SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

September 26, 1991

Mr. Hamilton Oven
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Oven

Re: PA 89-25 Hardee Power Station Post Certification - Hardee to Vandolah Transmission Line Incompleteness Response.

Attached are an original and 4 copies of post certification incompleteness response submittals for the Hardee Power Station to the Vandolah Substation transmission line. These submittals include responses to DER Water Management Resource questions and SWFWMD questions.

Please contact me at 813-963-0994 if you have any questions or comments concerning this submittal.

Sincerely,

Robert E. Yarbrough
Environmental Engineer

16313 NORTH DALE MABRY HIGHWAY • P.O. BOX 272000 • TAMPA, FLORIDA 33688-2000 • (813) 963-0994

HARDEE POWER STATION
CERTIFICATION PA 89-25

POST CERTIFICATION INCOMPLETENESS RESPONSE

The following information is provided in response to the DER incompleteness summary of September 10, 1991.

1. Table 1 and 2 have a notation identifying the double asterisk symbol as meaning "no clearing or filling required". Is this a typographical error, i.e. "of" should be "or"? If so, please correct the error. If not, please clarify the meaning of the notation.

The word "of" should be replaced with "or" meaning that no permanent impacts will be associated with the wetland noted. Temporary impacts will be limited to track vehicles which should cause no soil disturbance. Please refer to the revised tables, note that the acreage values have been revised as well as the figures due to drafting errors in the original submittal.

2. Please revise the drawings of the wetlands to state which agency's jurisdictional line is depicted on the drawing.

Please refer to the revised drawings where the agency with jurisdiction is shown on either the plan view or profile view of the area.

3. The drawings indicate that the survey information was determined by aerial photometric methods. Please provide additional information on the procedures used and any field verification work done.

The methods used for the aerial photommetry included stereo aerial photography with ground survey control points. These photographs were then utilized to contour ground elevations using known ground control survey data. As stated on the plan/profile drawings the greatest error occurs when the tree canopy obscures the ground.

4. Figure 4 seems to indicate that a pole will be placed in the Payne Creek floodplain without a construction pad or any type of fill being placed in the wetland. If this is correct, please discuss the construction techniques that will be used and the reason (s) that fill is not required.

The location of the pole in the floodplain is at an elevation below normal pool in a forested floodplain and would require a large volume and acreage of fill to create the construction pad and a road to the pad. We felt this impact could be avoided in a rare case such as this by several possible methods. The method of choice is to embed this pole using a rubber tired crane assembly which will require access to this pole location.

Access to this pole is currently planned from the north across Payne Creek by the use of a temporary wooden bridge structure. This structure will be located within the ROW and will be placed at the top of bank elevation along the incised Payne Creek channel which is approximately 3 feet above normal pool. Some wooden supports will be placed within a shallow area of Payne Creek to help support the wooden bridge but will not be embedded in the sediments. The only fill involved will be these wooden supports that will be placed on the sediment interface at the bottom of the creek. The crane will access the pole area via this wooden bridge. If approval is received on the current schedule, this activity should take place in February or March, 1992 which is the middle of the dry season and will require approximately 2 weeks to complete. After that time the wooden bridge

and supports will be removed in their entirety from the Payne Creek area.

5. Please revise Figure 4 and 5 to show the SHWL, NWL, and SLWL for the affected wetlands.

The area represented by Figure 4 will have no fill except for a single pole and therefore no seasonal water levels were determined. We estimate the SHWL to be at the elevations of the top of bank at Payne Creek and have shown this on a revised Figure 4. Figure 5, as in the remaining figures, indicates seasonal and normal water elevations on the profile portion of the drawing.

6. Figure 4 states that a portion of the floodplain consists of pine and Quercus virginiana (live oak), however, the qualitative wetland description of the area lists pine and Quercus nigra (water oak). Please clarify what species of oak is present.

This problem stems from multiple agency jurisdiction. The pine/live oak portion of the area is claimed by SWFWMD due to a few cinnamon ferns in the subcanopy, DER does not have the indicators necessary to claim this area, therefore this area has the correct description on the figure but is not addressed in the qualitative description nor is it included in Table 1 as DER forested area. The area within DER jurisdiction does have water oak in the canopy and subcanopy.

7. Table 1 does not show the clearing of 0.72 ac. of pine oak wetland for the Payne Creek crossing. Please revise Table 1 to include this impact.

Please refer to the response to question 6. The area is not DER jurisdictional nor has SWFWMD required mitigation for the clearing of this area.

Please note that several of the acreage figures have been changed in Table 1, these changes have occurred due to a field visit by SWFWMD that have evaluated some of the areas and have concluded that most of the wetlands along the ROW can be considered disturbed. A drafting error was found concerning clearing of forested wetland in the area represented by Figure 4 and these values have also been changed to more accurately reflect existing conditions.

8. Please revise Figure 5 and 6 to indicate side slopes on the construction pad.

We have added 2:1 side slopes to these figures. Please refer to Figure 11 which indicates the typical construction pad which has 2:1 side slopes.

9. The wetland shown in Figure 5 is described as a seepage wetland. Please discuss any special construction techniques which will be required to stabilize the fill road and construction pad in a seepage wetland.

As indicated in Figure 12, areas having unstable soil conditions may have a permanent fabric mat placed beneath any road fill. This procedure is planned for the Shirttail Branch area.

10. Please revise Figure 10 to show the location of any existing culverts in the Seaboard Coast Line RR. Are any culverts proposed for the proposed access road? If so, where? If not, why not?

The plan view of Figure 10 utilizes the typical symbol for a RR trestle, there are no culverts in the RR grade. As indicated in the

drawing, the access road will not have any culverts. The road will not isolate any portion of the wetland nor will it change any overland sheet flow characteristics. The wetland area adjacent to the RR and the access road should continue with the same connection and hydroperiod as currently occurs.

11. Figure 10 and 13 are both labeled as Wetland K. Please provide a key sheet showing the spatial relationship between the two figures.

A key sheet is provided as Figure 1 for all wetland areas. Figures 10 and 13 both show Wetland "K" but at different scales as indicated by the scale bar. Figure 13 was created for SWFWMD to indicate compensation for fill within the 100 year floodplain.

12. Figure 12 is labeled as a typical plan view and profile. Please specify of what they are typical.

This drawing is revised to indicate the typical access road that it depicts.

13. Please clarify the purpose and extent of the excavation shown on Figure 13.

As indicated in both the plan and profile drawings, the area to be excavated is above the 100 year floodplain, outside of the jurisdictional limits. We have been required by SWFWMD to compensate for the fill in the 100 year floodplain in this area by excavating areas above the 100 year floodplain to handle any flood waters. We do not intend for this area to be DER jurisdictional waters.

14. Figures 14, 15, and 16 appear to be related. If this is correct, please revise them to show clearly how they are related. If this is not correct, please show to what Figure 14 and 15 are related.

As shown in Figure 16, the figures show a railroad ditch adjacent to Shirttail Branch. In order to minimize impacts to Payne Creek and Shirttail Branch, we have been able to achieve access to the south side of Payne Creek via a road that will require culverts to cross the railroad ditch. Additional labeling, including station numbers have been added to the revised figures.

15. Please revise the figures to show the station numbers on the aerial photograph to allow a comparison of the two sets of documents.

Space limitations allow representative station numbers to be added to the figures. In most cases the figures can be directly overlayed on the plan/profile aerials using jurisdiction lines, railroad trestles or pole locations as alignment points.

16. Please provide a narrative describing the construction techniques to be used including the clearing methods and equipment.

Please refer to the response to Condition XXXII 14, 15, 16, 17, 18. It is currently planned to perform clearing activities in wetland areas with a bulldozer with a cutting blade attached to shear trees off near ground level. This activity is designed to clear the trunks of the trees and not disturbed roots or soils.

17. Please provide specific details of the proposed mitigation.

Please refer to tne attached "Mitigation Plan". The "Plan" may be revised to better suit agency concerns. As details are resolved they will be submitted to DER.

TABLE 1

WETLAND ACTIVITIES

(FDER JURISDICTION)

	FORESTED WETLAND		SHRUB WETLAND		DISTURBED SHRUB WETLAND		MARSH
WETLAND	CLEARED	FILLED	CLEARED	FILLED	CLEARED	FILLED	FILLED
A	-	-	-	-	*	*	-
B	-	-	*	-	-	-	-
C	0.87	**	0.19	**	0.23	**	**
D	2.07	0.30	-	-	-	-	-
E	0.07	-	-	-	1.95	0.25	-
F	*	*	*	*	*	*	*
G	*	*	*	*	*	*	*
H	**	**	**	**	**	**	**
I	*	*	*	*	*	*	*
J	**	**	**	**	**	**	**
K	-	-	-	-	2.01	0.59	**
RR Ditch	-	-	-	-	-	-	0.05
TOTALS	2.70	0.30	0.19	-	4.19	0.84	0.05

* Isolated Wetlands (non-FDER Jurisdictional)
** No Clearing or Filling Required

HARDEE POWER STATION
CERTIFICATION PA 89-25

POST CERTIFICATION INCOMPLETENESS RESPONSE

The following information is provided in response to the SWFWMD incompleteness summary of September 11, 1991.

1. Section 3.2.3.1.3, Part B, Basis of Review, Chapter 40D-4, F.A.C. requires that for impacts to wetlands that are not considered significantly disturbed, compensation will include, as a minimum, type - for- type functional replacement of lost wetland habitat at a 1:1 ratio with additional compensation to achieve the total required compensation ratios (1.5:1 for non-forested and 2.5:1 for forested). Wetland limits and the associated impact areas have been delineated for this project but those impact areas that will meet the above criteria have not been identified. Please provide a sufficient qualitative assessment to establish those impact areas that will require type - for - type mitigation.

The right-of-way for the Hardee - Vandolah segment of the proposed transmission line is adjacent to an existing railroad that is bordered by ditches that have significantly altered the hydrology, altered vegetation, and bisected many of the wetlands that the line will impact. Seminole, a non-profit, publicly owned utility, is constructing this transmission line for the public interest. We would like to request that the wetland impacts be reviewed with consideration for the purpose of the proposed activity. We appreciate the need for wetland replacement for wetland areas filled and are proposing a mitigation plan that will allow for replacement of wetlands filled in wetland forested systems to be replaced with wetland forested systems and filled areas in marshes be replaced with marshes, isolated for isolated and connected for connected. We feel that this type of mitigation fulfills the requirements for the type - for - type mitigation as presented to the SWFWMD Governing Board in the rule making procedure.

The field visit of September 18 by Mr. Howard Knight resolved the necessary assessment to establish impacts for areas decided to be disturbed shrub systems.

2. For those wetland impacts that require type - for - type mitigation, you will need to provide quantitative environmental baseline assessments. This information is necessary to evaluate whether the mitigation area designs will provide reasonable assurance of type - for- type functional replacement and to develop success criteria. Please contact the project Environmental Scientist, Howard Knight, to discuss the required detail.

We will develop proposed success criteria as the details of the mitigation plan are resolved. We do not believe that quantitative transect analyses for each undisturbed wetland, as requested by Mr. Howard Knight, is a reasonable request for a linear facility that is 78 miles long involving as many as 150 different wetlands. The type - for - type replacement could not reasonably be obtained, species for species, for each specific wetland that a linear facility typically encroaches upon. Instead, we would like to propose that an existing forested wetland system, shrub wetland system, and marsh wetland system be agreed upon as a reference wetland. Transect data will be taken as success of the mitigation effort is near and will be used to compare relative success.

3. The proposed conceptual mitigation plan does not provide sufficient detail for evaluation of the proposal. Several potential alternatives have been presented in the submittal and in a subsequent

office meeting on September 5, 1991. As discussed, please provide a fully detailed compensation plan for the option (s) you elect to pursue.

A revised, considerably more detailed plan is attached. Amendments will be made to this plan as discussions with DER and SWFWMD proceed and will be submitted.

Please provide a complete description on the construction drawings of measures to be implemented during the construction period to prevent adverse quantity and quality impacts off site. Show all erosion and sediment control measures to be utilized. Clearly label all turbidity curtains, silt screens, hay bale fences and other turbidity control measures placed.

We have added the locations of the turbidity control devices to the plan view drawings and the typical drawings. Seminole understands the need to control turbidity and will have representatives present at the job sites to inspect turbidity control and insure that water quality violations will not occur.

Please submit the letter that was faxed to Jan Burke, E.I. at the Bartow office on September 9, 1991 along with the revised plan/profile drawing for wetland "D".

The letter is attached and Figure 5 has been revised to reflect the information submitted on September 9.

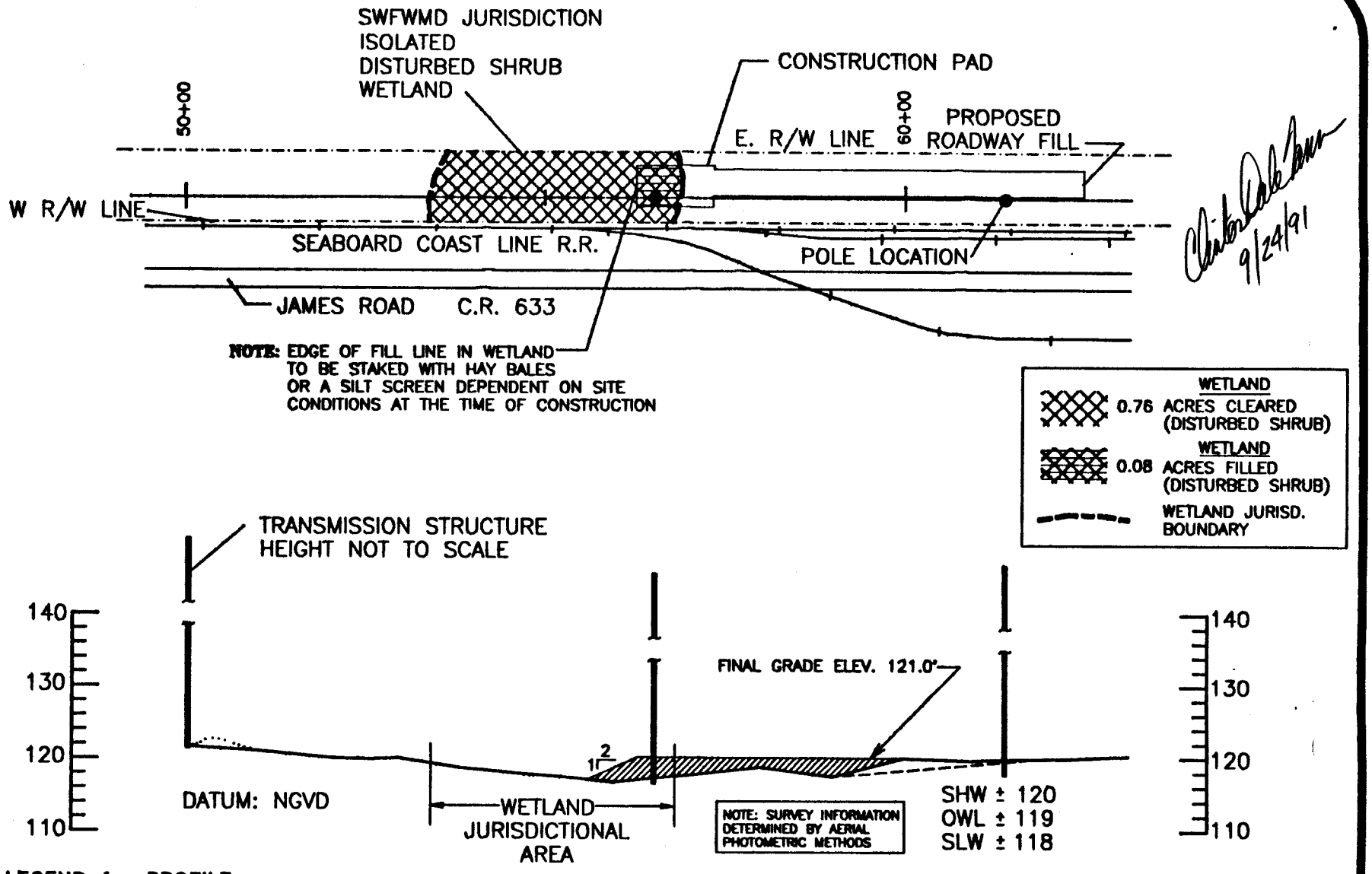
TABLE 2

WETLAND ACTIVITIES

(SWFWMD JURISDICTION)

