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DEC 20 1991

December 17, 1991

D. E. A.
SITING COORDINATOR

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 - Vandolah to South Arcadia Transmission Line.

Attached are an original and 3 copies of post certification submittals for the Vandolah Substation to South Arcadia transmission line. These submittals include the original for DER Water Management Resource Section. We have included drawings, text, and plan/profile drawings of the right-of-way as well as documents that will address wetland mitigation. We have already supplied 2 copies of these documents to the SWFWMD in Bartow. Please note that the area covered by this portion of the transmission line is all within the Southwest Florida Water Management District and not SFWMD jurisdiction.

The DER Water Management Resource Section has already reviewed this portion of the line in compliance with Condition XXIX for ROW alignment. Ms. Trudy Bell sent her approval of the ROW alignment to you on November 26, 1991. In hindsight, we realize we were suppose to send your office documents in accordance with Condition XXIX, the attached documents will serve this purpose. Please contact me at 813-963-0994 if you have any questions or comments concerning this submittal.

Sincerely,

Robert E. Varbrough
Robert E. Varbrough
Environmental Engineer

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HARDEE POWER STATION
CERTIFICATION PA 89-25
POST CERTIFICATION SUBMITTAL

VANDOLAH - SOUTH ARCADIA TRANSMISSION LINE

PROJECT OVERVIEW

Seminole Electric Cooperative, Inc. (SECI) and TECO Power Services (TPS) have certified the Hardee Power Station and associated transmission line corridors through the Florida Electric Power Plant Siting Act. The certification PA 89-25 was approved by the Governor and Cabinet on November 27, 1990. This information and application are submitted in compliance with post certification conditions for the construction of a transmission line from the Vandolah substation in Hardee County to the structure PI-37 approximately 2 miles south of Arcadia, Florida. The information supplied responds directly to the Post Certification Conditions. The remaining post certification information for the 44 remaining miles of the certified transmission line will be submitted later this year.

This proposed segment of transmission line is approximately 23 miles in length (Fig. 1) and will consist of a single circuit 230 Kv transmission line. The required structures will be single, self supporting steel poles (Fig. 2), and steel "H" frame structures designed to meet standards set forth by the "Environmental Criteria for Electric Transmission Systems" as published jointly by the U.S. Dept. of the Interior and the U.S. Dept. of Agriculture and the National Electric Safety Code. Every effort has been put forth to minimize environmental impact where feasible.

INFORMATION IN RESPONSE TO POST CERTIFICATION CONDITIONS

Refer to Appendix E and F for the Conditions of Certification.

Condition XXIX - This submittal includes 1"=200' aeriels with the proposed right-of-way (ROW), structures, access roads, and construction pads. In compliance with this condition, the ROW and wetland limits were sent to Ms. Trudy Bell of the DER Water Management Resource section in August, 1991 and to the Southwest Florida Water Management District in October, 1991.

Condition XXXII 1, 2, 3.

Response - The proposed transmission line will be constructed along the right-of-way (ROW) depicted in the attached figures and the plan/profile drawings with the steel structures, access roads, and associated maintenance pads indicated. Construction of these facilities is designed to avoid wetlands wherever feasible. Avoidance of wetland impacts include variance of span length, utilization of existing roads without additional fill, minimization of stream crossings with access roads by alternative routing and back tracking. The corduroy roads are proposed as a biodegradable fill material that will allow a temporary impact to these areas.

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Condition XXXII 4.

Response - The ecological survey for threatened and endangered species was accomplished during June/July, 1991 by the consulting firm Environmental Consulting and Technology, Inc. The resulting report was submitted in August, 1991.

Condition XXXII 5.

Response - Archaeologically sensitive areas along the ROW were surveyed by an archeological team headed by Dr. Richard Williams of the University of South Florida during the months of September, 1990 and July, 1991. The resulting report was submitted in August, 1991.

Condition XXXII 6.

Response - Fill will be limited to the poles, access roads, corduroy roads, and maintenance pads required for normal construction and maintenance of the transmission structures. The poles to be used within the wetland areas will be approximately 3 foot diameter embedded steel structures. Fill utilized for the roads and construction pads will typically be hauled in from local existing borrow pits outside of the corridor. No fill will be excavated from natural wetlands within the ROW. The areas requiring fill are indicated on the attached plan/profile drawings and the attached Figures.

Condition XXXII 7, 8.

Response - A mitigation plan is attached in Appendix A.

Condition XXXII 12, 13.

Response - Appendix B includes a description of the wetlands to be impacted along the ROW. As indicated in this information, no Brazilian Pepper, Australian Pine, or Melaleuca were found within the ROW. A plan to control these species will be submitted following construction.

Condition XXXII 14, 15, 16, 17, 18.

Response - Construction within the wetlands will include the use of low ground pressure vehicles including rubber tire and track vehicles. Initial activity in the forested wetlands will include clearing of trees along the ROW with the use of chain saws. The trees will remain where felled which will be in alignment with stream flow if any. Shrub species will not be cleared and will remain as habitat. Disturbed shrub wetlands will be cleared using bush hog type equipment. Marsh areas will not be cleared.

Construction of access roads and maintenance pads will be accomplished with heavy earthmoving equipment such as dump trucks and bulldozers with all equipment activity limited to areas to be filled. During earthmoving activities, turbidity screens or hay bales will be utilized and maintained to limit discharges of turbid runoff from the construction site. Silt fences will be utilized when earthmoving is required in upland areas directly adjacent to wetland areas. No earthmoving is anticipated in any flowing waters. The side slopes of maintenance pads and access roads will be stabilized with appropriate grassing techniques.

After the structures are built, the conductors and ground wires will be

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strung between poles in wetland areas with the use of track vehicles. Impacts are expected to be very temporary and every effort will be made to minimize soil disturbances.

Condition XXXII 19.

Response - No de-watering will be required for pole placement, road or maintenance pad construction in upland or wetland areas.

Condition XXXV C. 2.

Response - Wetland jurisdictional areas indicated on the attached figures have been submitted to the Bartow SWFWMD office for approval.

a. The centerline profile, as determined by aerial photometric methods and ground truthing in some wetland areas, is included in the plan-profile drawings and the attached figures. The wetlands are also indicated on the attached figures with community types and impacts indicated.

b. Access road and maintenance pad designs are indicated on the plan-profile drawings and the attached figures. Elevations are typically designed to have access road and maintenance pads to be constructed ± 1 foot above seasonal high water elevations as determined by biological indicators in the field such as stain lines, moss collars, and adventitious roots.

c. Cross sections of typical access roads and maintenance pads are indicated in Figures and . Please note in order to maintain 2:1 side slopes varying thicknesses of fill require different areas to be filled.

d. Wetland cross sections are shown on the plan-profile drawings and the attached figures.

e. Structure locations and areas to be filled are shown on the plan-profile drawings and the attached figures.

f. The only access roads that will require culverts is the crossing of Oak Creek (see Figure). The culverts are designed to have equivalent flow to a nearby upstream FDOT culvert under SR663.

g. The cross sections of proposed fill areas are shown on the plan-profile drawings and Figures .

h. Wet season surface water elevations are indicated on drawings as SHW (Seasonal High Water).

Condition XXXV C.4.

Response - A culvert is required for the Oak Creek area (see response to condition XXXV C.2.f). The other access roads will not affect hydroperiods, drainage patterns, or sheetflow along the ROW.

Condition XL. A. - Hardee County

Response - The transmission line shall be operated in conformance with Hardee County Ordinance No. 82-2.

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Condition XL. B.

Response - The ROW has been located to minimize impacts with the existing land use. It will not be necessary to take any homes along the ROW.

