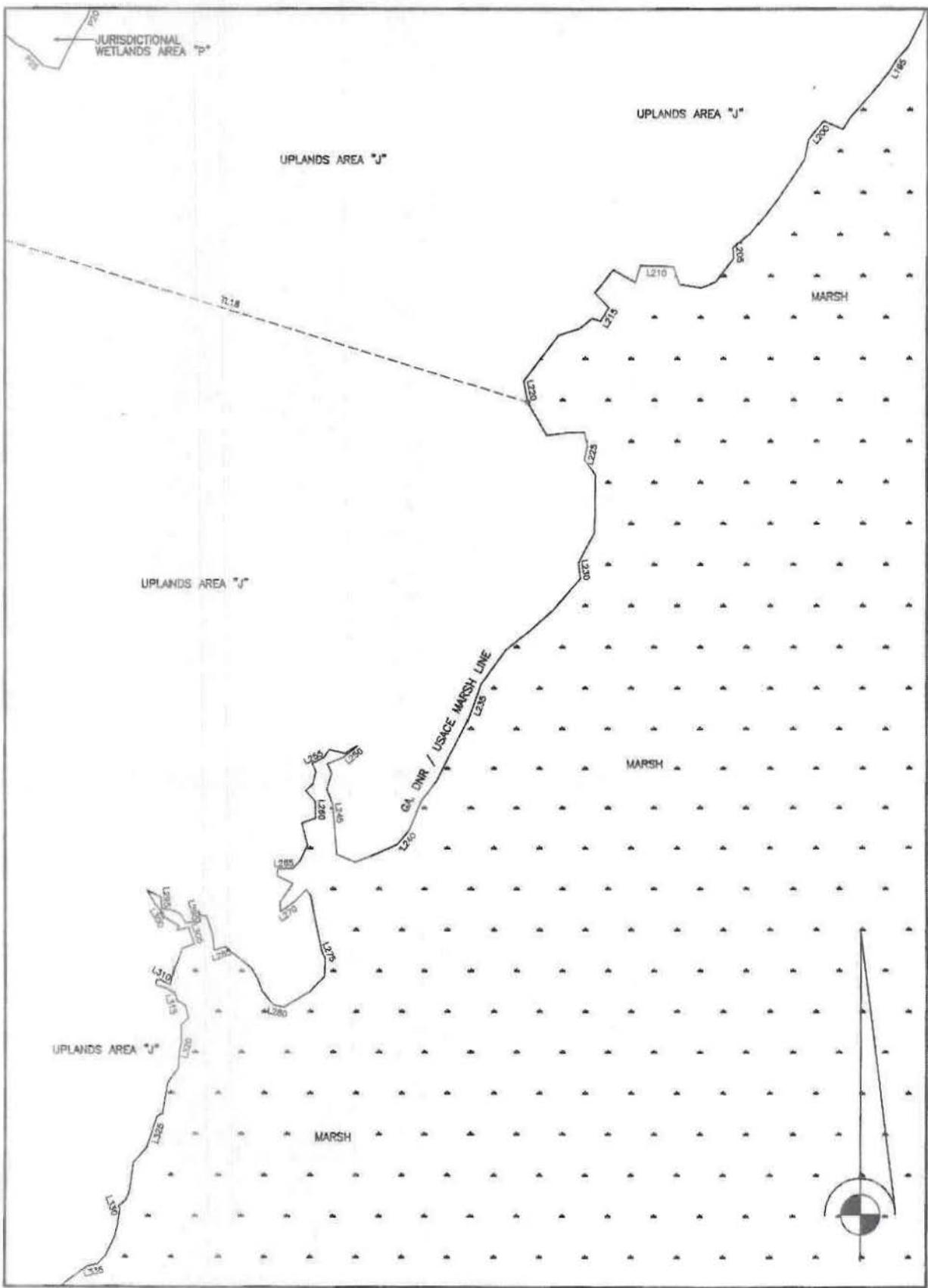
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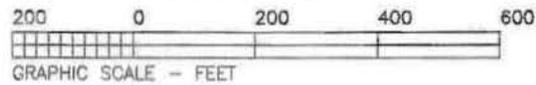
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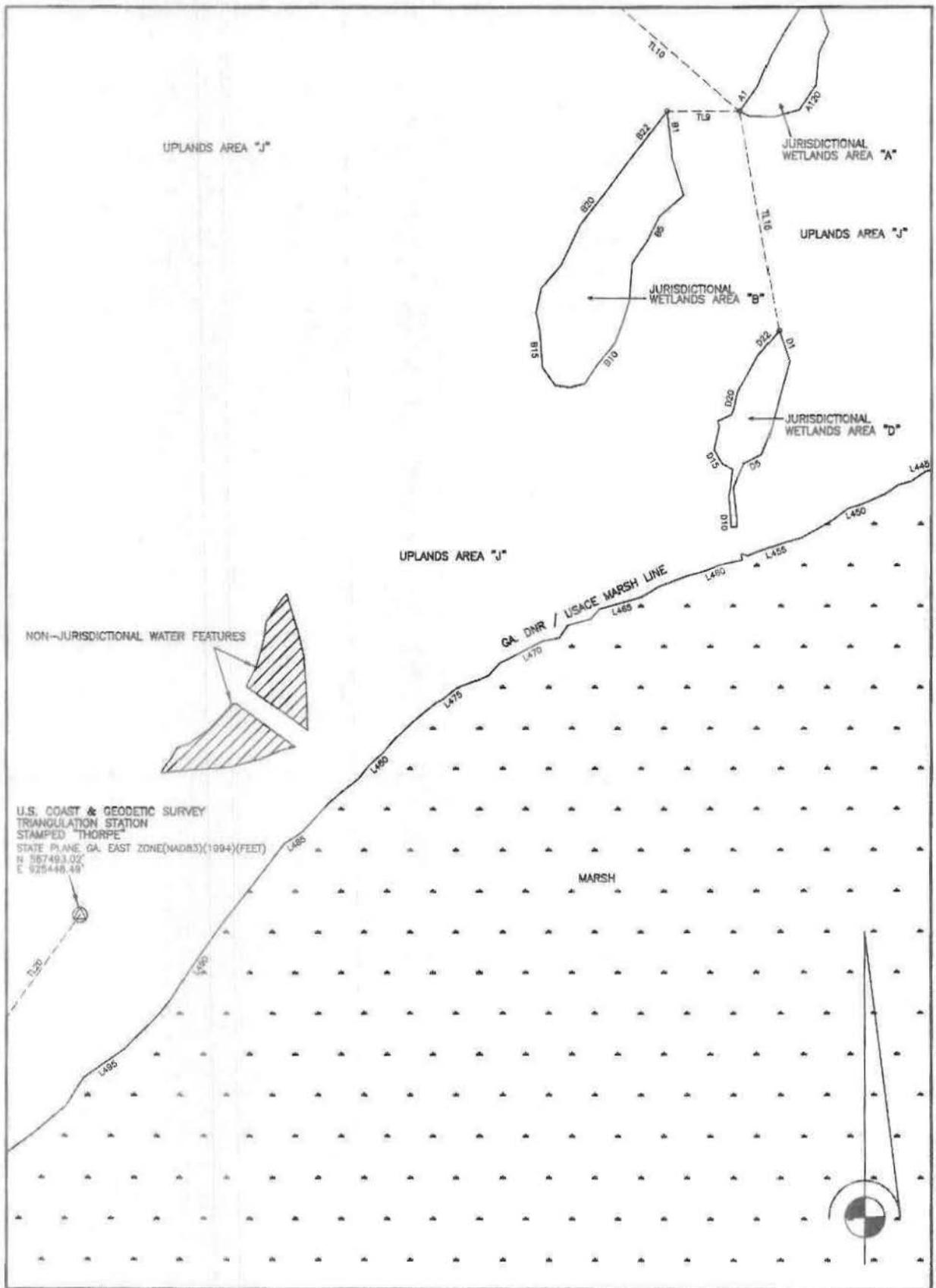
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