	FORESTED WETLAND		SHRUB WETLAND		DISTURBED SHRUB WETLAND		MARSH
WETLAND	CLEARED	FILLED	CLEARED	FILLED	CLEARED	FILLED	FILLED
A	-	-	-	-	0.76	0.08	-
B	-	-	-	-	0.57	-	-
C	0.87 0.72***	-	0.19	-	0.23	-	**
D	2.07	0.30	-	-	-	-	-
E	0.07	-	-	-	1.95	0.25	-
F	-	-	-	-	-	-	0.18
G	-	-	-	-	0.17	0.13	**
H	**	**	**	**	**	**	**
I	-	-	-	-	-	-	0.13
J	**	**	**	**	**	**	**
K	-	-	-	**	2.01	0.59	**
TOTALS	3.01	0.30	0.19	-	5.69	1.05	0.31

** No Clearing or Filling Required
*** Area is Pine/Live Oak area not considered for type for type mitigation.



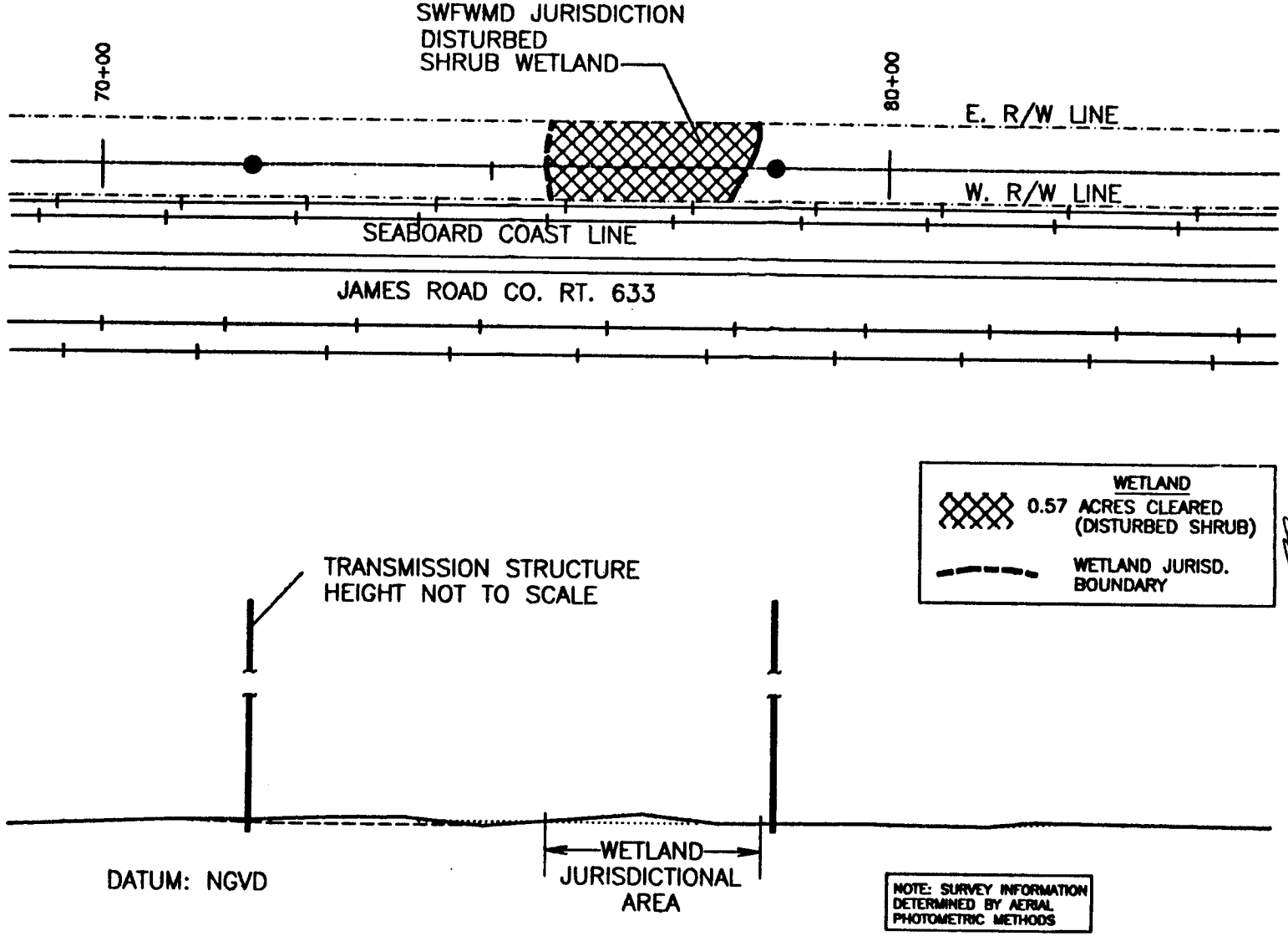
Clinton Dale Lowe 9/24/91

WETLAND "A" PLAN/PROFILE

DATE: 7/17/91

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

FIGURE 2



WETLAND "B"
PLAN/PROFILE

DATE: 7/17/91

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

FIGURE 3

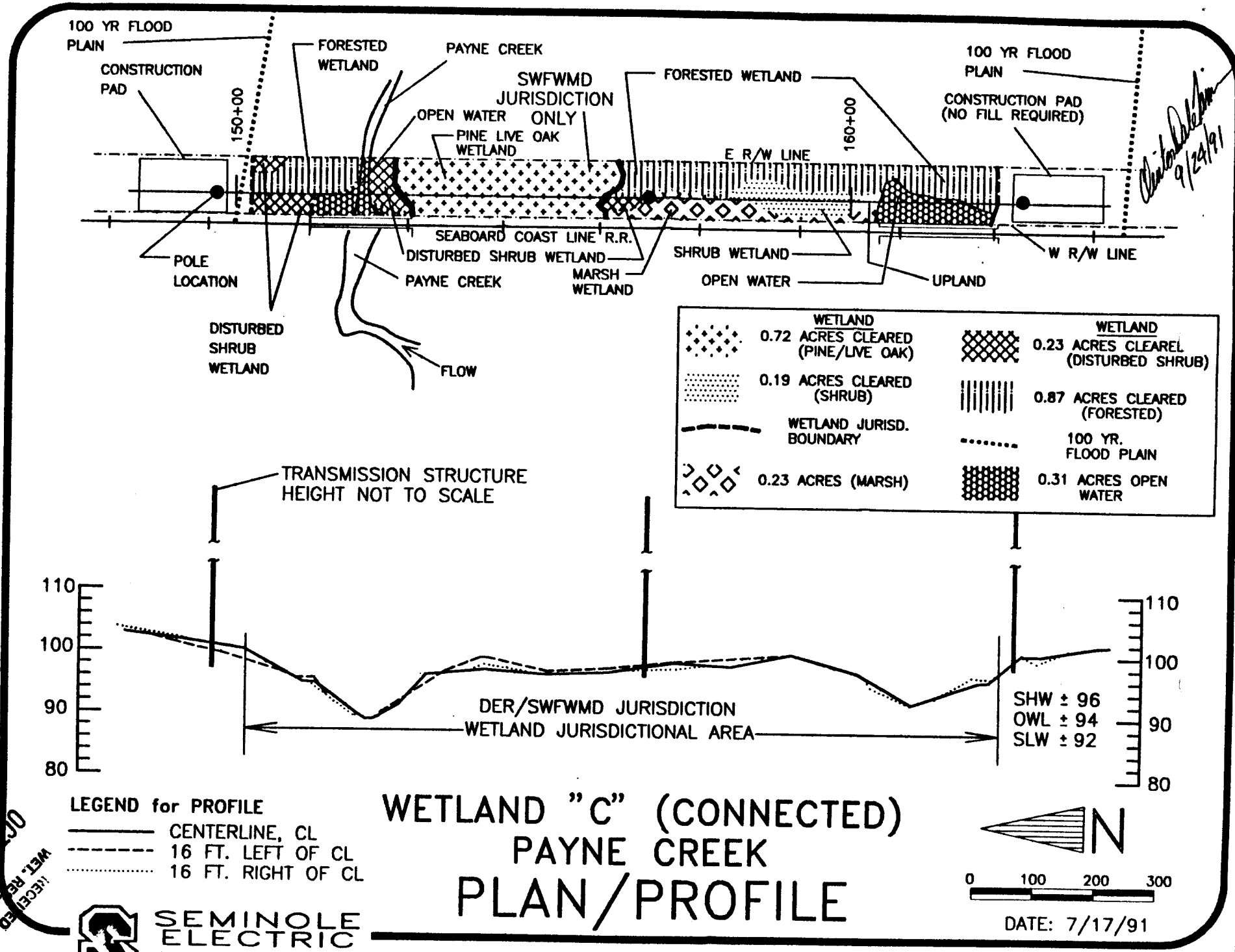
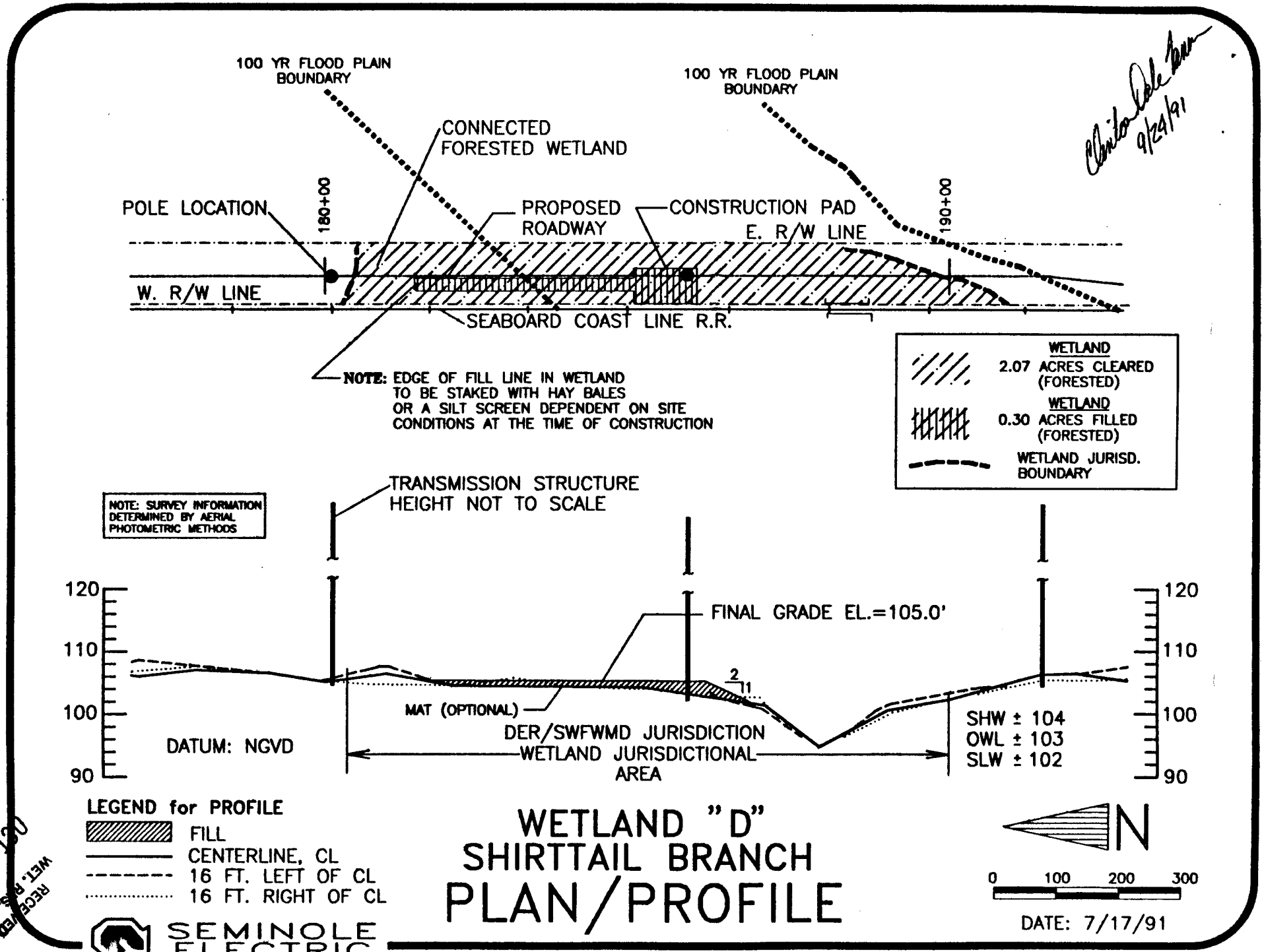

100 YR FLOOD PLAIN
CONSTRUCTION PAD
150+00
FORESTED WETLAND
PAYNE CREEK
SWFWMD JURISDICTION ONLY
OPEN WATER
PINE LIVE OAK WETLAND
FORESTED WETLAND
160+00
E R/W LINE
100 YR FLOOD PLAIN
CONSTRUCTION PAD (NO FILL REQUIRED)
SEABOARD COAST LINE R.R.
DISTURBED SHRUB WETLAND
SHRUB WETLAND
W R/W LINE
POLE LOCATION
PAYNE CREEK
MARSH WETLAND
OPEN WATER
UPLAND
DISTURBED SHRUB WETLAND
FLOW
WETLAND
0.72 ACRES CLEARED (PINE/LIVE OAK)
0.23 ACRES CLEAREL (DISTURBED SHRUB)
0.19 ACRES CLEARED (SHRUB)
0.87 ACRES CLEARED (FORESTED)
WETLAND JURISD. BOUNDARY
100 YR. FLOOD PLAIN
0.23 ACRES (MARSH)
0.31 ACRES OPEN WATER
TRANSMISSION STRUCTURE HEIGHT NOT TO SCALE
110
100
90
80
DER/SWFWMD JURISDICTION
WETLAND JURISDICTIONAL AREA
SHW ± 96
OWL ± 94
SLW ± 92
LEGEND for PROFILE
CENTERLINE, CL
16 FT. LEFT OF CL
16 FT. RIGHT OF CL
WETLAND "C" (CONNECTED)
PAYNE CREEK
PLAN/PROFILE
N
0 100 200 300
DATE: 7/17/91
SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