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TABLE 1
WETLAND ACTIVITIES
(FDER/SWFMD JURISDICTION)

FORESTED WETLAND			DISTURBED SHRUB WETLAND			MARSH	UPLAND DITCH
WETLAND	CLEARED	FILLED	CLEARED	FILLED	CORD.RD	FILLED	FILLED
M	-	-	-	-	***	**	-
N	-	-	0.05	-	0.01	-	-
O	-	-	-	-	-	**	-
P	-	-	0.05	-	0.01	-	-
Q	-	-	-	-	-	***	-
R	-	-	0.06	-	0.01	-	-
S	-	-	**	**	-	-	-
T	-	-	-	-	-	**	-
U	-	-	0.19	-	0.04	-	-
W	-	-	1.67	-	0.01	**	-
X,Y,Z	-	-	-	-	-	***	-
AA	0.60	-	-	-	-	-	-
BB	-	-	1.33	0.06	-	-	-
CC	-	-	-	-	-	**	-
DD	-	-	-	-	-	**	-
EE	-	-	-	-	-	-	**
FF	-	-	-	-	-	-	***
GG	0.11	0.07	-	-	-	-	-
HH	1.19	-	-	-	-	-	-
II	-	-	-	-	-	-	**
JJ	-	-	1.39***	0.28***	-	-	-
KK	1.07	0.05	0.74	-	-	-	-
LL,MM	0.52	-	-	-	-	-	-
NN	2.09	0.20	-	-	-	-	-
SUB-TOTAL	5.58	0.32	5.48	0.34	0.08	0.00	0.00

** No Clearing or Filling Required

*** Isolated Wetlands (Non-DER jurisdictional)

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**TABLE 1 (CONTINUED)
WETLAND ACTIVITIES
(FDER/SWFWMD JURISDICTION)**

FORESTED WETLAND			DISTURBED SHRUB WETLAND			MARSH	UPLAND DITCH
WETLAND	CLEARED	FILLED	CLEARED	FILLED	CORD.Rd	FILLED	FILLED
OO	-	-	2.05	-	-	-	-
PP	-	-	-	-	-	-	0.06
QQ	1.10	0.02	-	-	-	-	-
SS	1.51	0.75	-	-	-	-	-
TT	-	-	0.46	0.18	-	-	-
UU	-	-	0.07	-	0.01	-	-
VV	-	-	1.61	0.01	-	-	-
WW,XX, YY	*** 0.09	-	-	-	-	**	-
ZZ	-	-	1.42	0.22	-	-	-
BBB	-	-	-	-	-	***	-
CCC	-	-	-	-	-	***	-
DDD	-	-	-	-	-	**	-
EEE	-	-	2.54	0.19	-	-	-
FFF	-	-	0.17	-	-	-	-
GGG	-	-	0.67***	-	-	-	-
HHH	-	-	0.06	-	-	-	-
III	0.50	0.07	-	-	-	-	-
JJJ	-	-	1.06***	-	-	-	-
KKK	-	-	0.89	-	-	-	-
LLL	-	-	-	-	-	0.01	-
MMM	-	-	-	-	-	-	*****
SUB TOTAL	3.20	0.84	11.00	0.60	0.01	0.01	0.06

** No Clearing or Filling Required

*** Isolated Wetland (Non DER Jurisdiction)

***** Area is Peace River - Open Water

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TABLE 1 (CONTINUED)
WETLAND ACTIVITIES
(FDER/SWFMD JURISDICTION)

FORESTED WETLAND			DISTURBED SHRUB WETLAND			MARSH	UPLAND DITCH
WETLAND	CLEARED	FILLED	CLEARED	FILLED	CORD.RD	FILLED	FILLED
NNN	0.50	-	-	-	-	-	0.03
OOO	-	-	-	-	-	0.05*	-
PPP	0.05	-	-	-	-	-	-
QQQ	0.25	-	-	-	-	-	-
RRR	-	-	0.50***	-	-	-	-
SSS	0.83***	-	-	-	-	-	-
TTT	1.80	-	-	-	-	-	-
* *	-	-	-	-	-	-	0.01
SUB TOTAL	3.43	0.00	0.50	0.00	0.00	0.05	0.04
TOTAL SWFWMD	12.21	1.16	17.48	0.94	0.09	0.06	0.00
TOTAL DER	11.29	1.16	13.36	0.66	0.09	0.06	0.10

*** Isolated Wetland (Non DER Jurisdiction)

* Existing low water crossing (no actual fill to be used)

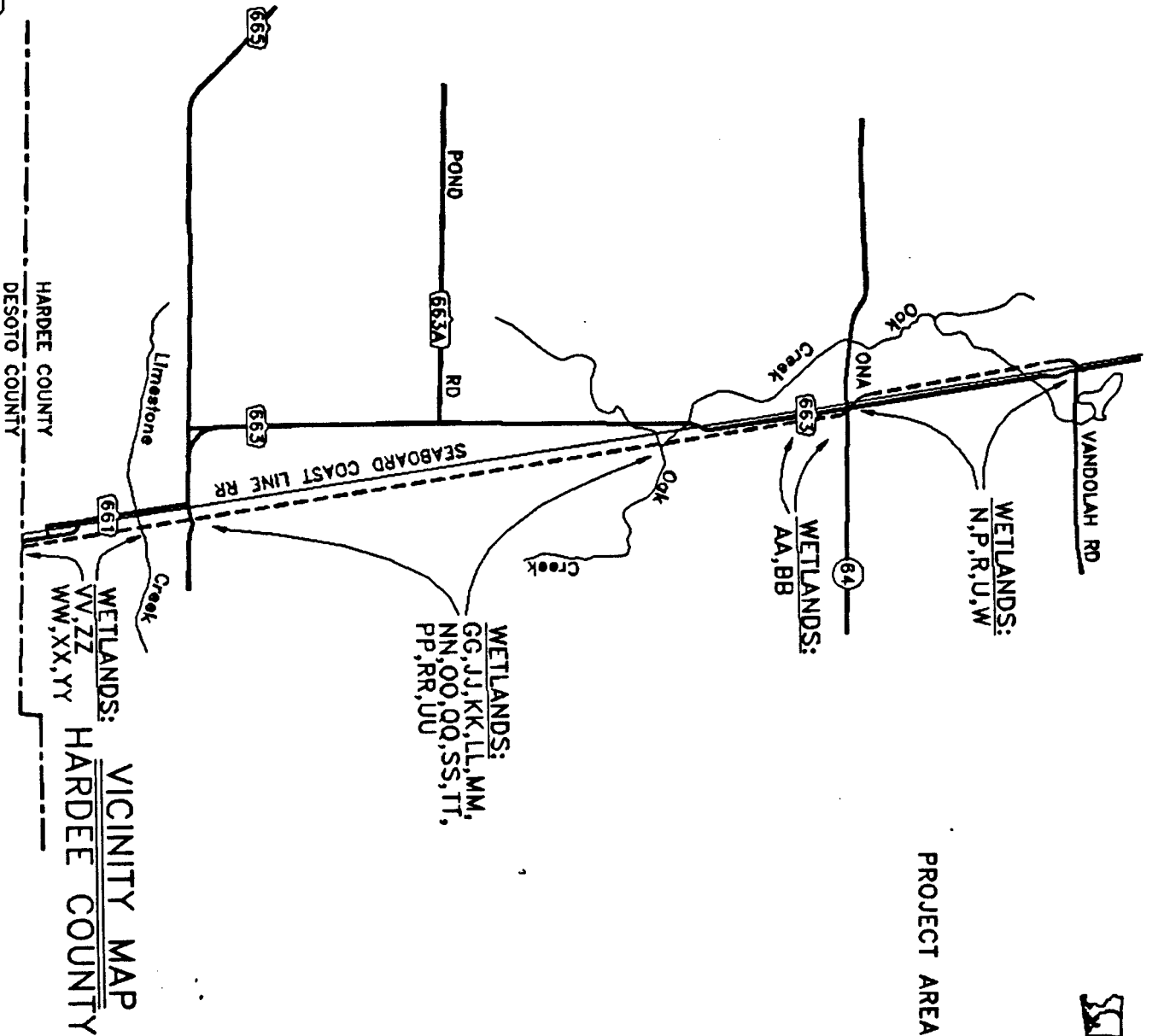
* * Ditch located at station 864+00 (Figure 42)