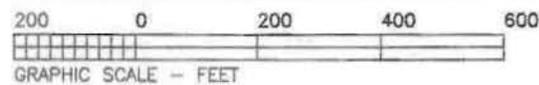
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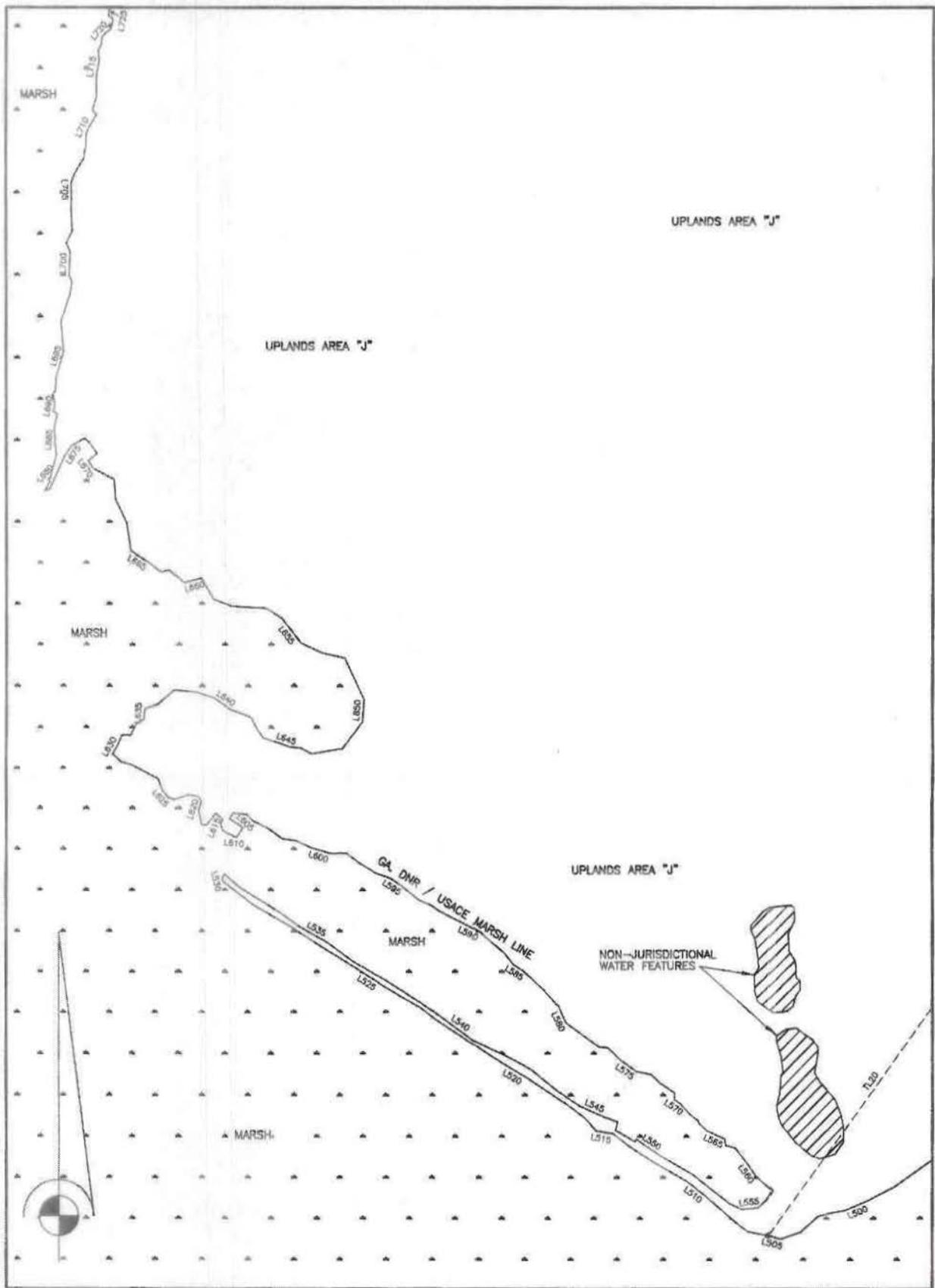
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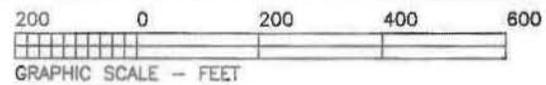