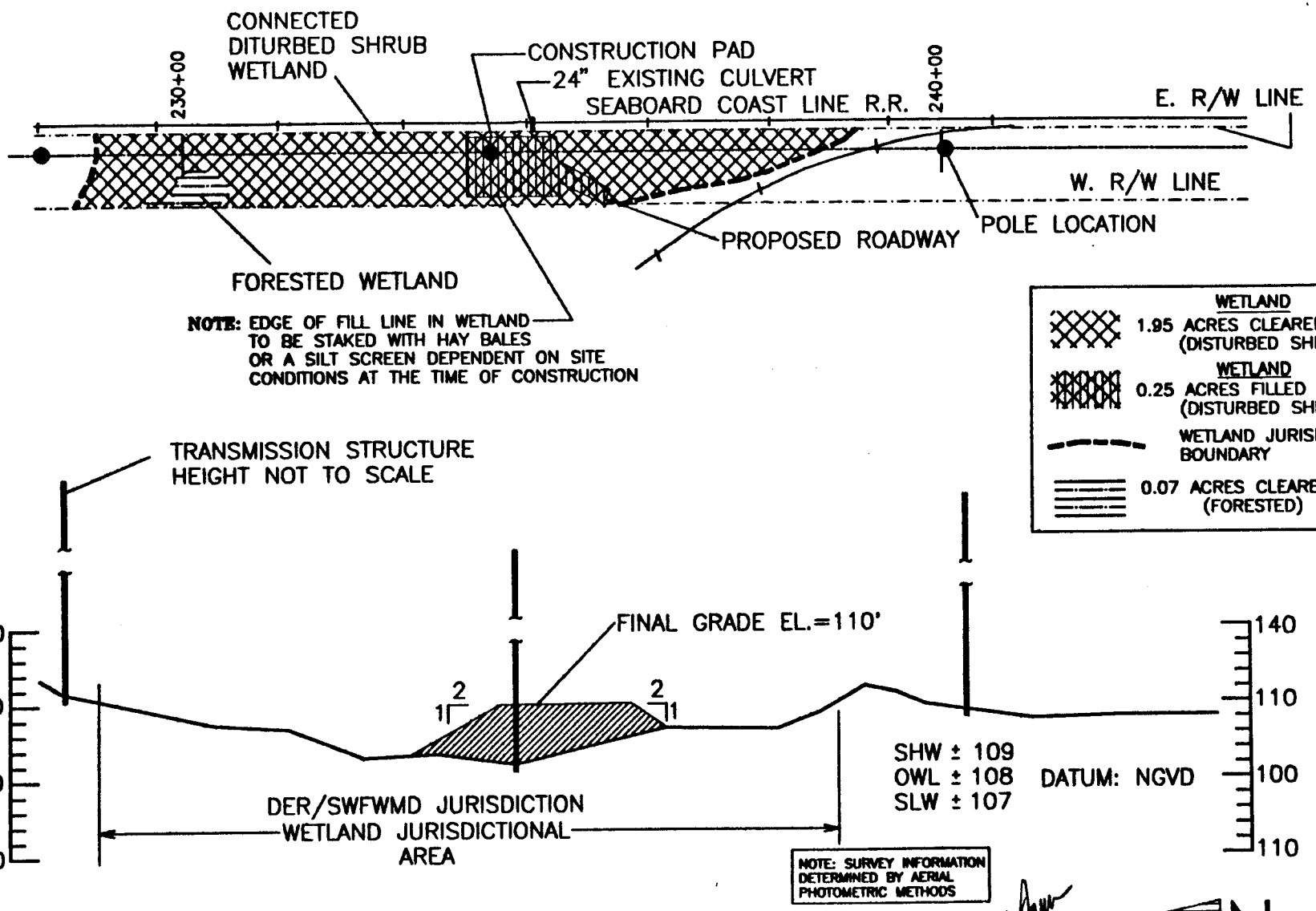
FIGURE 4



WETLAND "D"
SHIRTTAIL BRANCH
PLAN/PROFILE

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

FIGURE 5

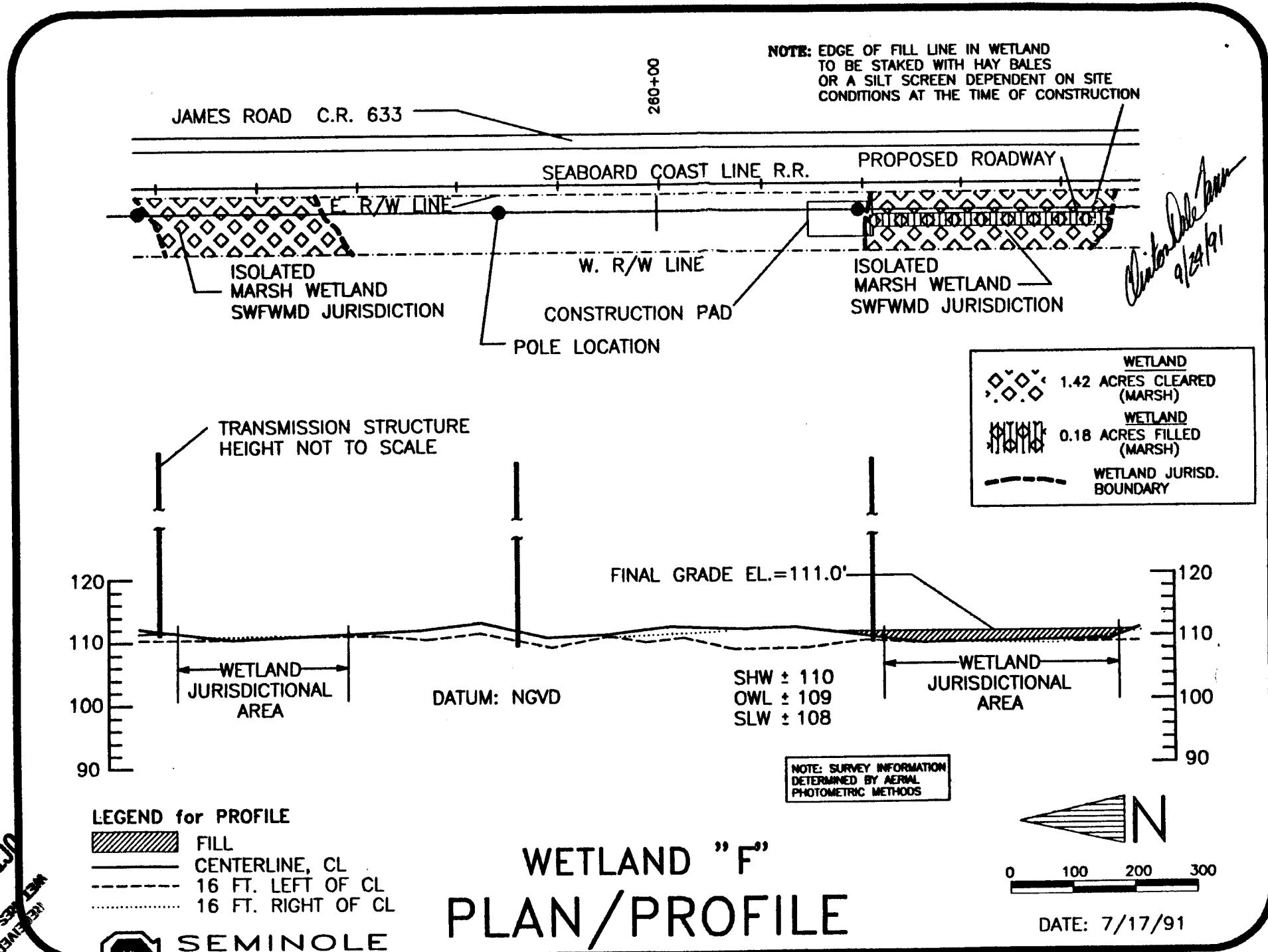


WETLAND "E"
PLAN/PROFILE

DATE: 7/17/91

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

FIGURE 6

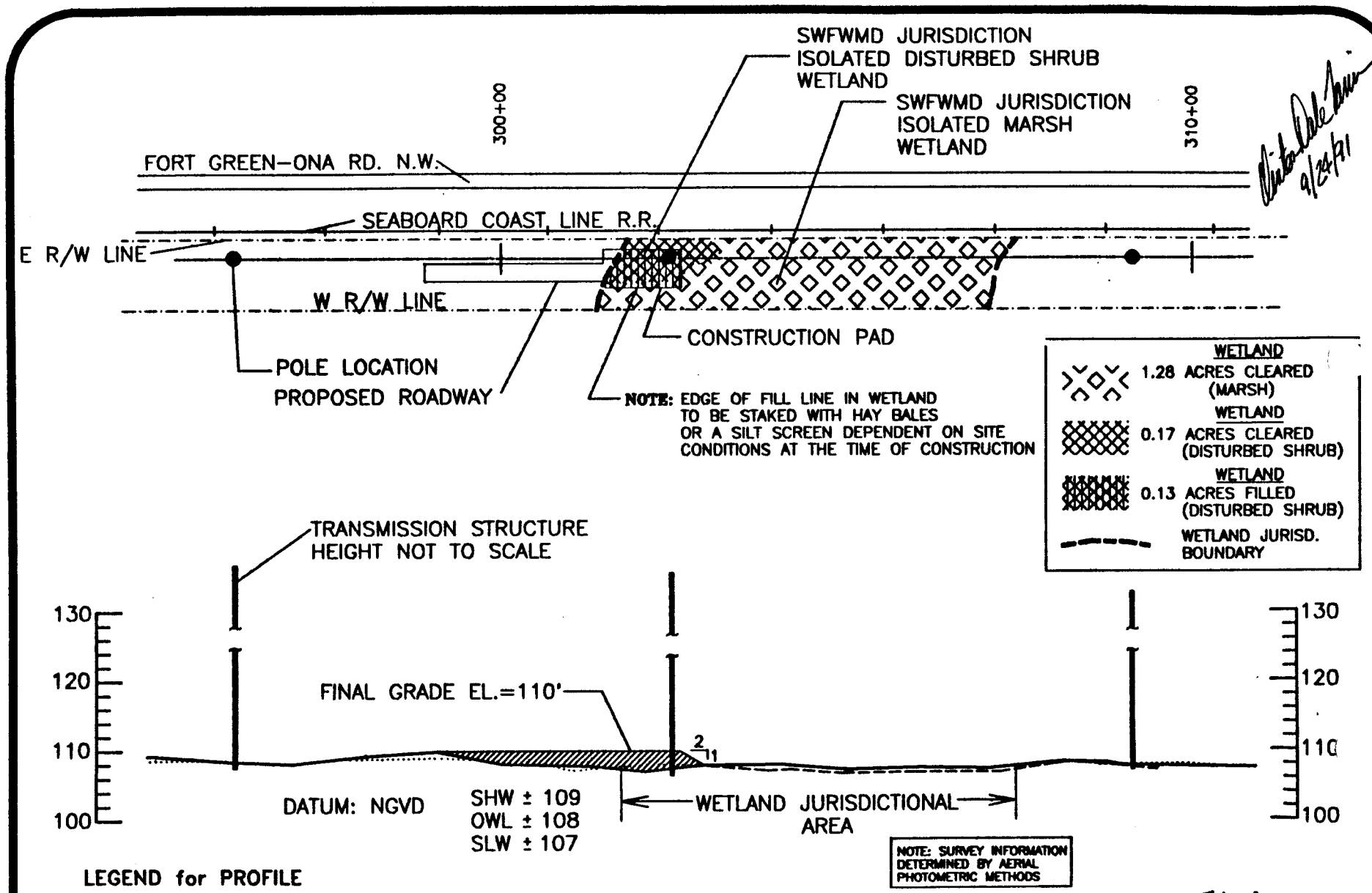


WETLAND "F"
PLAN/PROFILE

DATE: 7/17/91

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

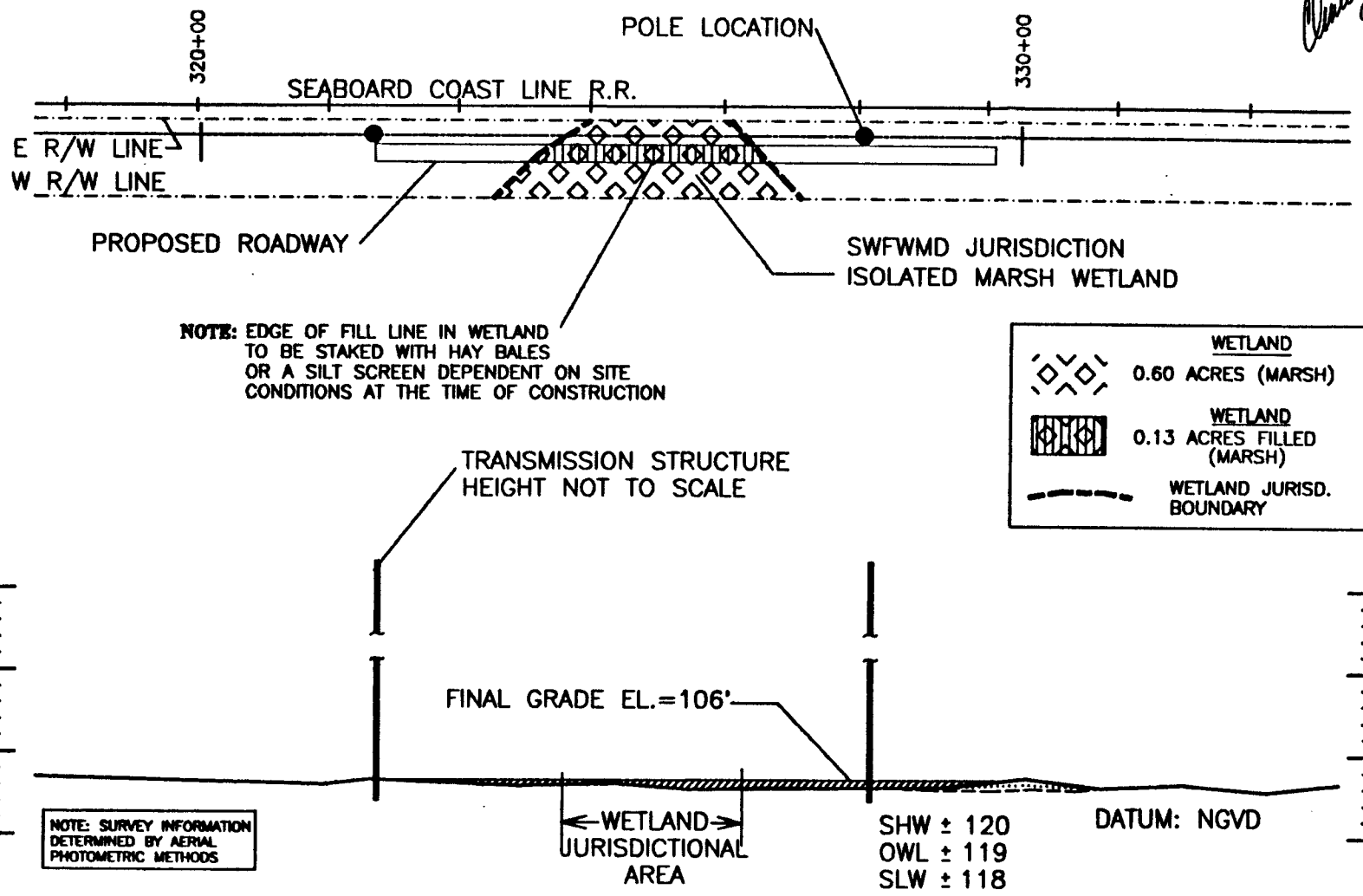
FIGURE 7



WETLAND "G"
PLAN/PROFILE

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

FIGURE 8



LEGEND for PROFILE

- FILL
- CENTERLINE, CL
- 16 FT. LEFT OF CL
- 16 FT. RIGHT OF CL

N

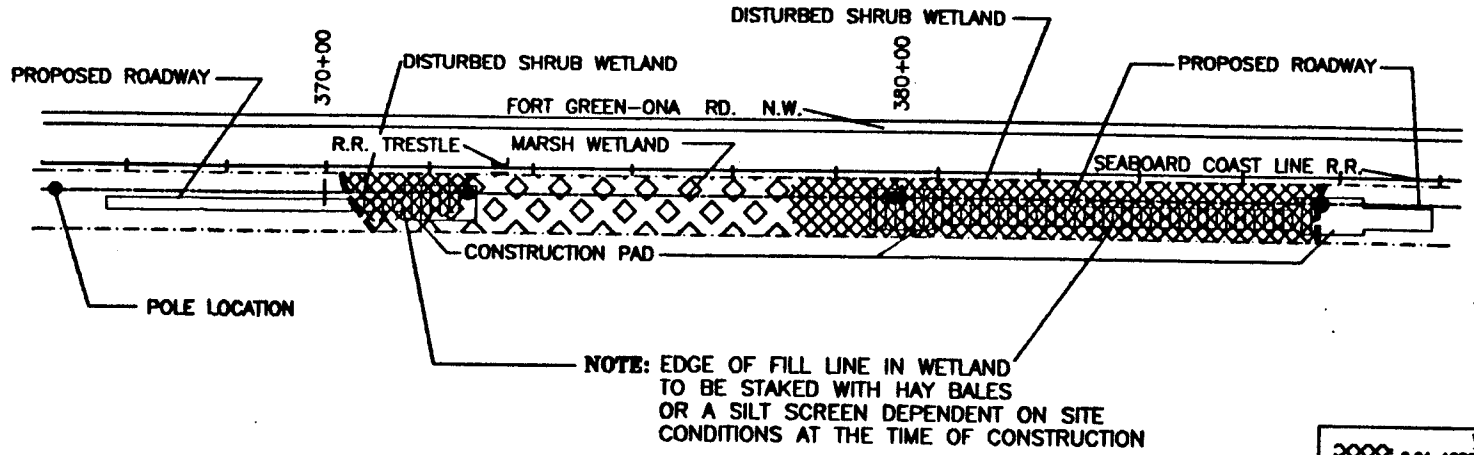
0 100 200 300

DATE: 7/17/91

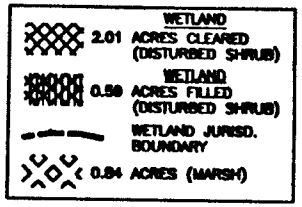