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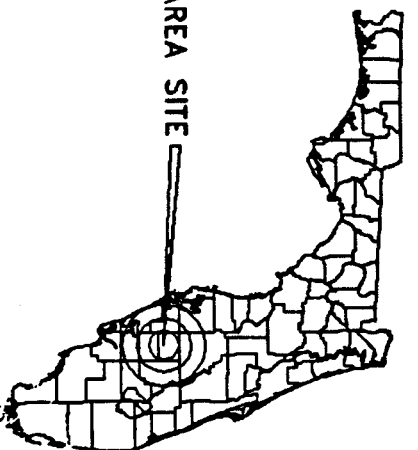
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PROJECT AREA SITE



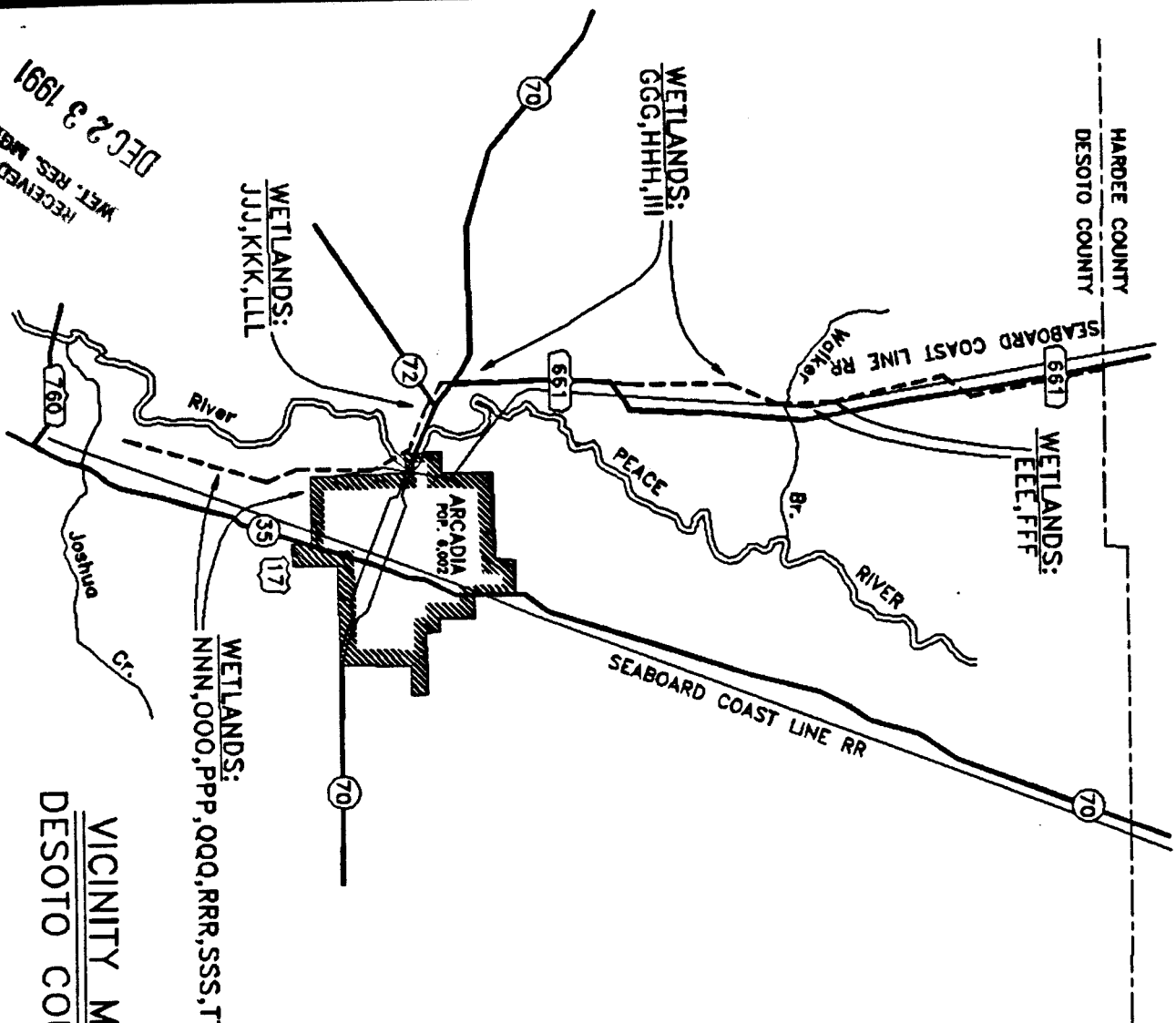
W. J. O. Jones
11/17/91

FIGURE 1

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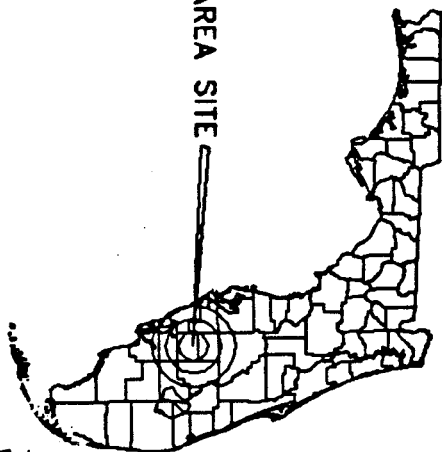


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VICINITY MAP
DESOTO COUNTY

PROJECT AREA SITE



N

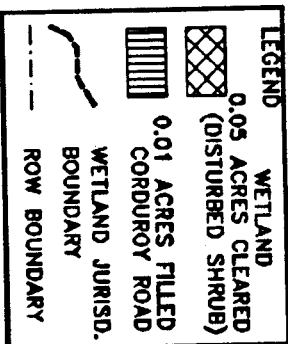


LEGEND	
----	TRANSMISSION LINE
----	COUNTY BOUNDARY LINE
(70)	STATE ROAD
(17)	U.S. HIGHWAY
(651)	COUNTY ROAD

FIGURE 2

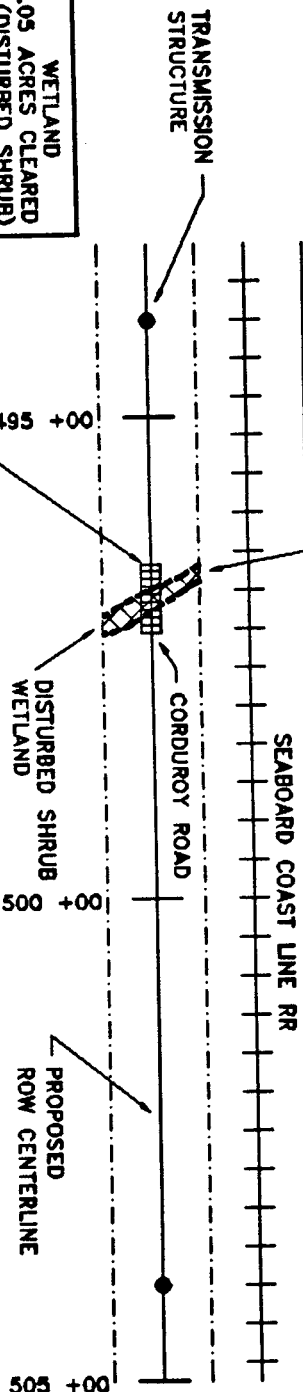
FDER/SWFMD
JURISDICTION
DISTURBED SHRUB WETLAND

FT. GREEN - ONA RD. N.W.