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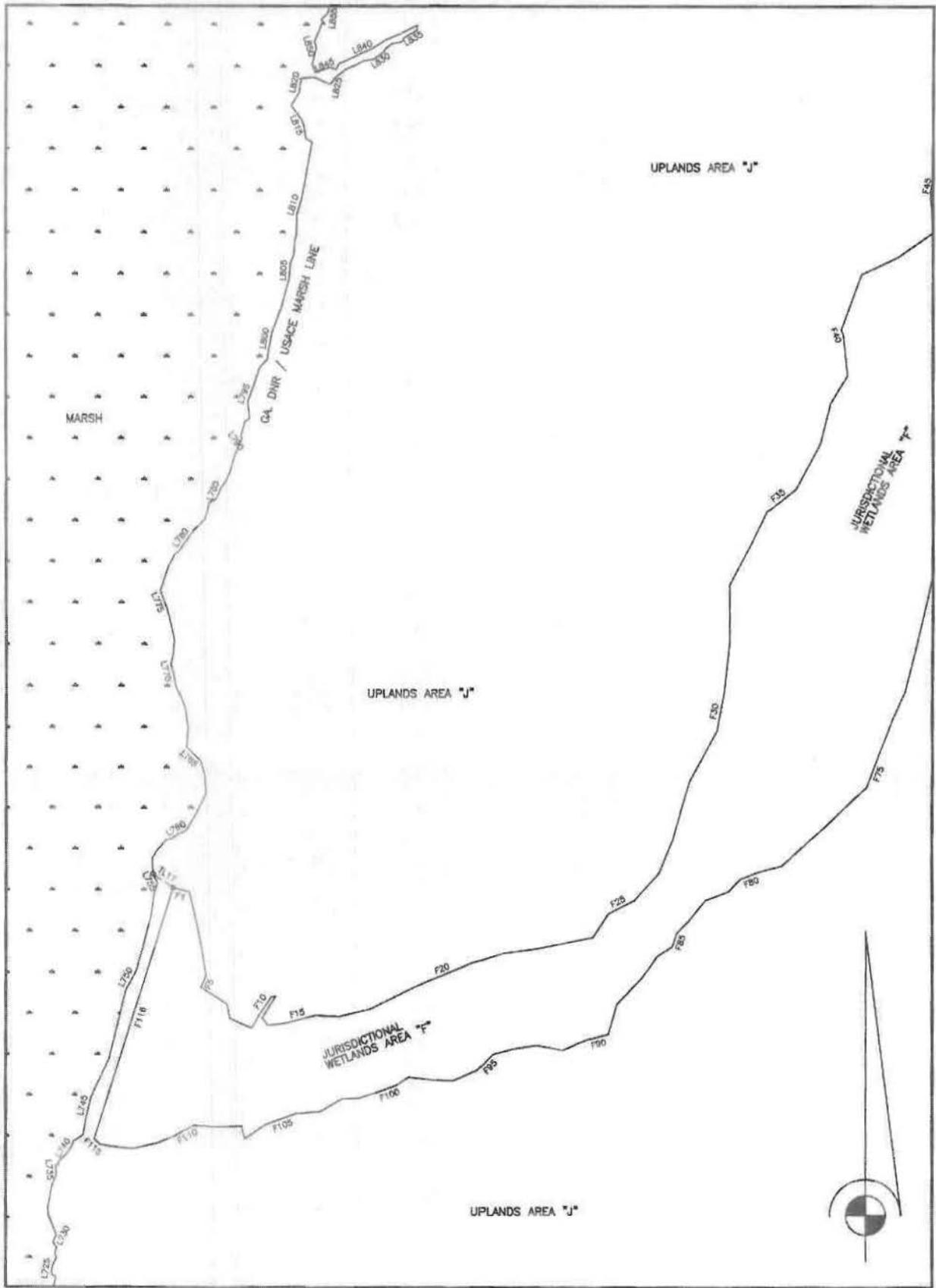
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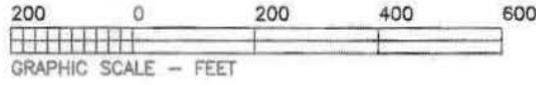
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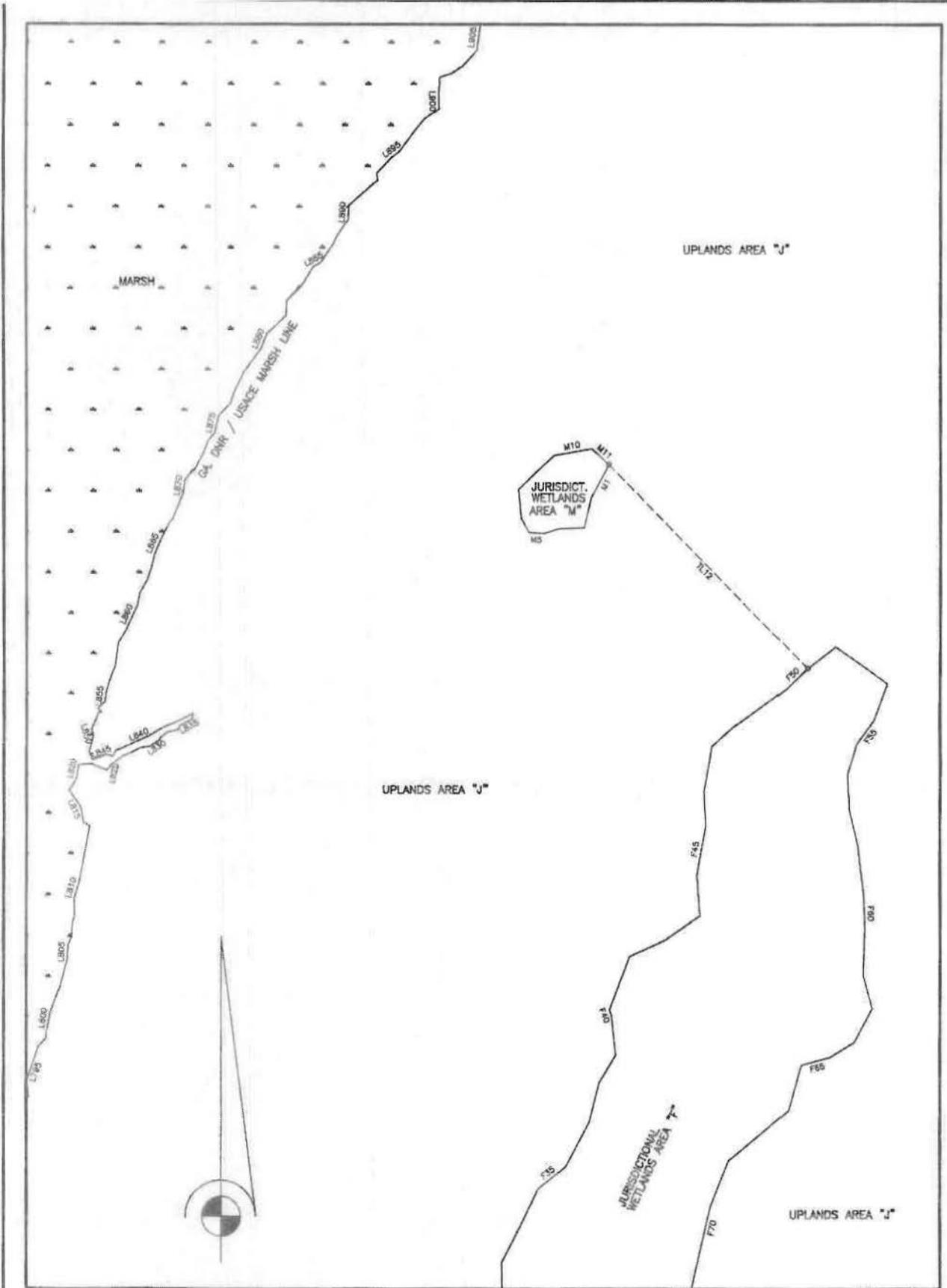