WETLAND "I"
PLAN/PROFILE

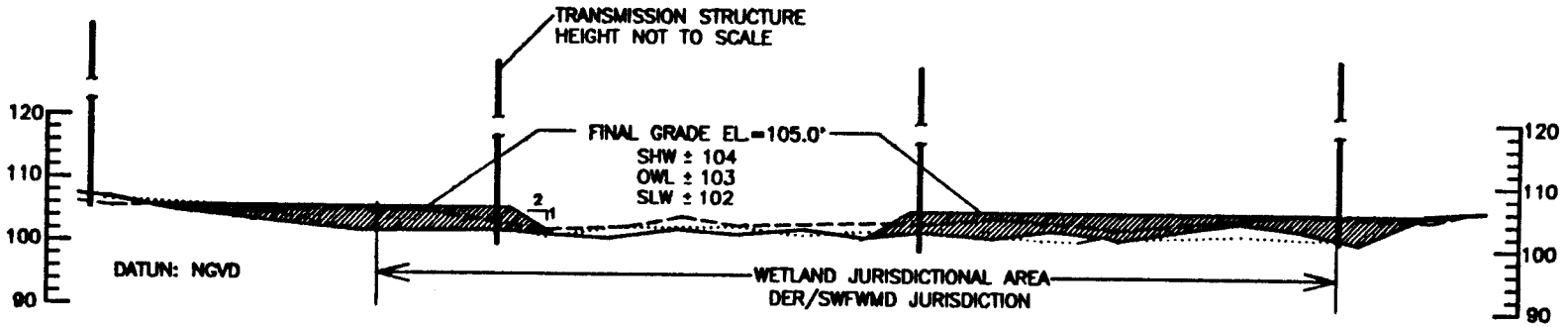
SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

FIGURE 9



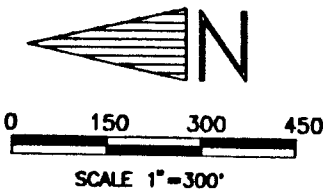
Chester Dale Jones 9/24/91





NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS

LEGEND for PROFILE
- FILL
- CENTERLINE, CL
- 16 FT. LEFT OF CL
- 16 FT. RIGHT OF CL

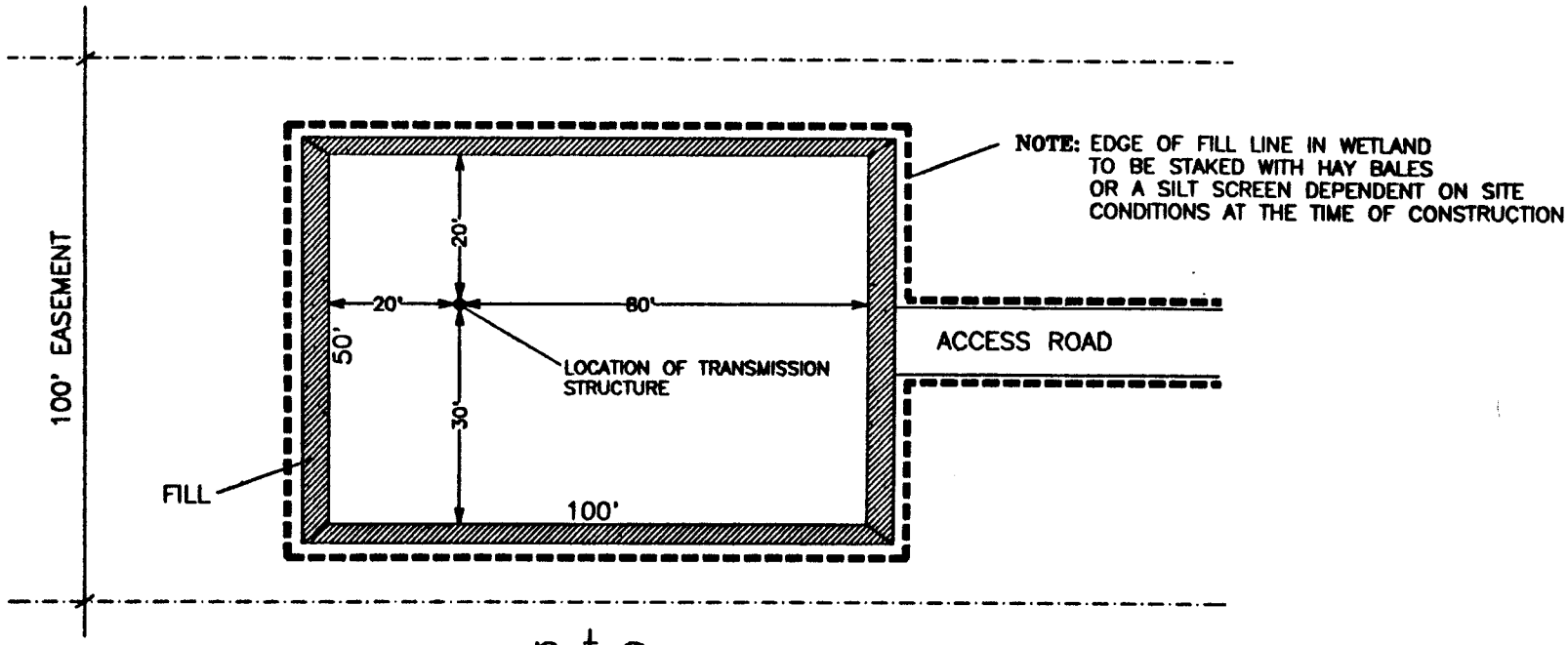


WETLAND "K"
PLAN/PROFILE

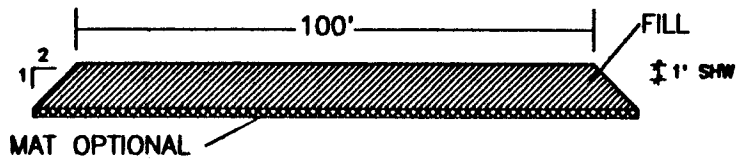
DATE: 7/17/91

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

FIGURE 10



n.t.s.

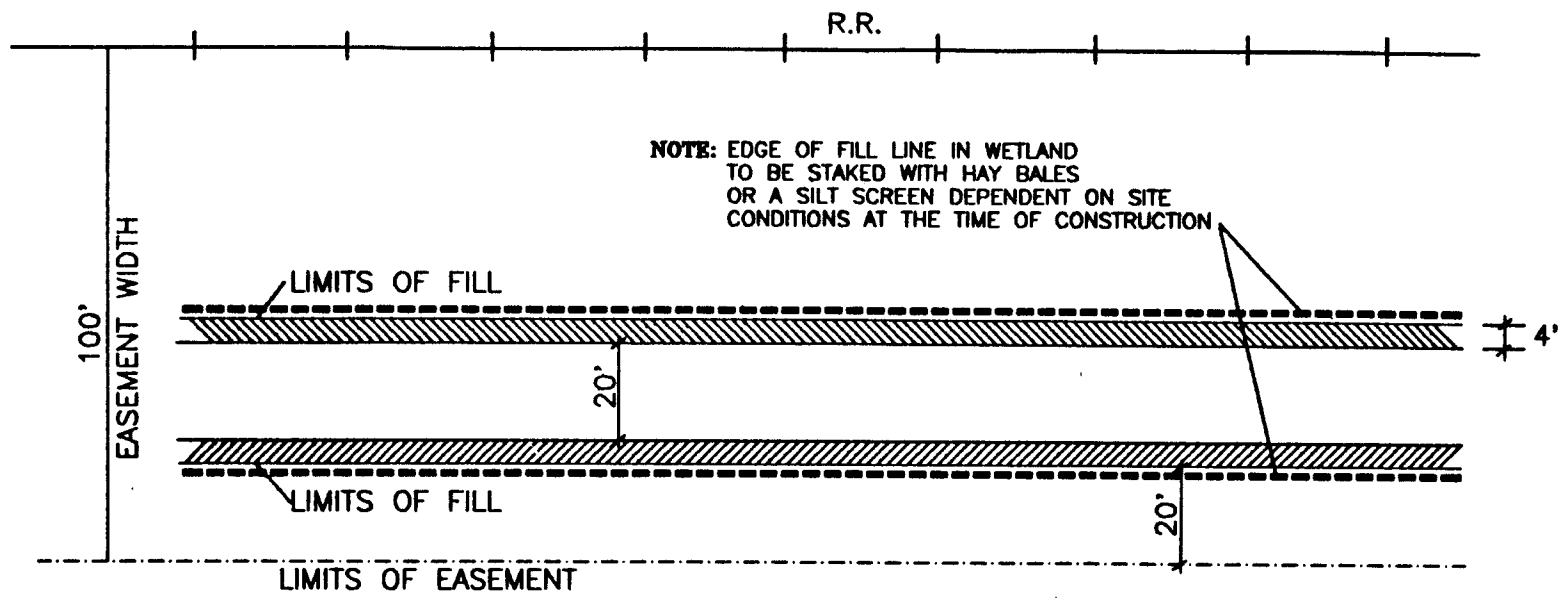


n.t.s.

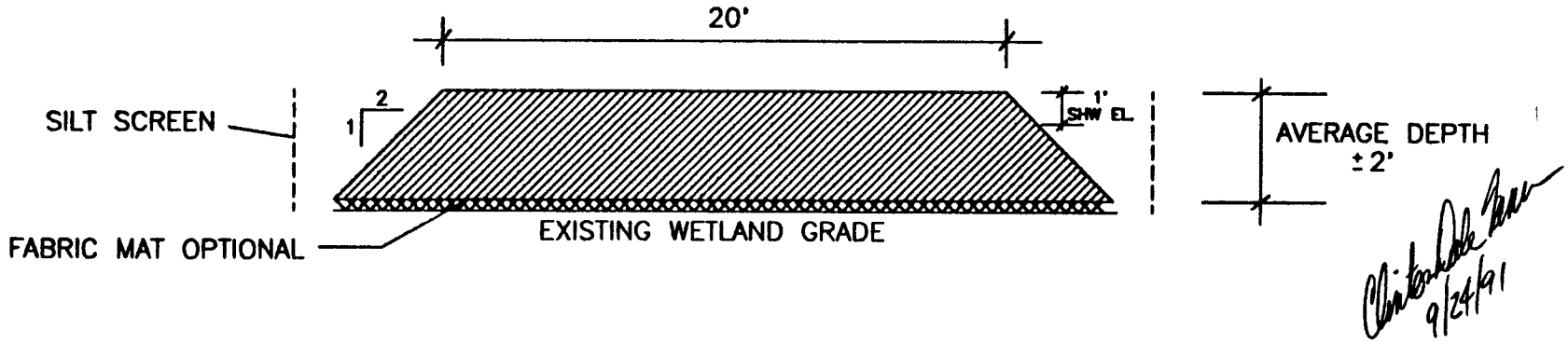
TYPICAL CONSTRUCTION PAD LAYOUT

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

FIGURE 11



TYPICAL ACCESS ROAD PLAN VIEW
n.t.s.