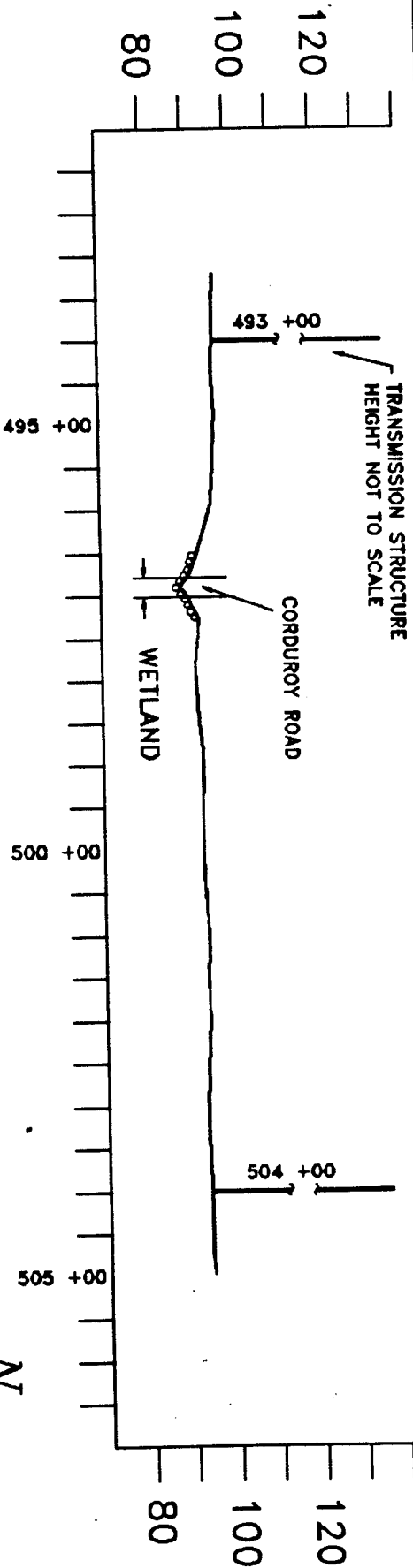


NOTE: EDGE OF CORDUROY ROAD IN WETLAND TO BE STAKED WITH HAY BALES OR SILT SCREEN DEPENDENT ON SITE CONDITIONS AT TIME OF CONSTRUCTION

NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS



[Signature]
11/1/91



LEGEND for PROFILE

- CORDUROY ROAD
- ROW c/l

WETLAND "N"
PLAN/PROFILE

SCALE: 1"=200'

SHW ± 86
NWL ± 85
SLW ± 84



DATUM: NGVD



FIGURE 3

FDER/SWFMD
JURISDICTION
DISTURBED SHRUB WETLAND

FT. GREEN - ONA RD. N.W.

SEABOARD COAST LINE RR

TRANSMISSION
STRUCTURE

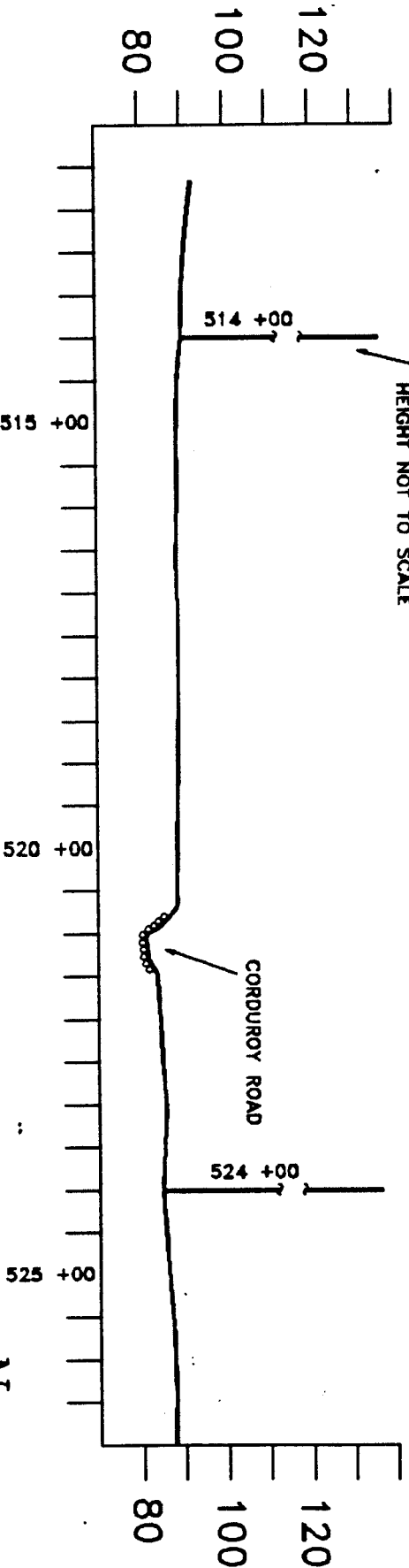
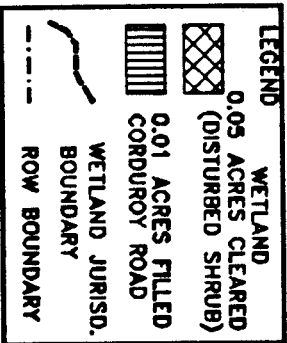
PROPOSED
ROW CENTERLINE

DISTURBED SHRUB
WETLAND

NOTE: EDGE OF CORDUROY ROAD IN
WETLAND TO BE STAKED WITH HAY BALES
OR SILT SCREEN DEPENDENT ON SITE CO-
NDITIONS AT TIME OF CONSTRUCTION

NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

TRANSMISSION STRUCTURE
HEIGHT NOT TO SCALE



LEGEND for PROFILE

CORDUROY ROAD

ROW C/L

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WETLAND "P"
PLAN/PROFILE

SCALE: 1"=200'

SHW ± 86
NWL ± 85
SLW ± 84



DATUM: NGVD

N



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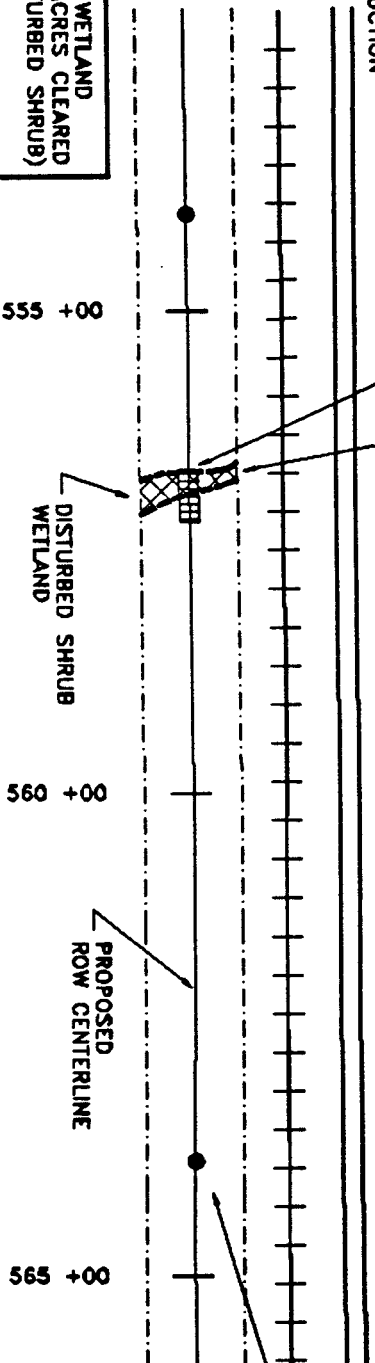
FIGURE 4

NOTE: EDGE OF CORDUROY ROAD IN WETLAND TO BE STAKED WITH HAY BALES OR A SILT SCREEN DEPENDENT ON SITE CONDITIONS AT TIME OF CONSTRUCTION