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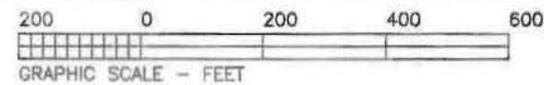
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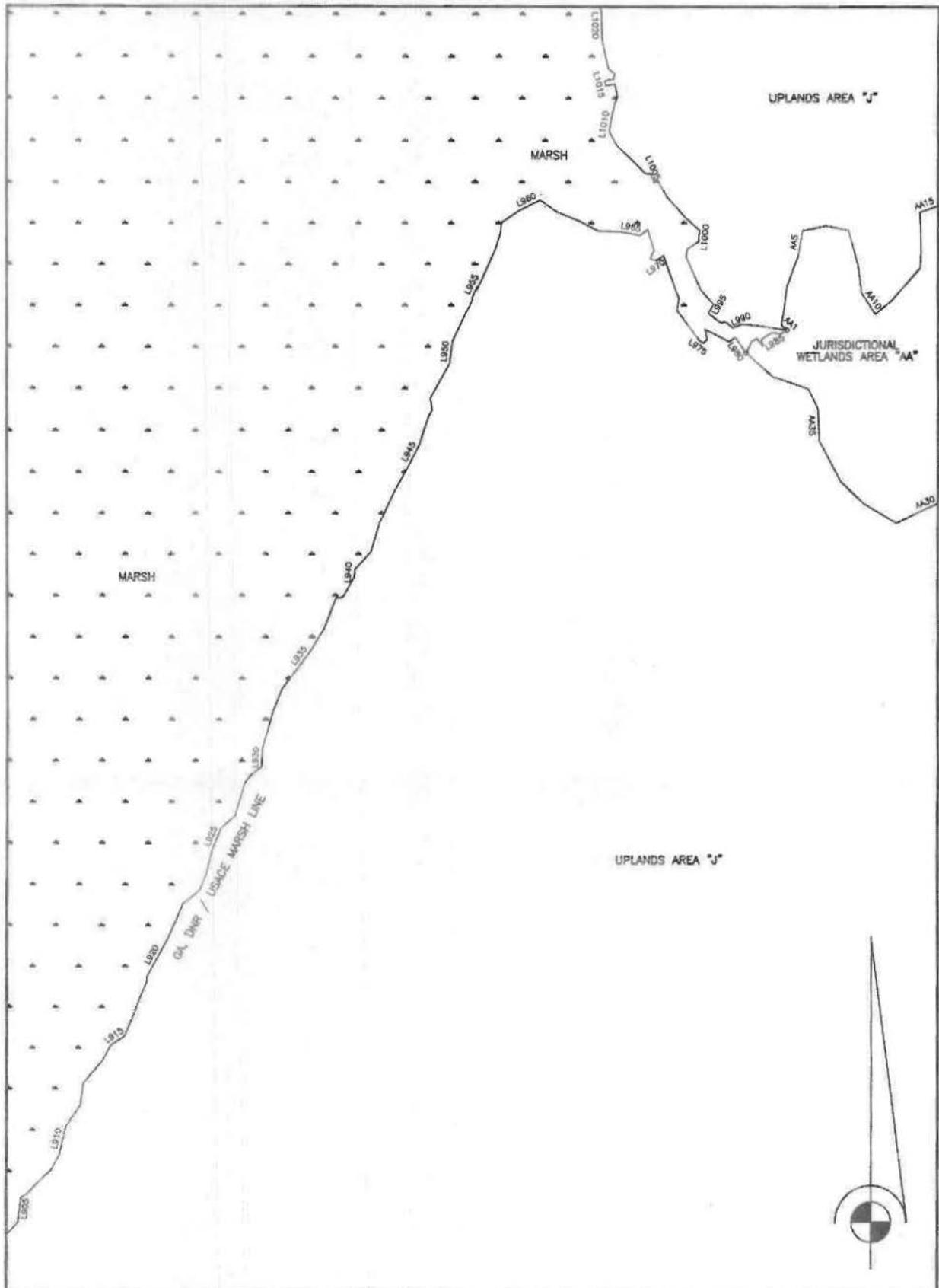
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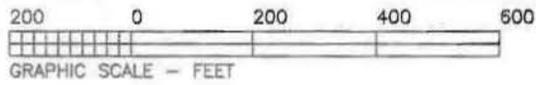