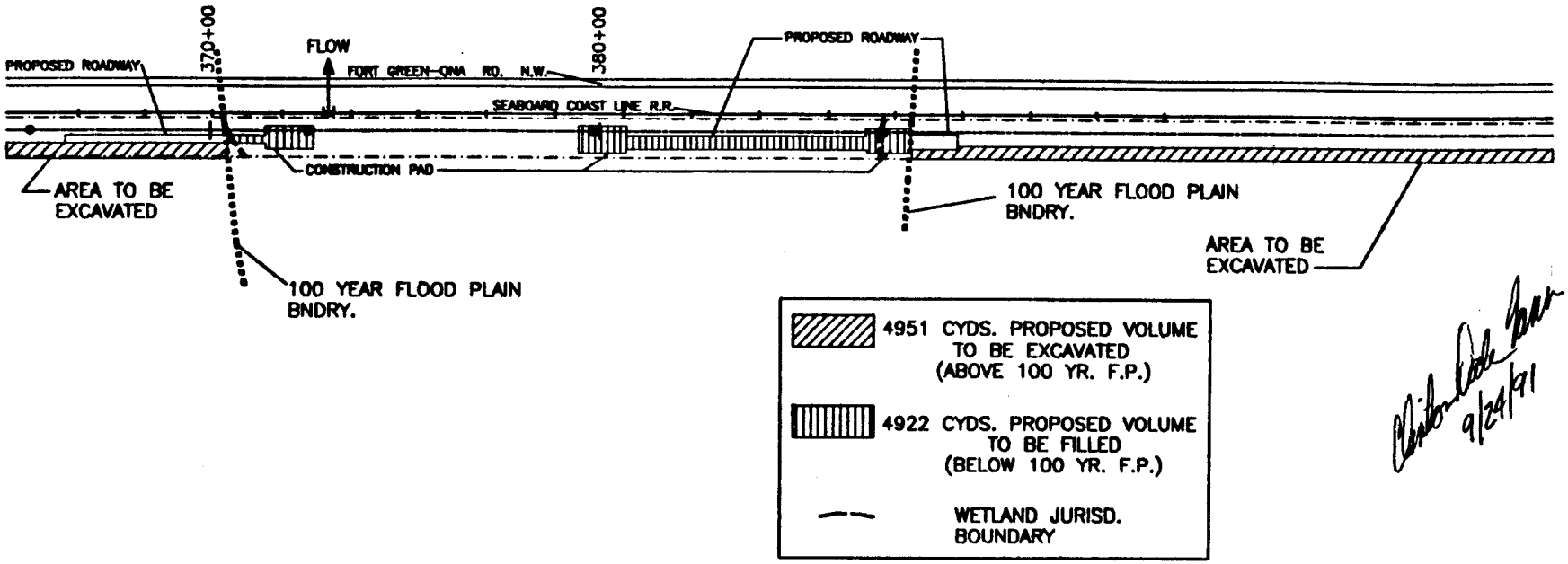


Christopher Lee 9/24/91

TYPICAL ACCESS ROAD PROFILE
n.t.s.

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

FIGURE 12

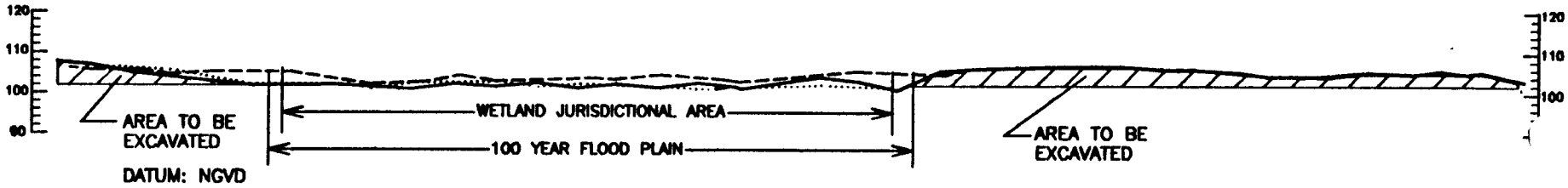


4951 CYDS. PROPOSED VOLUME TO BE EXCAVATED (ABOVE 100 YR. F.P.)

4922 CYDS. PROPOSED VOLUME TO BE FILLED (BELOW 100 YR. F.P.)

WETLAND JURISD. BOUNDARY

9/24/91



NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS

LEGEND for PROFILE
- PROPOSED FILL
- CENTERLINE, CL
- 16 FT. LEFT OF CL
- 16 FT. RIGHT OF CL

100 YEAR FLOODPLAIN COMPENSATION

LETTIS CREEK HEADWATERS WETLAND "K"

PLAN/PROFILE

N

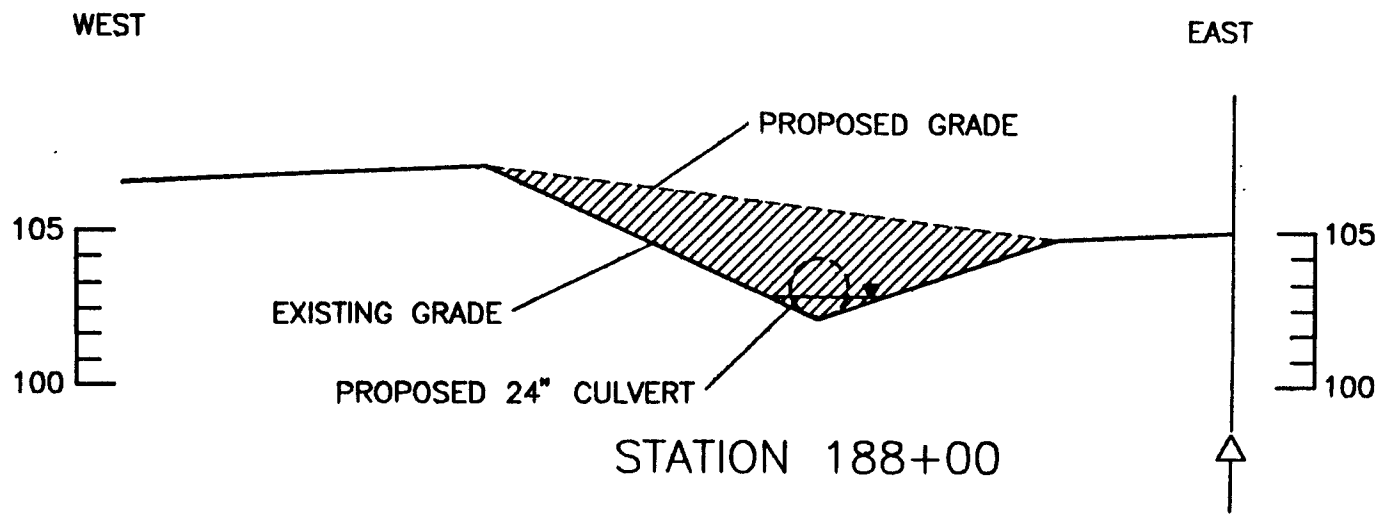
0 200 400 600

SCALE 1"=400'

DATE: 7/17/91

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

FIGURE 13

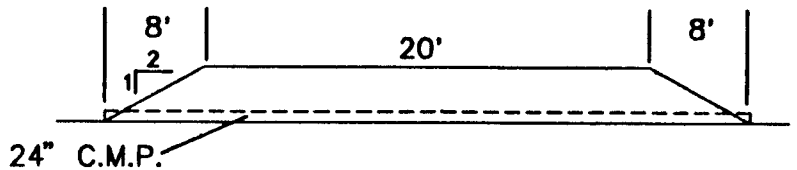


PAYNE CREEK/SHIRTTAIL BRANCH AREA
WEST RAILROAD DITCH
SECTION LOOKING NORTH
DER JURISDICTIONAL AREA
n.t.s.

Christa Dale Jones 9/24/91

LEGEND

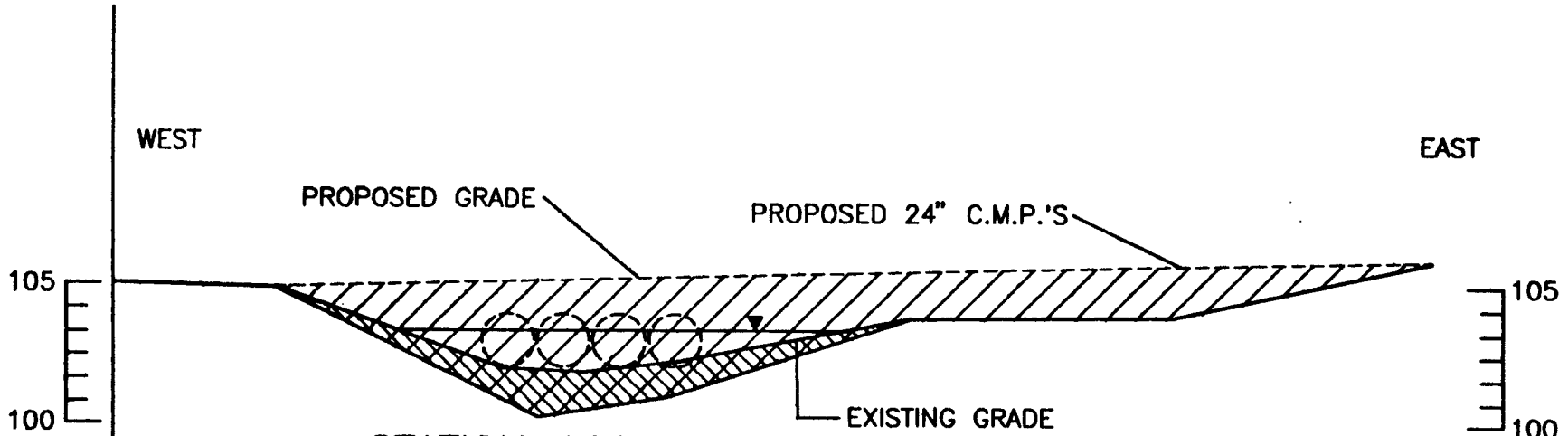
- ▼ WATER LEVEL 7/12/91
- ------ PROPOSED ROADWAY
- ◯ PROPOSED 24" C.M.P. 40' LONG
- ▨ PROPOSED GRADE



TYPICAL ROADWAY SECTION

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

FIGURE 14



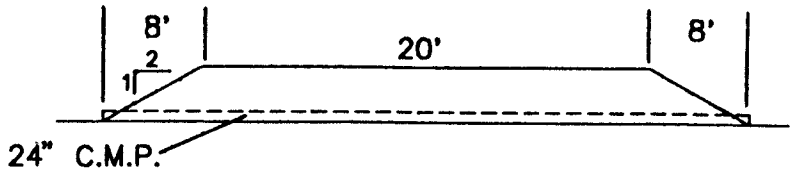
STATION 161+00

PAYNE CREEK/SHIRTTAIL BRANCH AREA
EAST RAILROAD DITCH
SECTION LOOKING NORTH
DER JURISDICTIONAL AREA
n.t.s.

Clinton Dale Tomm 9/24/91

LEGEND

- ▼ WATER LEVEL 7/12/91
- ------ PROPOSED ROADWAY
- ○ PROPOSED 24" C.M.P. 40' LONG
- ▨ PROPOSED GRADE (TO BE FILLED)
- ▨ AREA TO BE EXCAVATED



TYPICAL ROADWAY SECTION

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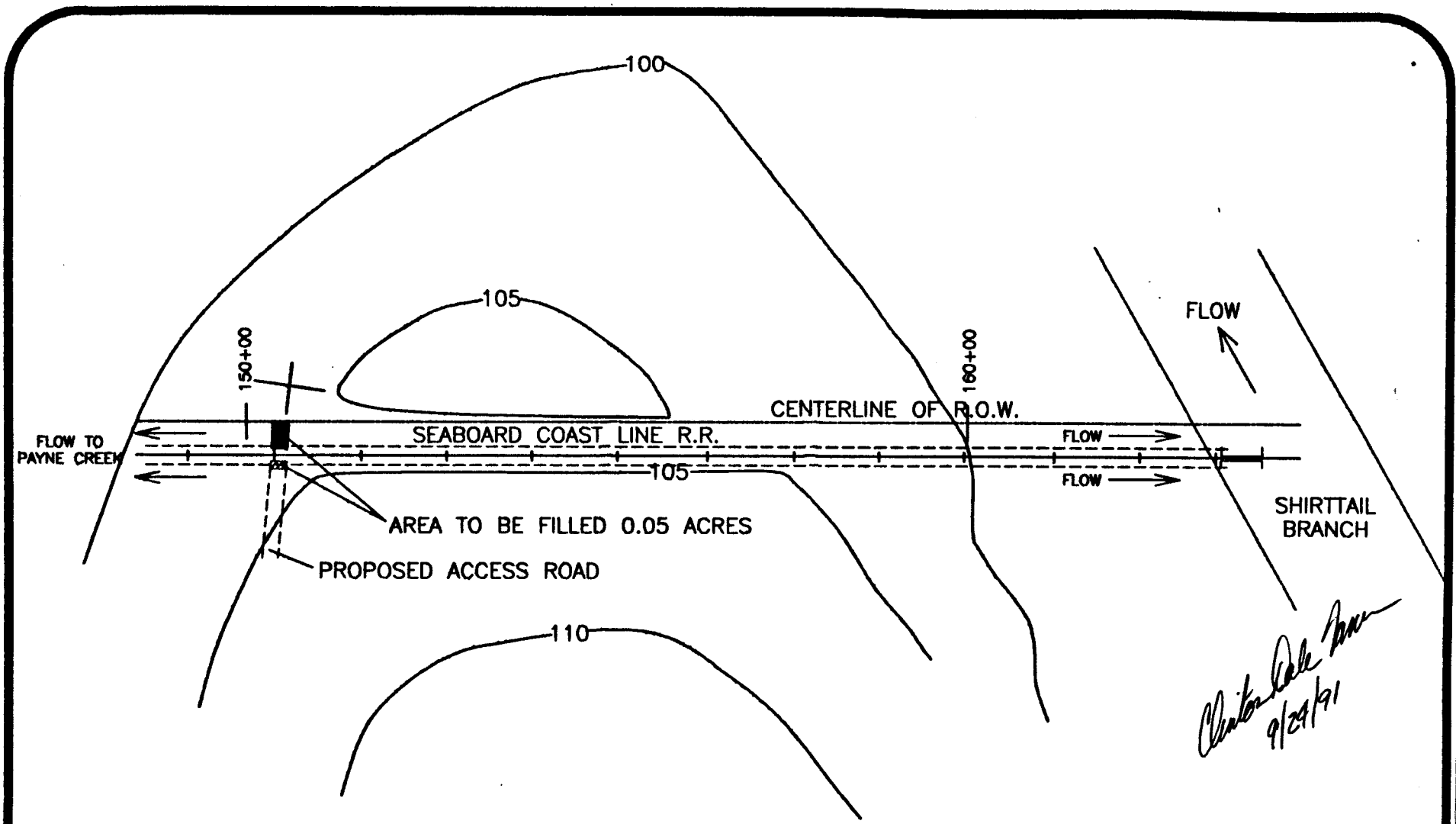
FIGURE 15



SOURCE: USGS QUAD
FT. GREEN SPRINGS

N

0 100 200 300

DATE: 7/17/91

PAYNE CREEK/SHIRTTAIL BRANCH AREA
RAILROAD DITCH CROSSING
DER JURISDICTIONAL AREA

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

FIGURE 16

APPENDIX C

HARDEE POWER STATION 230 KV TRANSMISSION LINE

REVISED MITIGATION PLAN

HARDEE - LEE

QUALITATIVE WETLAND ASSESSMENTS FOR THE PROPOSED WETLAND CREATION AND ENHANCEMENT AREAS ON THE C. M. WEBB WILDLIFE MANAGEMENT AREA FOR THE SEMINOLE ELECTRIC COOPERATIVE INC HARDEE-VANDOLAH-LEE 230KV TRANSMISSION LINE

During August and September, 1991 preliminary wetland assessments were completed on areas of the CM Webb Wildlife Management Area (CMWWMA) to determine the existing conditions of potential wetland creation, enhancement and restoration areas. Two overall wetland compensation areas are proposed at this time. A combined wetland restoration and creation plan has been developed at the Myrtle Slough area in the north central area of the CMWWMA, and a wetland enhancement plan has been developed associated with Webb Lake at the southwest area of the CMWWMA. All wetlands associated with each of these two areas have been evaluated for existing conditions including topography, water elevations, vegetation cover and historic conditions. Preliminary input regarding these mitigation concepts has been obtained from representatives of the Florida Game and Fresh Water Fish Commission (FGFWFC), the Florida Department of Environmental Regulation (FDER) and the Southwest Florida Water Management District (SWFWMD). The following narrative provides a brief description of each compensation area.