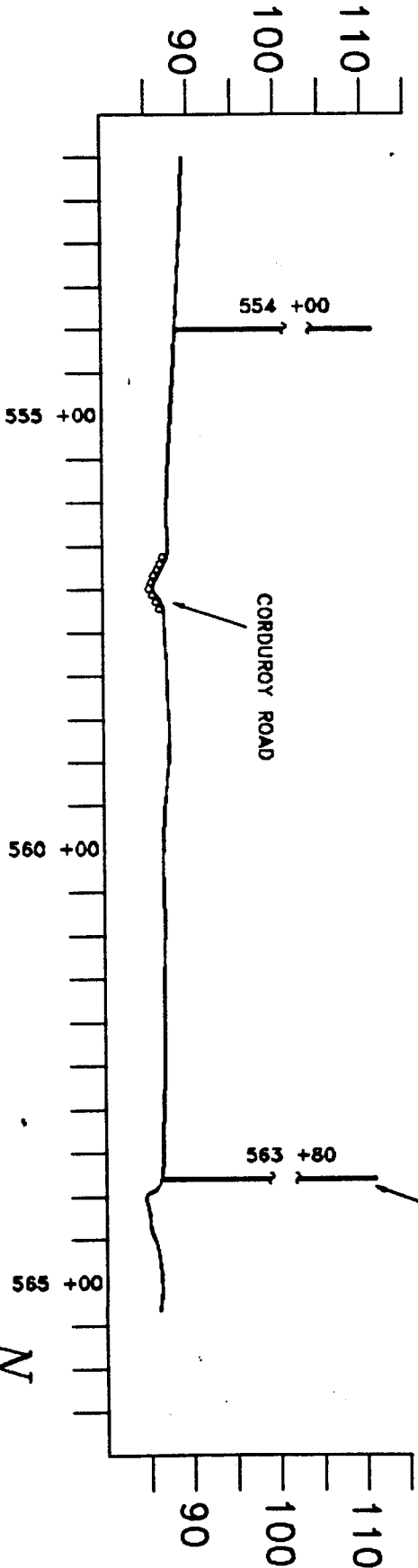
FDER/SWFWM D JURISDICTION

DISTURBED SHRUB WETLAND

TRANSMISSION STRUCTURE



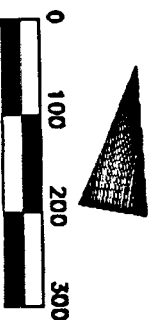
[Signature]
11/1/91



WETLAND "R" PLAN/PROFILE

SCALE: 1"=200'

SHW ± 86
NWL ± 85
SLW ± 84



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FIGURE 5

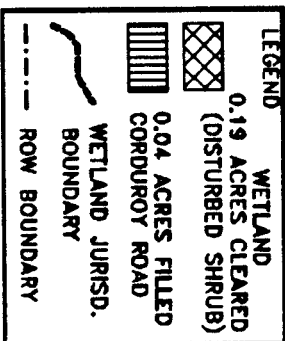
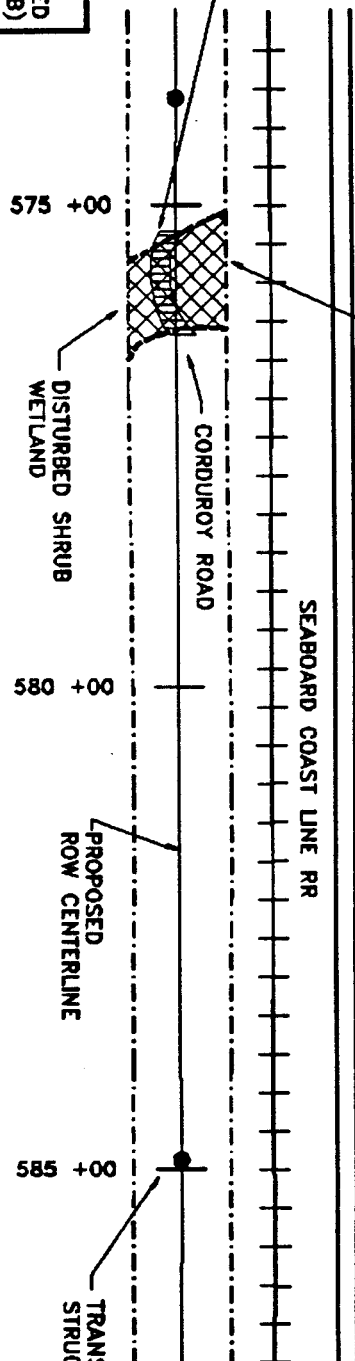
FDER/SWFMD
JURISDICTION

DISTURBED SHRUB WETLAND

FT. GREEN - ONA RD. N.W.

SEABOARD COAST LINE RR

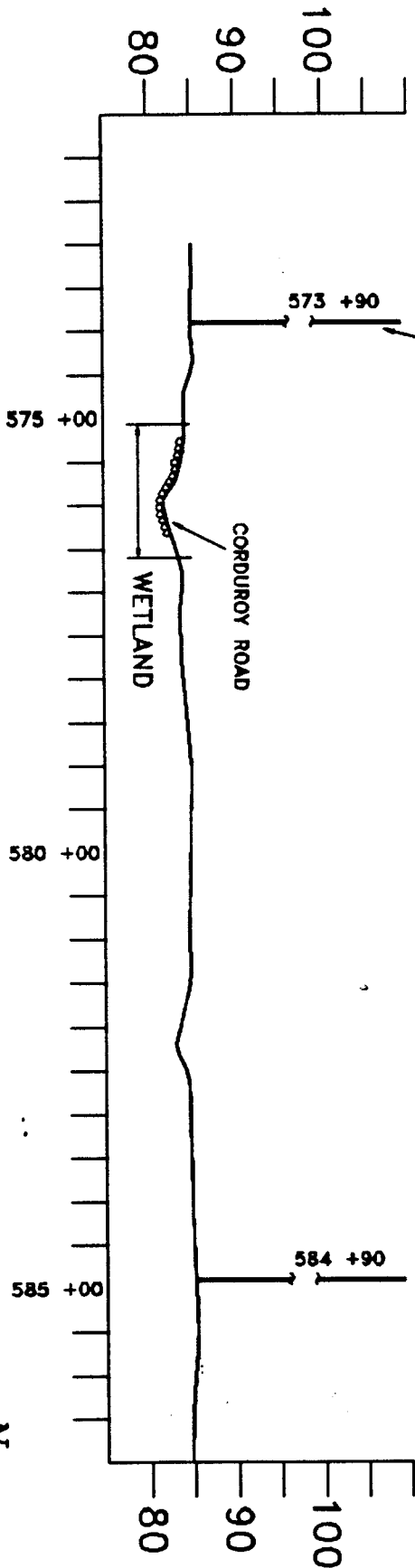
NOTE: EDGE OF CORDUROY ROAD IN WETLAND TO BE STAKED WITH HAY BALES OR A SILT SCREEN DEPENDENT ON SITE CONDITIONS AT TIME OF CONSTRUCTION



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

TRANSMISSION STRUCTURE
HEIGHT NOT TO SCALE

Signature
11/1/91



LEGEND for PROFILE

	CORDUROY ROAD
	ROW C/L

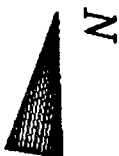
WETLAND "U" PLAN/PROFILE

SCALE: 1"=200'

SHW ± 82
NWL ± 81
SLW ± 80



DATUM: NGVD



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FIGURE 6

FDER/SWFMD
JURISDICTION
DISTURBED SHRUB WETLAND

FT. GREEN - ONA RD. N.W.

SEABOARD COAST LINE RR

TRANSMISSION
STRUCTURE

PROPOSED
ROW CENTERLINE

585 + 00

DISTURBED SHRUB
WETLAND

585 + 00

CONSTRUCTION
PAD

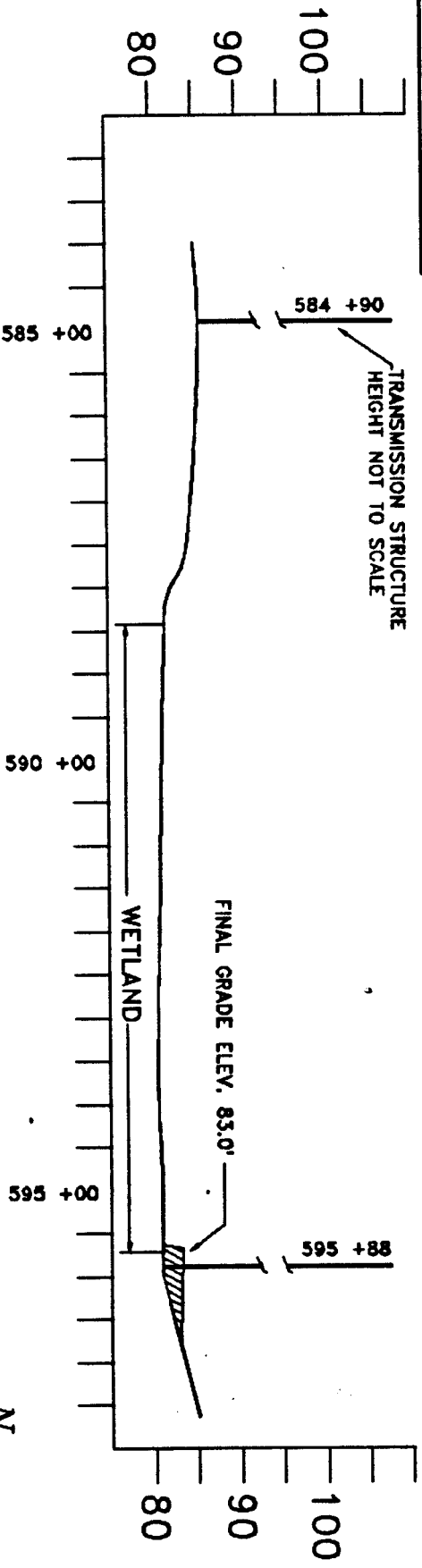
LEGEND

- WETLAND
1.87 ACRES CLEARED
(DISTURBED SHRUB)
- 0.01 ACRES FILLED
- WETLAND JURISD.
BOUNDARY
- ROW BOUNDARY

NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

NOTE: EDGE OF CONSTRUCTION PAD
IN WETLAND TO BE STAKED WITH
HAY BALES OR A SILT SCREEN DEP-
ENDENT ON SITE CONDITIONS AT TIME
OF CONSTRUCTION