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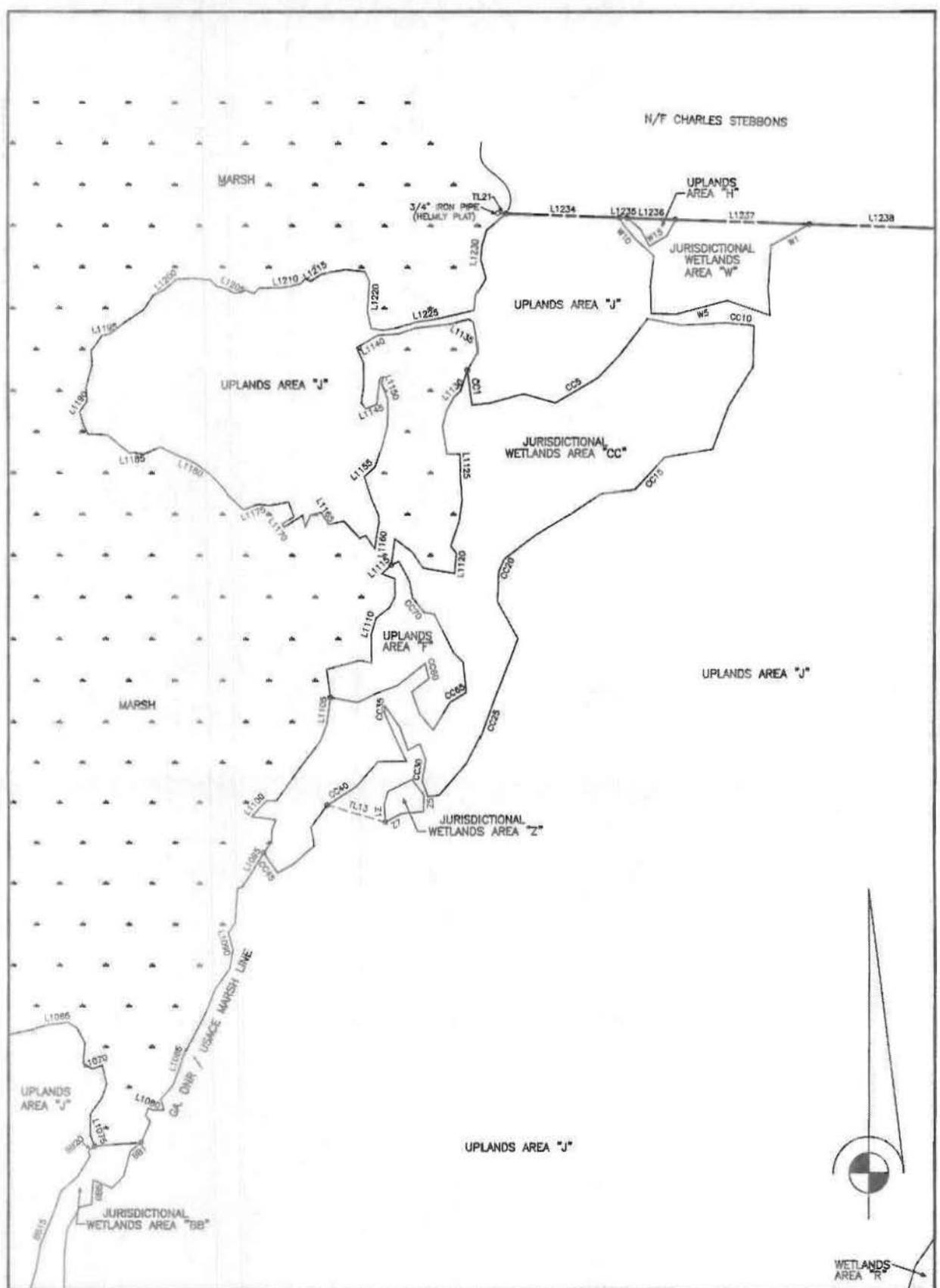
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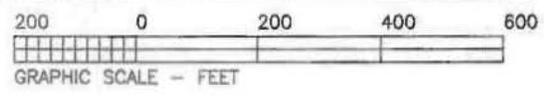
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N/F CHARLES STEBBONS

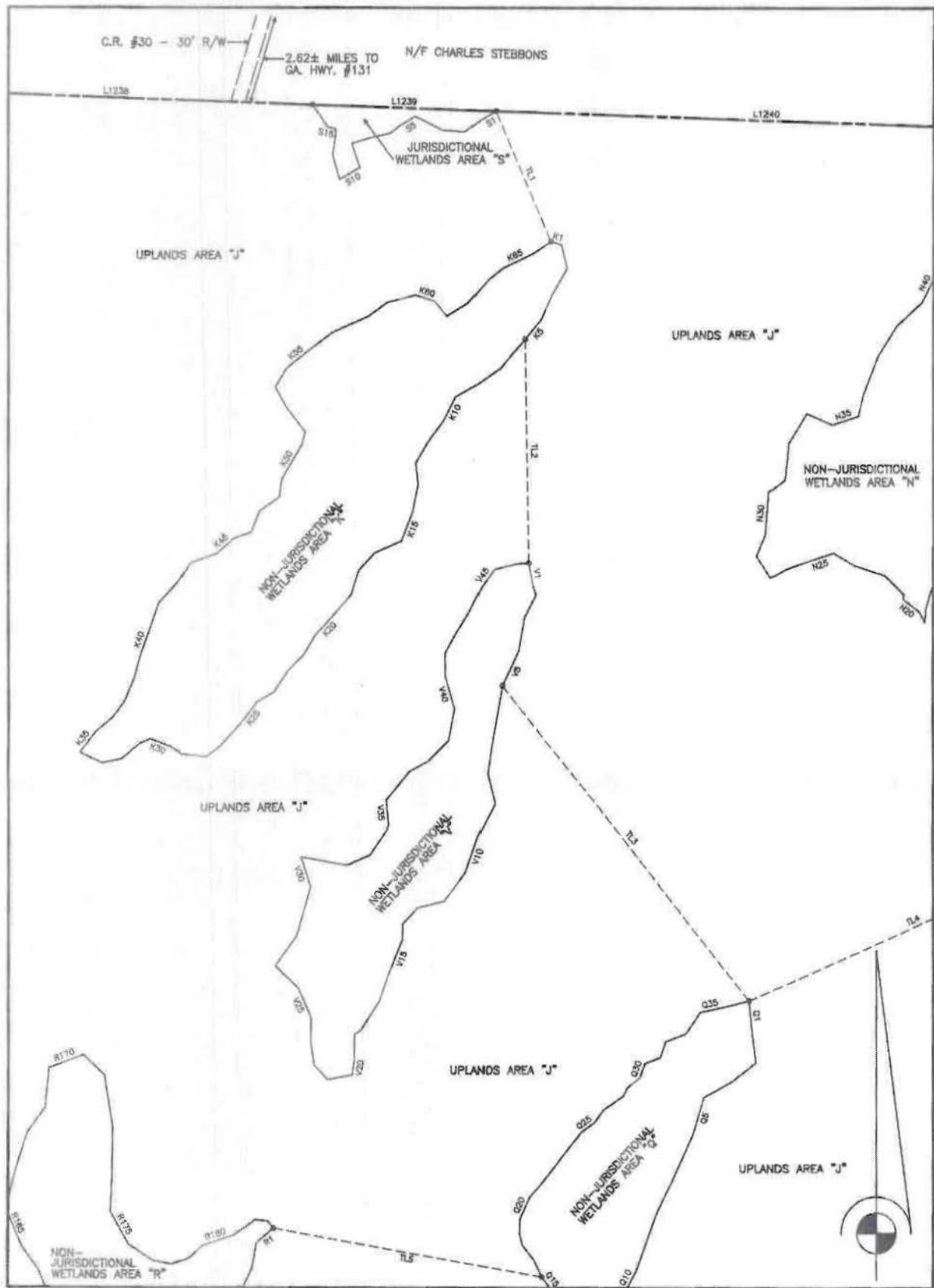