AREA 1 MYRTLE SLOUGH - NORTHERN TRIBUTARY (WEST)

This 11.0 acre area lies approximately 4,400' south of S.R. 74 on the east side of the abandoned railroad grade. Historically this area was characterized as a wet prairie/marsh but the construction of the railroad grade and canal eliminated the wetland. The predominant land feature of the area is a ditch scour which meanders eastward and ranges in depth from three to four feet. The historic wetland delineation is marked by a well-defined saw palmetto line. Bahia grass is virtually the only ground cover species. A variable canopy of slash pine is present throughout the area. This historic wetland area is proposed for wetland creation by establishment of an earthen berm along the canal. The restored wetland hydroperiod, along with supplemental tree seedling plantings will create a mix of forested and herbaceous wetlands.

AREA 2 MYRTLE SLOUGH - NORTHERN TRIBUTARY (EAST)

This wetland area covers a total of approximately 30.9 acres contiguous to and east of Area 1. The ditch scour is less severe averaging one to three feet in depth and extends eastward for a distance of 1,300'. The same variable canopy of slash pine is present throughout this wetland. However, the area supports a sufficient cover of transitional and submerged herbaceous species as ground cover. As a result, the area will be considered jurisdictional wetlands by the environmental agencies. Essentially, this area

has been less severely impacted by the canal and ditch scour. Standing water does collect in some areas of the wetland in response to storm events. Throughout most of the wetland, the significant impact has been to the wetland hydroperiod which has been lowered and shortened. The wetland ground cover includes a diverse array of herbaceous vegetative species characteristic of shallow wetland systems. The reestablishment of the wetland hydroperiod is expected to provide a more diverse and normal wetland vegetative assemblage.

AREA 3 MYRTLE SLOUGH - CENTRAL TRIBUTARY

This middle slough tributary area lies 6,800' south of S.R. 74 and covers approximately 74.1 acres eastward from the railroad grade and canal. The predominant feature is a shallow ditch scour/fire line which extends eastward for 3,400'. At its point of connection to the canal, the ditch averages two to three feet in depth. East of the first central marsh area it is contiguous to a fire line that averages one half to one foot in depth. The first central marsh area is characterized by torpedo grass and a variety of transitional and submerged wetland vegetative species. The outer perimeter of the wetland supports encroaching slash pine seedlings. Further east, the shallow prairie is less severely impacted by the ditch and wetland vegetation is diverse and vigorous. Within this entire tributary, no loss of wetland area has been caused by the ditch scour and canal. However, as in the northern slough, the wetland hydroperiod has been lowered and is maintained for shorter periods of time following storm events. This area is proposed for restoration by placement of an earthen berm within the wetland and along the canal in order to reestablish the wetland hydroperiod and vegetation.

AREA 4 MYRTLE SLOUGH - SOUTHERN TRIBUTARY

Approximately 10,800' south of S.R. 74 the southern tributary to Myrtle Slough is intercepted by the abandoned railroad grade canal. This wetland area covers approximately 28.5 acres and extends southeastward from the railroad grade. No ditch scour is present at this wetland, rather the canal itself conducts water northward from the shallow prairie. Preliminary land surveying determined that the hydroperiod has been affected by approximately 0.2' to 0.4'. This lowering of wetland water elevations precludes sustained flooding of the wetland margins. Wetland vegetation shows some signs of negative effect in these areas, largely a result of the hydroperiod change. The vegetation of the wetland is typical of most wet prairies being largely transitional herbs. A relatively small earthen berm is proposed within the wetland and along the canal to restore the wetland hydroperiod.

AREA 5 MYRTLE SLOUGH - WEST PASTURE

On the west side of the abandoned railroad grade is an approximate 49.6 acre pasture characterized by bahia grass and some occasional clumps of saw palmetto. Portions of

the pasture lie adjacent to existing wetland areas which contribute to Myrtle Slough. At the western extent of the pasture the land elevations are low relative to the adjacent wetland hydroperiod. Historically, the pastures were pine flatwoods but have been managed for agricultural and wildlife uses. This area is proposed for excavation, grading, topsoil placement and planting to create a diverse wetland system and can be either contiguous to or isolated from state waters.

WEBB LAKE - LITTORAL ZONE

The littoral zone on Webb Lake is located on a convoluted shoreline which extends for approximately 21 miles on the 394.5 acre lake. The shoreline is characterized by a very sparse cover of some wetland vegetation including maidencane, spikerushes, (*Fuirena scirpoidea*), and very infrequent pickerelweed and arrowhead. Total vegetation cover rarely reaches 10% at any one area. The exceptions are some lake littoral zones previously planted by the FGFWFC. The littoral zone areas are proposed for enhancement by supplemental planting of aquatic vegetation.

WEBB LAKE - ADJACENT LAKE AREAS

Adjacent to the Webb Lake shoreline are a variety of cleared land areas which are a result of the previous construction activities. These areas are presently characterized as wetlands as a result of saturated or inundated soils and presently support a limited cover of wetland vegetation. Some of the prior construction activities also disrupted and cleared a variety of existing marsh systems. Predominant species include a limited cover of pickerelweed, arrowhead, cattail, whitetop sedge, St. John's wort, sawgrass, (*Hyptis alata*), (*Ludwigia sp.*) marsh fleabane, sawgrass, Queens delight and milk white. Total vegetative cover rarely exceeds 10% in any wetland area. These wetland areas are proposed for enhancement by supplemental planting of aquatic vegetation.

WETLAND COMPENSATION PLANS FOR RESTORATION, CREATION AND ENHANCEMENT ON THE C. M. WEBB WILDLIFE MANAGEMENT AREA FOR THE SEMINOLE ELECTRIC COOPERATIVE INC HARDEE-VANDOLAH-LEE 230 KV TRANSMISSION LINE

RESTORATION

Restoration of existing wetland systems on the C. M. Webb Wildlife Management Area (CMWWMA) is proposed at Myrtle Slough in Areas 2, 3 and 4. This areas are expected to respond positively to increased and restored water elevations as a result of the earthen berm placements. Each wetland berm will have a design invert at the historic seasonal high water table elevation. Thereafter, the restored water elevations will provide for wetland vegetation reestablishment and the complete return of historic wetland functions.

CREATION

Creation of wetland systems is proposed at two areas of the CMWWMA. At the northern tributary of Myrtle Slough in Area 1 the placement of the earthen berm will provide for the reestablishment of historic wetland water elevations. This is expected to cause the immediate response of wetland vegetation species to recruit to this area and begin a quick re-establishment of a vegetated wetland system. In addition, the compensation plan proposes the planting of a variety of wetland hardwood tree seedlings to diversify the wetland habitat.

A standard wetland mitigation plan is proposed in the west pasture at Area 5. This area will be excavated to appropriate elevations, graded with an organic top soil and then planted with a diverse mix of herbaceous, shrub and forested wetland species. Wetland elevations will be designed relative to the adjacent wetland hydroperiod.

ENHANCEMENT

The Webb Lake littoral zones and adjacent lake areas are proposed for substantial supplemental vegetation plantings in order to establish diverse and extensive wetland communities. Within the lake, herbaceous vegetation such as pickerelweed, arrowhead, soft rush, smooth cordgrass, thalia, iris, canna lily and water lilies are proposed to be planted on 3' and 5' centers to establish the vegetated wetland communities.

In the adjacent lake areas, a variety of tree seedlings and shrub species will be planted to establish wetland hardwood and shrub systems. These plantings will supplement the minimal wetland vegetation presently in these areas. The trees and shrubs will be planted on 10' and 5' centers respectively in order to establish wetland systems which will enhance the wildlife habitat and wetland values of the lake.

WETLAND MONITORING
FOR THE RESTORATION, CREATION AND ENHANCEMENT
OF WETLAND AREAS ON THE
C. M. WEBB WILDLIFE MANAGEMENT AREA
FOR SEMINOLE ELECTRIC COOPERATIVE INC

Wetland compensation monitoring will be designed to determine the success of each wetland compensation area. Specific monitoring and success criteria will be established for each wetland area dependent on the existing conditions and the goal of each wetland compensation area.

Monitoring will primarily evaluate wetland vegetation responses and percent cover. At the wetland restoration areas, water levels will be observed carefully to determine the consequences and correlations of the increased water levels on the vegetation and other wetland functions.

Other criteria which will be assessed will include percent survival and percent coverage of planted vegetation in the wetland enhancement and creation areas. Nuisance vegetation will also be assessed to ensure that desirable vegetation species are not outcompeted.

Monitoring events will be scheduled to meet the requirements of each compensation area. They will be scheduled on a semi-annual or quarterly basis with reports to be submitted to the environmental agencies within 30 days.

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WEBB LAKE ENHANCEMENT

In 1983, the Florida Department of Transportation (FDOT) completed the construction of Webb Lake in the southwest portion of the CMWWMA. This approximate 395 acre lake served as borrow for construction of Interstate 75. Based on FGFWFC design requirements, the lake was constructed with 10:1 and 4:1 side slopes over 21 miles of convoluted lake shoreline. Also, adjacent to the lake shoreline are many areas cleared by the construction which have saturated or inundated soils that could support substantial additional wetland vegetation plantings. Portions of these areas have recruited some wetland vegetation but the majority of them have a very limited coverage.

SECI proposes to provide wetland vegetation plantings for enhancement of large portions of the lake littoral zone and the adjacent lake areas. Herbaceous vegetation will be planted on the littoral shelves while forested planting areas can be located adjacent to the lake. Some of the areas adjacent to the lake may incorporate disturbed marsh edges which also could be enhanced or restored through vegetation planting.

As a result of field observations and conversations with FGFWFC there are several concerns with this plan. First, the lake experiences as much as four feet of water level fluctuation on a seasonal basis. This appears to be largely a result of altered drainage patterns outside of the Webb Lake area which has caused substantial additional surface water to flow to the lake. Further, discharge from the lake is provided at only two points. The first of these is a concrete box culvert located at the north end of the lake. The second area is a road overflow lying midway along the western shoreline. Both of these conveyances may be inadequately designed to provide adequate discharge.

Also, there has been a low level of wetland vegetation recruitment to the lake littoral zones over the past eight years. This may be a result of several factors: 1) the sediments are comprised of low nutrient mineral sands which may provide an inadequate substrate for plant growth; 2) the lake acts as a reservoir because of the two discharge points and this may result in a substantial export of the lake plankton community and associated nutrients; 3) the FGFWFC has an ongoing program of herbicide spraying along the shoreline to eliminate cattails and algae mats; 4) until recently cattle grazing occurred within this area of the CMWWMA and some disturbance to the lake littoral zones may have resulted. All of these factors may partly or wholly explain the lack of desirable vegetation recruitment in the lake and the pressure of the cattails and algae mats on areas of the littoral shelves.

Further assessment of the lake by the environmental agencies will be necessary to determine the appropriate methods of wetland enhancement. This will then allow the finalization of a planting plan within and adjacent to the lake to provide wetland mitigation credit for the construction of the 230 kV transmission line.

HALL TRACT PRESERVATION

For the 13 miles of powerline corridor located on the CMWWMA, SECI proposes to dedicate the approximate 465 acre Hall Tract to the FGFWFC. This tract has substantial wetland areas associated with it which can be considered as preservation to provide compensation for encroachments to wetlands. A detailed wetland mapping and assessment of the Tract will be completed for review by the environmental agencies.

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TABLE 1 – THE WEBB LAKE PROPOSED WETLAND ENHANCEMENT AREAS AND ACREAGES DETERMINED FROM FIELD ASSESSMENTS IN AUGUST & SEPTEMBER, 1991 *

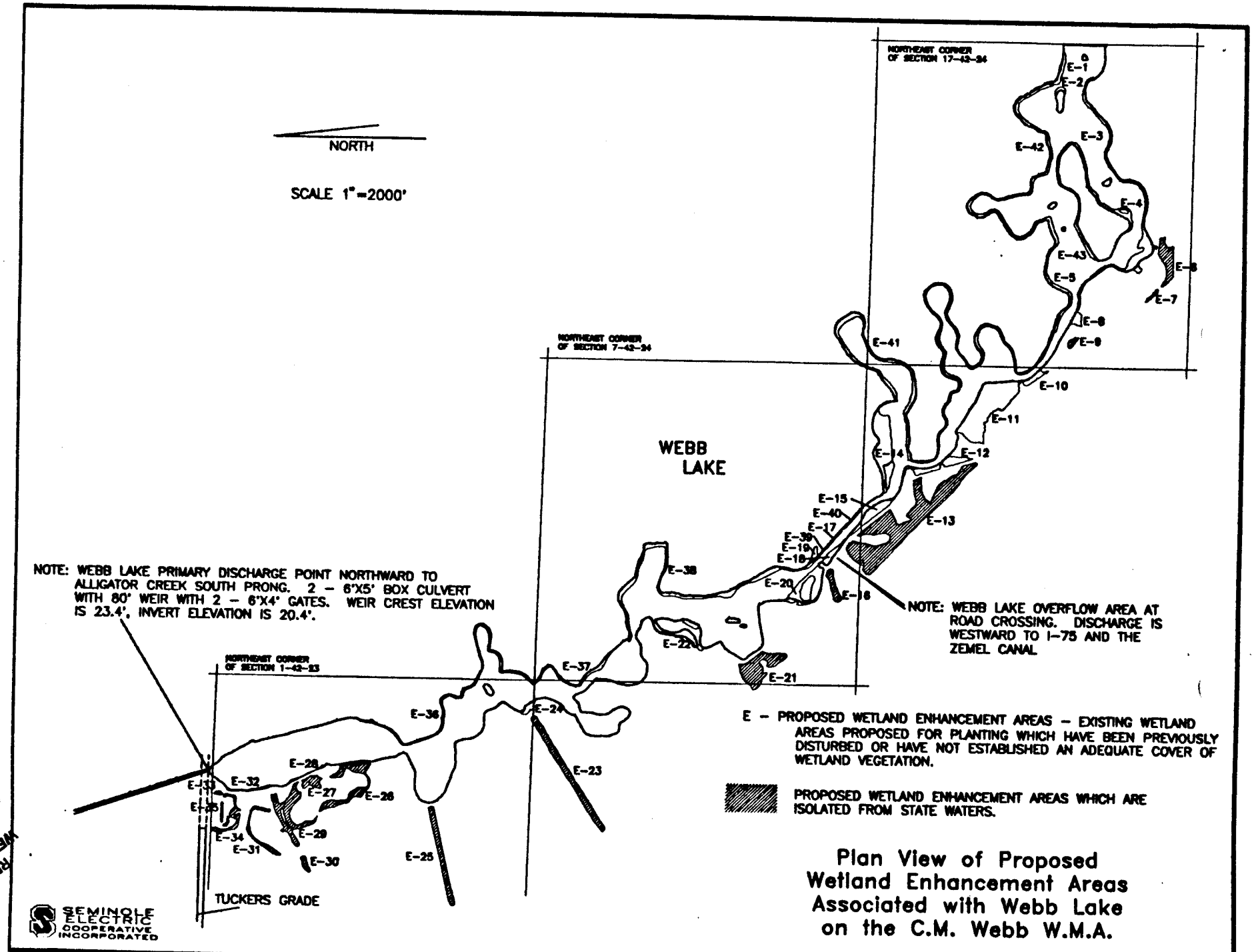
AREA	PROPOSED WETLAND ENHANCEMENT AREAS (acres)
E1	0.8
E2	0.3
E3	6.5
E4	1.1
E5	1.2
E6	2.6
E7	0.2
E8	0.7
E9	0.4
E10	0.8
E11	11.1
E12	2.3
E13	19.0
E14	1.0
E15	2.2
E16	1.2
E17	0.2
E18	0.9
E19	0.7
E20	3.9
E21	5.0
E22	3.5
E23	4.7
E24	0.5
E25	3.2
E26	3.6
E27	1.1
E28	0.2
E29	4.6
E30	0.4
E31	1.2
E32	0.4
E33	0.2
E34	1.6
E35	0.2
E36	3.3
E37	1.3
E38	5.8
E39	0.1
E40	0.2
E41	17.0
E42	5.7
E43	2.8
TOTAL	87.50 acres