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LEGEND for PROFILE

- FILL
- ROW C/L

WETLAND "W"
PLAN/PROFILE

SCALE: 1" = 200'

SHW ± 82
NWL ± 81
SLW ± 80

DATUM: NGVD

0 100 200 300

[North Arrow]



FIGURE 7

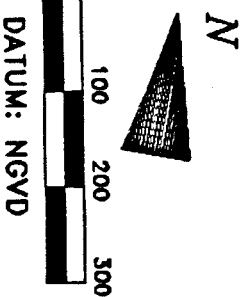


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WETLAND "AA" PLAN/PROFILE

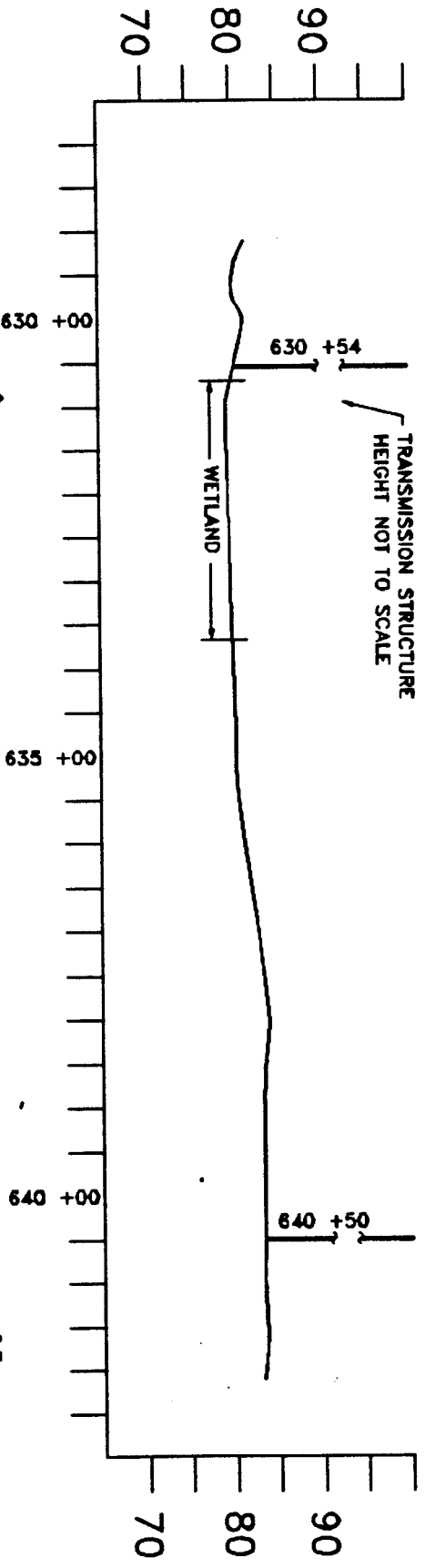
SCALE: 1"=200'



LEGEND for PROFILE
— ROW C/L

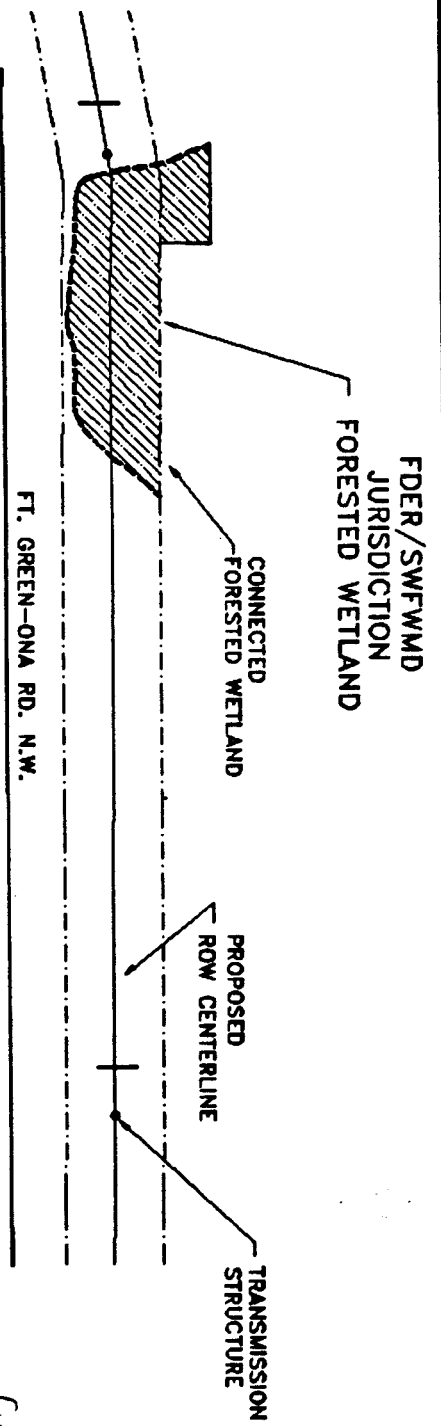
LEGEND

	WETLAND 0.60 ACRES CLEARED (FORESTED)
	WETLAND JURISD. BOUNDARY
	ROW BOUNDARY



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

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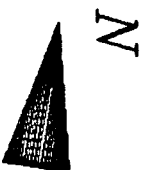
WETLAND "BB" PLAN/PROFILE

SCALE: 1"=200'

SHW ± 79
NWL ± 78
SLW ± 77

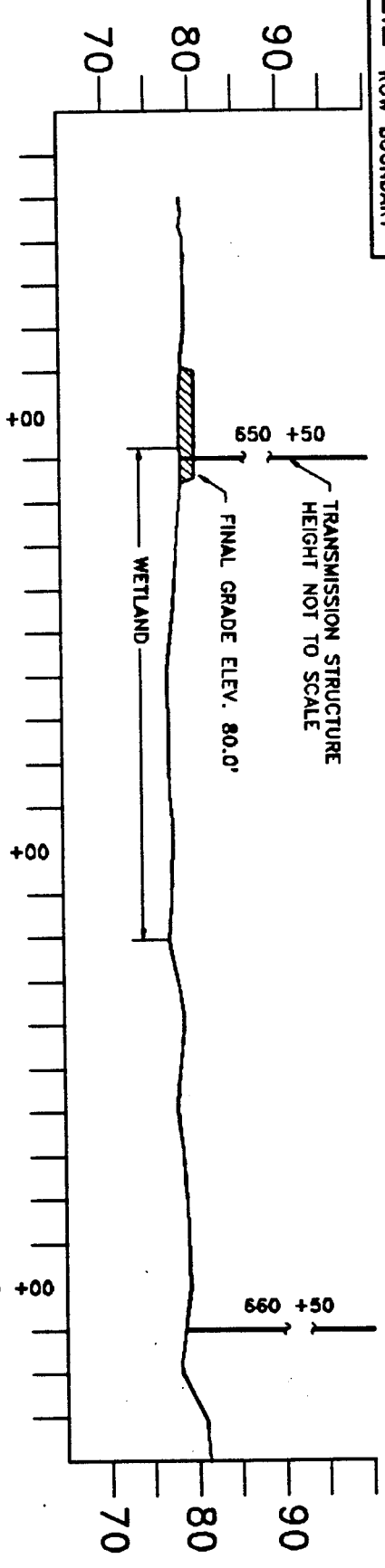


DATUM: NGVD



LEGEND for PROFILE
FILL
ROW C/L

LEGEND
WETLAND
1.33 ACRES CLEARED
(DISTURBED SHRUB)
0.06 ACRES FILLED
CONSTR. PAD
WETLAND JURISD.
BOUNDARY
ROW BOUNDARY



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

NOTE: EDGE OF FILL LINE TO BE
STAKED WITH HAY BALES OR SILT
SCREEN DEPENDENT OF SITE CON-
DITIONS AT TIME OF CONSTRUCTION