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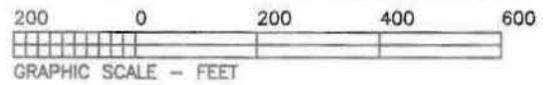
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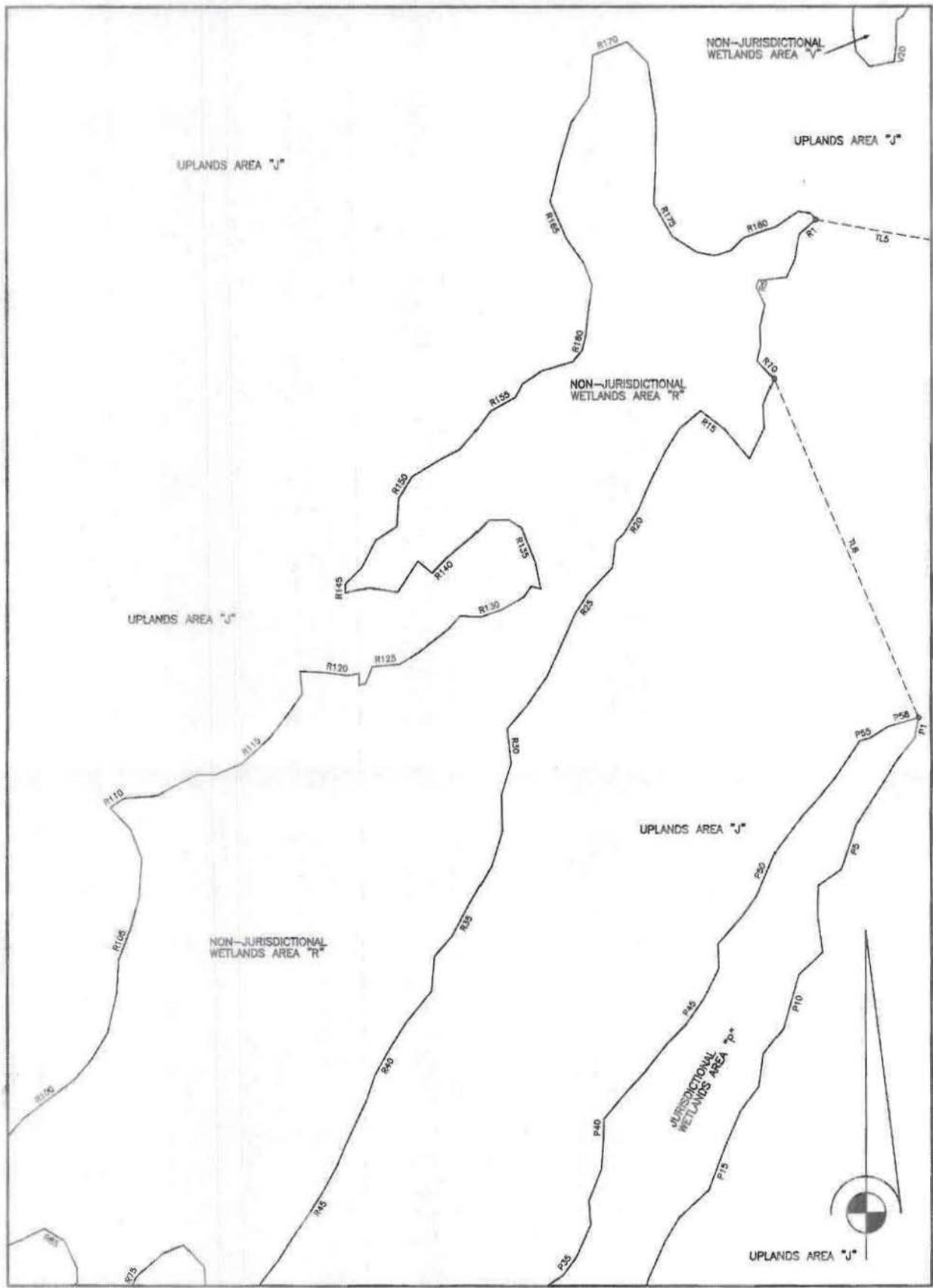
WETLANDS MAP OF:
JULIENTON PLANTATION

WETLANDS MAP FOR:
GENE SLIVKA

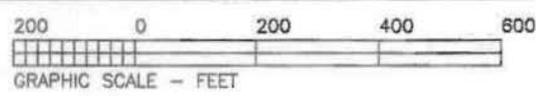
LOCATION: 22ND. G.M.D. McINTOSH CO., GA.
 SURVEYED: MARCH 15, 2007
 BY: JAMES M. ANDERSON-GA. R.L.S. 2113
 SCALE: 1" = 200'
 JN07030.CRD & JN07030.DWG
 SHEET 14



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 PHONE: (912) 764-2002



WETLANDS MAP OF:
JULIENTON PLANTATION



WETLANDS MAP FOR:
GENE SLVKA

LOCATION: 22ND.G.M.D. McINTOSH CO., GA.
 SURVEYED: MARCH 15, 2007
 BY: JAMES M. ANDERSON-GA. R.L.S. 2113
 SCALE: 1" = 200'
 JN07030.CRD & JN07030.DWG
 SHEET 15

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