Webb Lake Total Area = 394.5 acres

* Revised: September 18, 1991

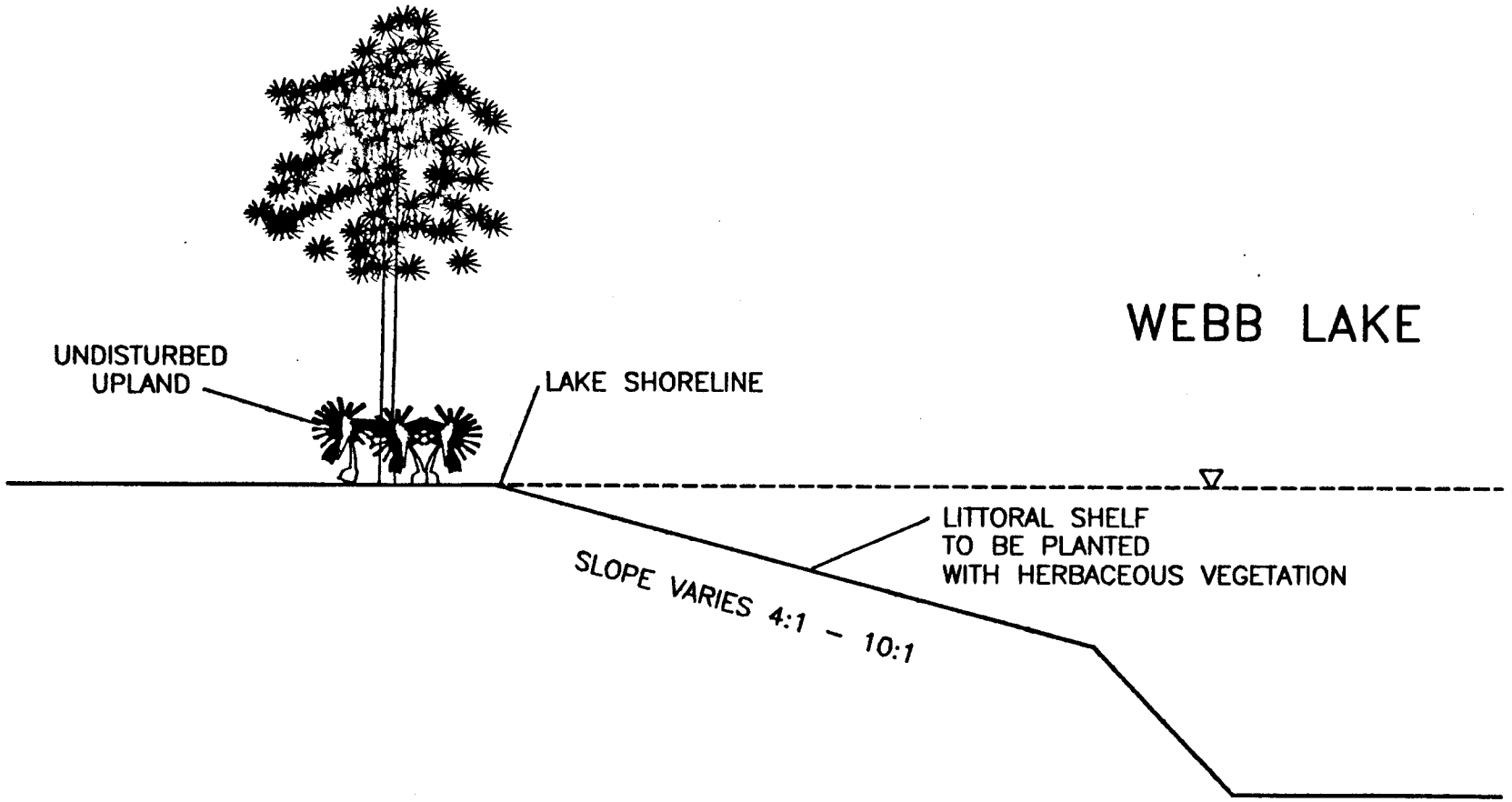
TABLE 2 – THE PROPOSED WETLAND RESTORATION AND CREATION ACREAGES ASSOCIATED WITH THE TRIBUTARIES OF MYRTLE SLOUGH ON THE C.M. WEBB W.M.A.

AREA	ACREAGE
WETLAND CREATION – AREA 1	11.0
WETLAND RESTORATION – AREA 2	30.9
WETLAND RESTORATION – AREA 3	74.1
WETLAND RESTORATION – AREA 4	28.5
WETLAND CREATION – AREA 5	19.0
POTENTIAL WETLAND CREATION (west pasture) (Forest, Shrub, Marsh)	30.6
POTENTIAL WETLAND CREATION (east pasture) (Forest, Shrub, Marsh)	37.0



Plan View of Proposed Wetland Enhancement Areas Associated with Webb Lake on the C.M. Webb W.M.A.

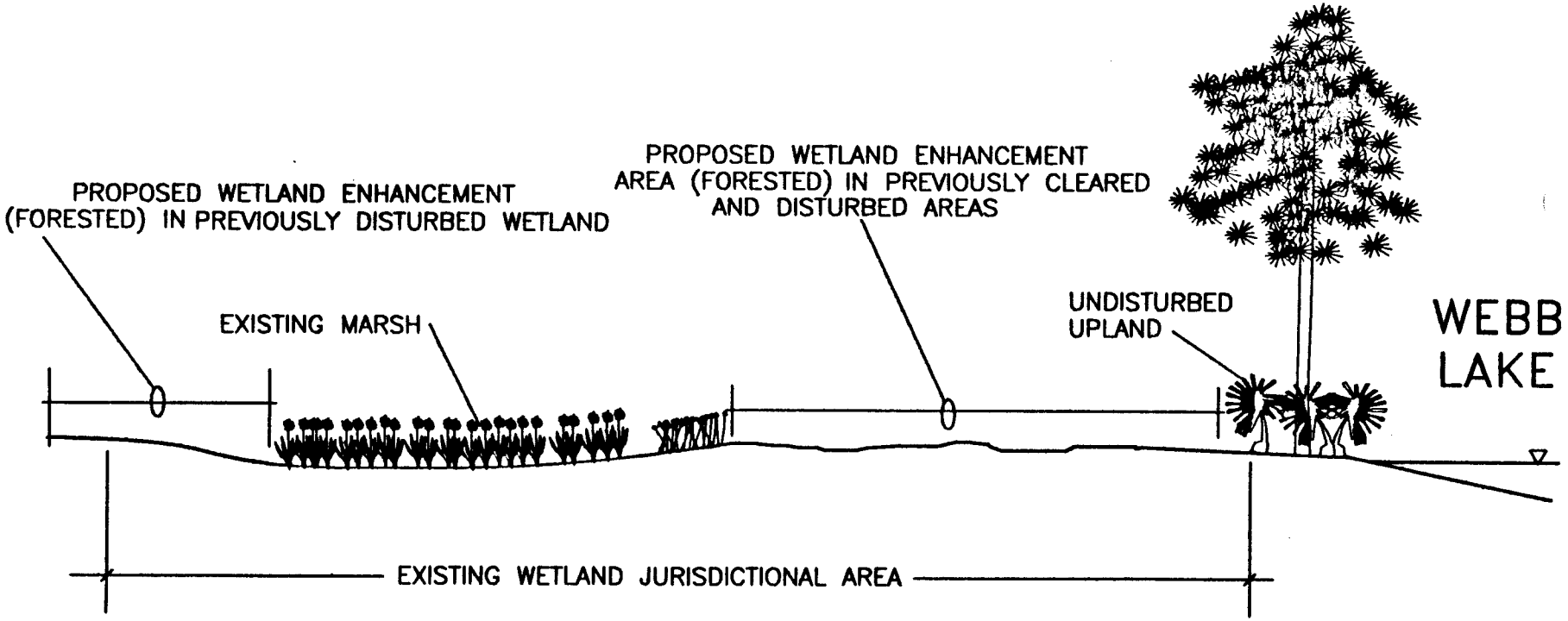
EXHIBIT A



Typical Cross Section of Proposed Littoral Zone Planting on Webb Lake

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

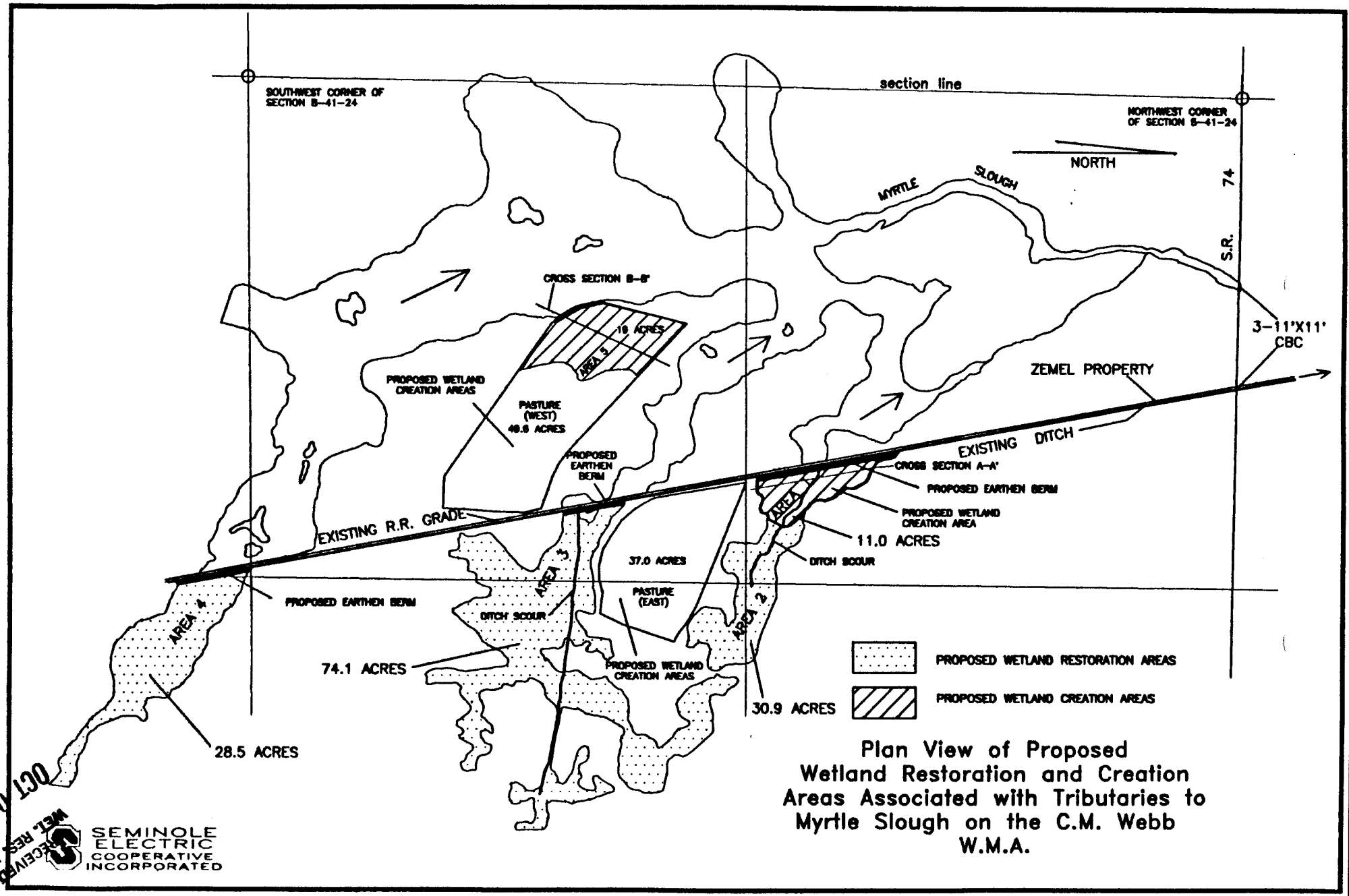
EXHIBIT B



Typical Cross Section of Adjacent Webb Lake Areas Proposed for Wetland Enhancement

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

EXHIBIT C



Plan View of Proposed Wetland Restoration and Creation Areas Associated with Tributaries to Myrtle Slough on the C.M. Webb W.M.A.

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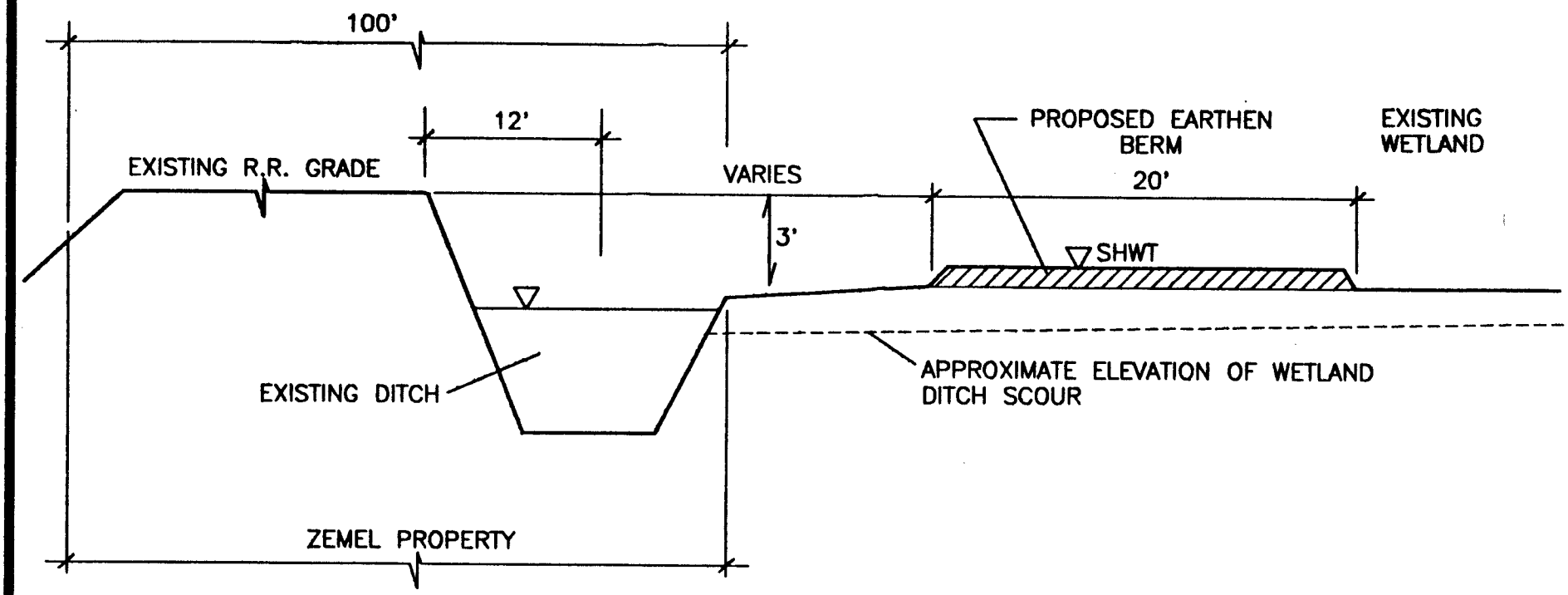
RECEIVED OCT 03 1991 WET. RES. MGT.

EXHIBIT D

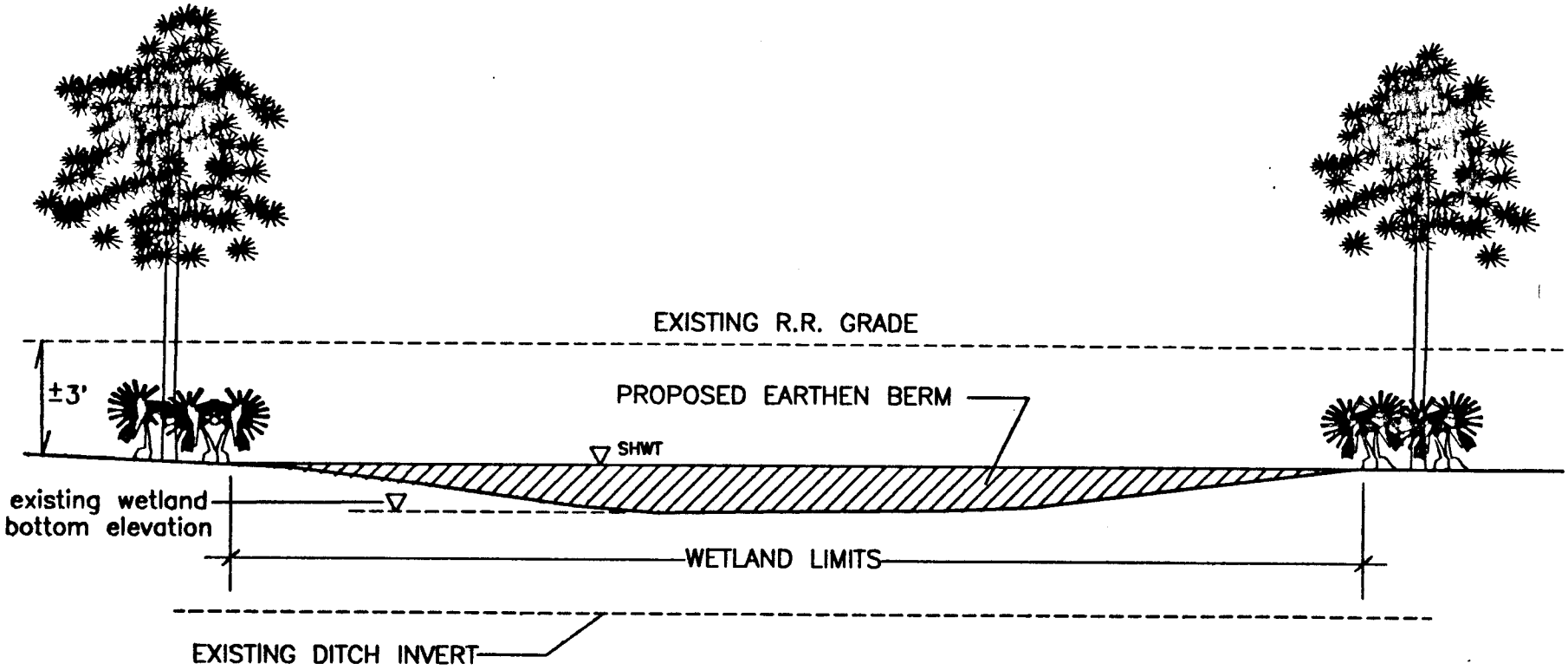


n.t.s.

Typical Cross Section of Earthen Berm at Restored Wetland of Myrtle Slough

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

EXHIBIT E



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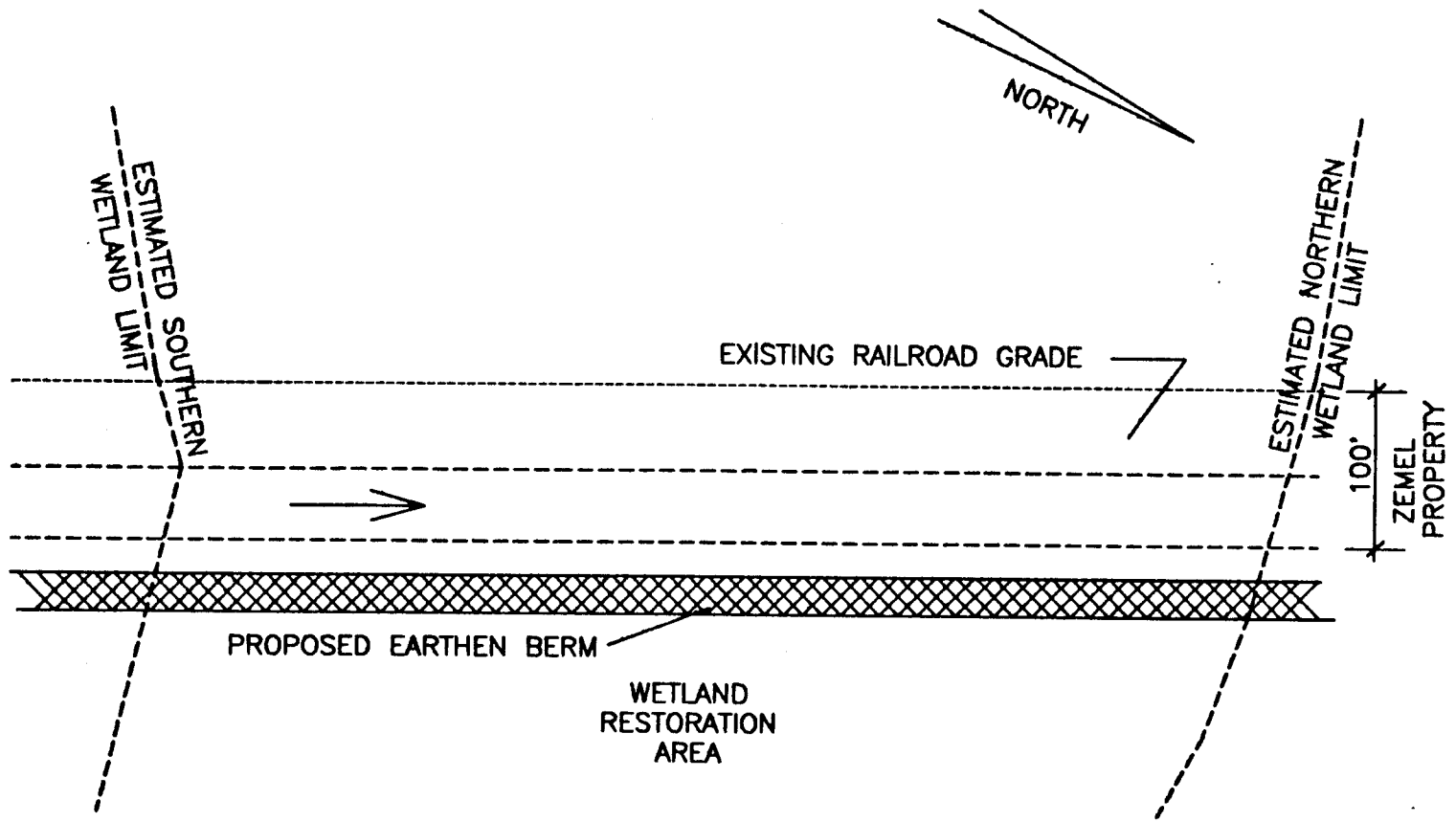
Profile of Proposed Earthen Berm at Restored Wetland of Myrtle Slough

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

EXHIBIT F



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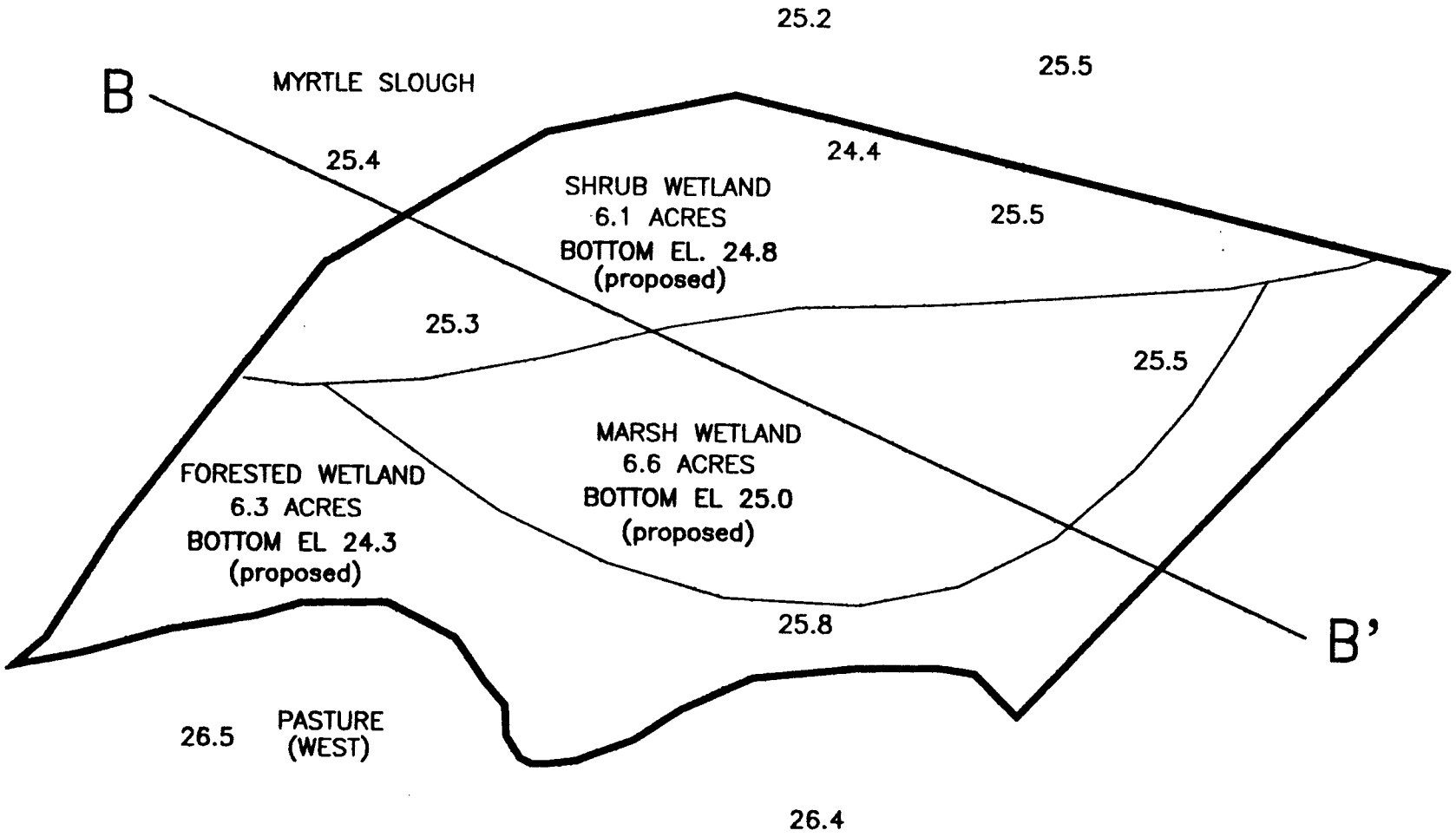
Plan View of Proposed Earthen Berm at Restored Wetland of Myrtle Slough

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

EXHIBIT G

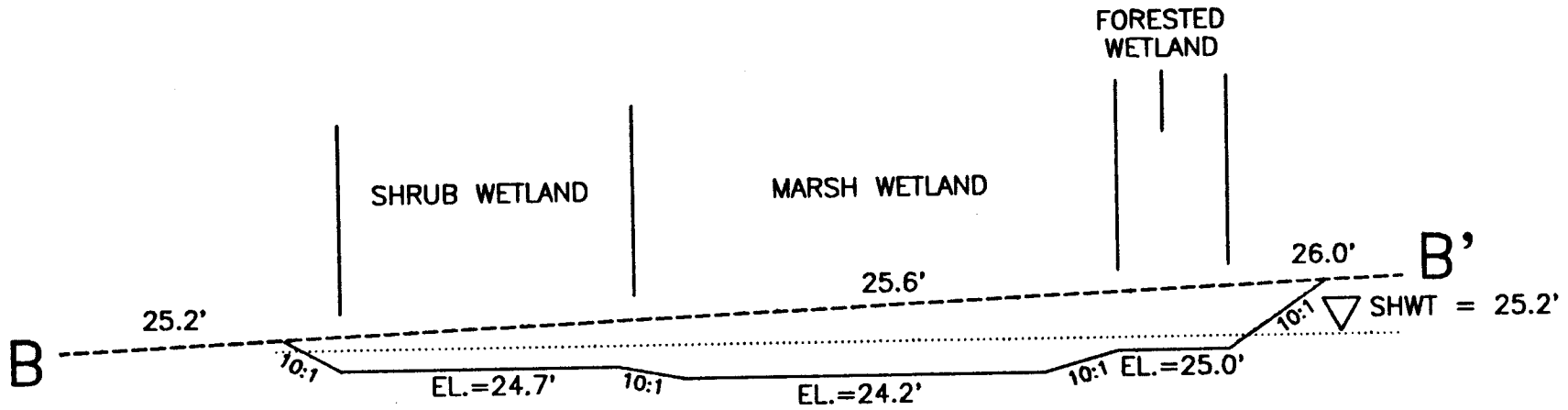


NOTE: SPOT ELEVATIONS ARE TAKEN SWFWMD AERIAL PHOTOGRAPHS DATED 4/84

Plan View of Proposed Wetland Creation
Area of West Pasture of Myrtle Slough

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

EXHIBIT H



Proposed Cross Section of Wetland Creation
Area at West Pasture of Myrtle Slough

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

EXHIBIT 1