PROPOSED
ROW CENTERLINE
[Signature]
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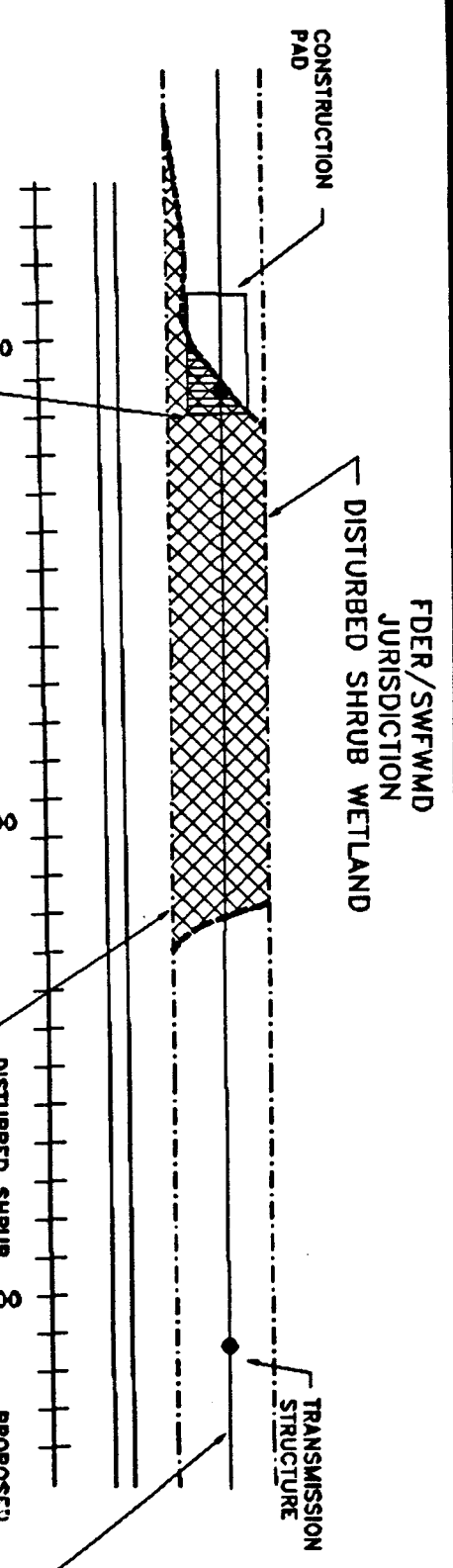
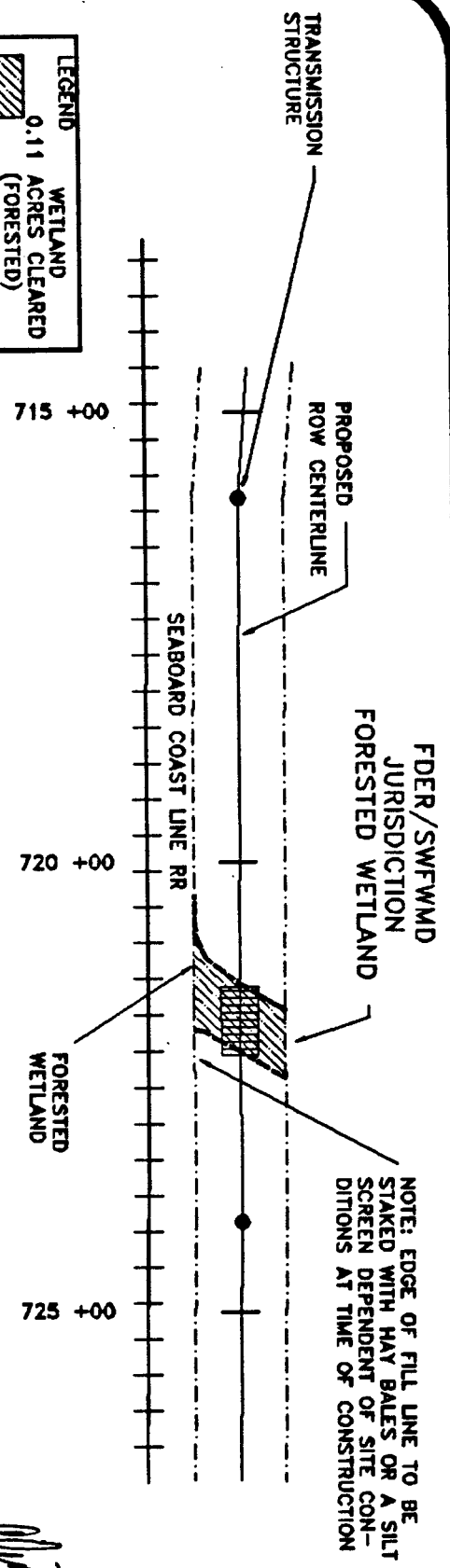


FIGURE 9

LEGEND

- 0.11 WETLAND
ACRES CLEARED
(FORESTED)
- 0.07 ACRES FILLED
ARCHED CULVERT
- WETLAND JURISD.
BOUNDARY
- ROW BOUNDARY

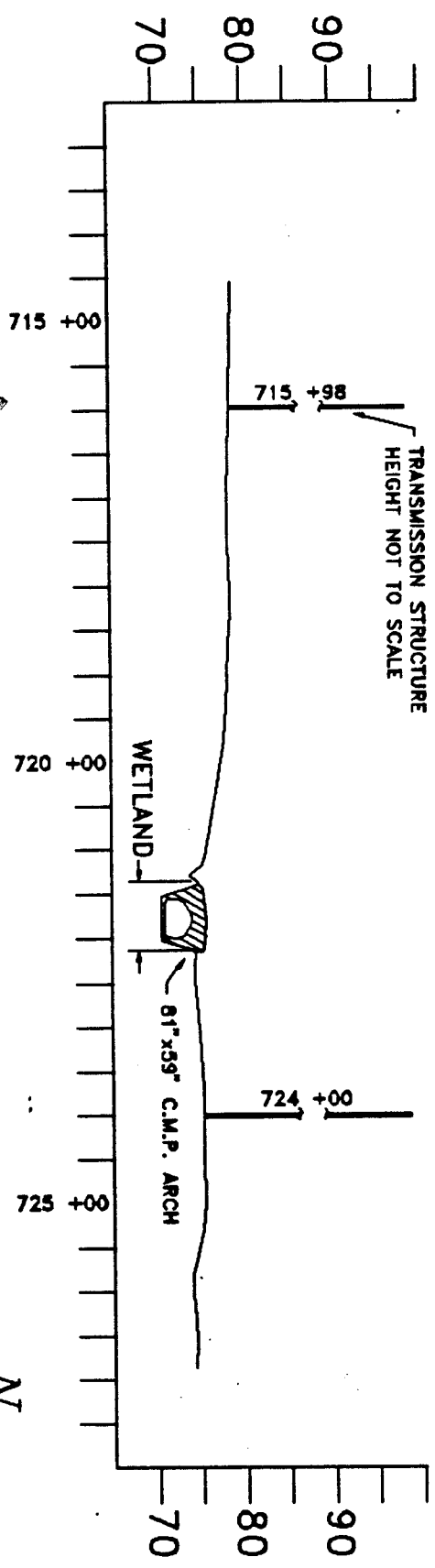
NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS



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LEGEND for PROFILE

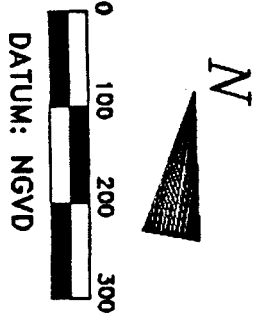
- FILL
- ROW C/L



WETLAND "GG" PLAN/PROFILE

SCALE: 1"=200'

SHW ± 72
NWL ± 71
SLW ± 70



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MET. RES. MGR.
DEC 23 1991



FIGURE 10



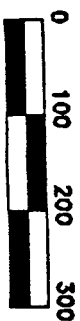
SEMINOLE
ELECTRIC
COOPERATIVE
INCORPORATED

RECEIVED
WET. RES. MGMT.
DEC 23 1991

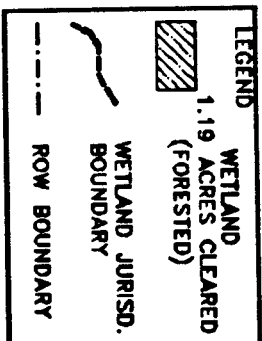
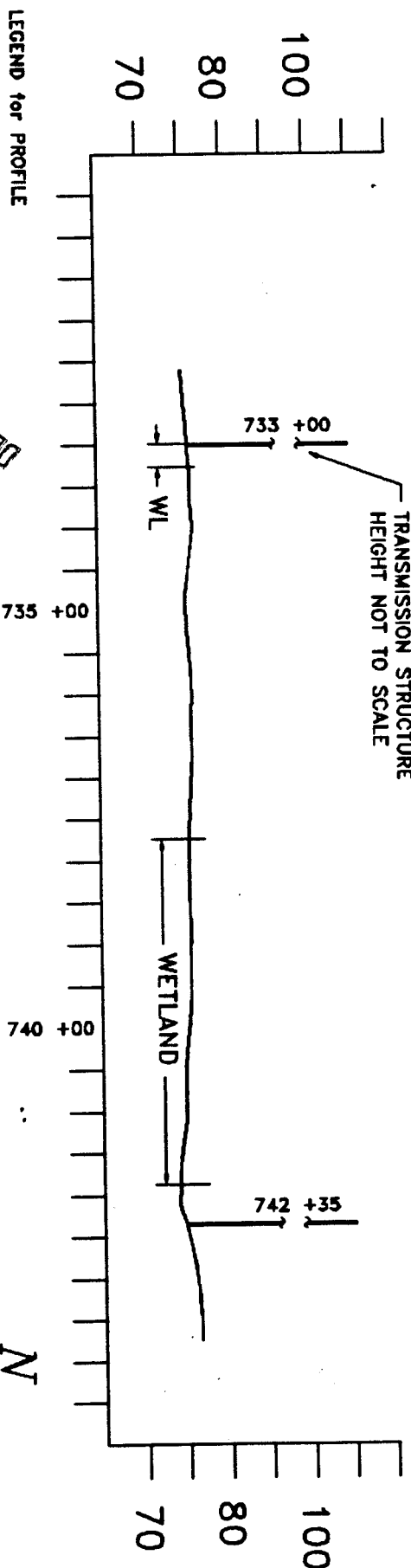
WETLAND "HH" PLAN/PROFILE

SCALE: 1"=200'

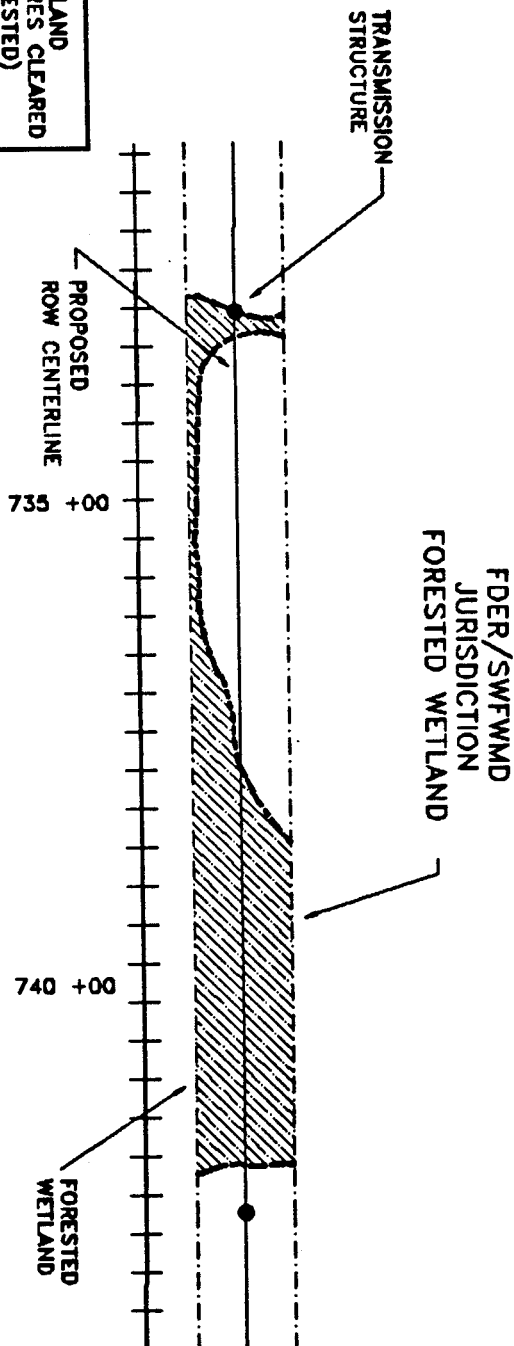
DATUM: NGVD



N



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS



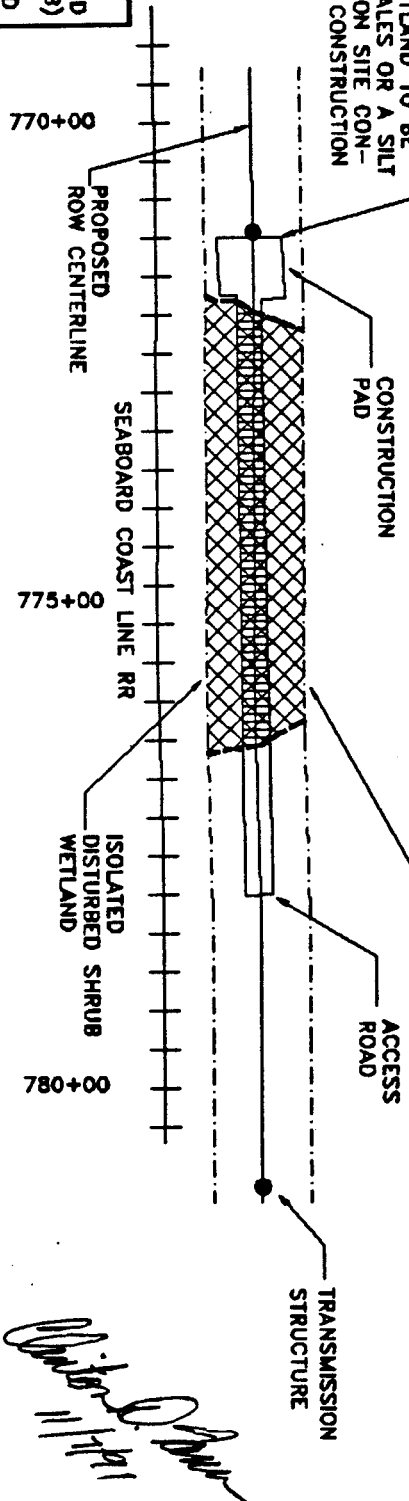
Signature
11/18/91

FIGURE 11

SWFWMD
JURISDICTION

ISOLATED DISTURBED SHRUB WETLAND

NOTE: EDGE OF CONSTRUCTION PAD ACCESS ROAD IN WETLAND TO BE STAKED WITH HAY BALES OR A SILT SCREEN DEPENDENT ON SITE CONDITIONS AT TIME OF CONSTRUCTION



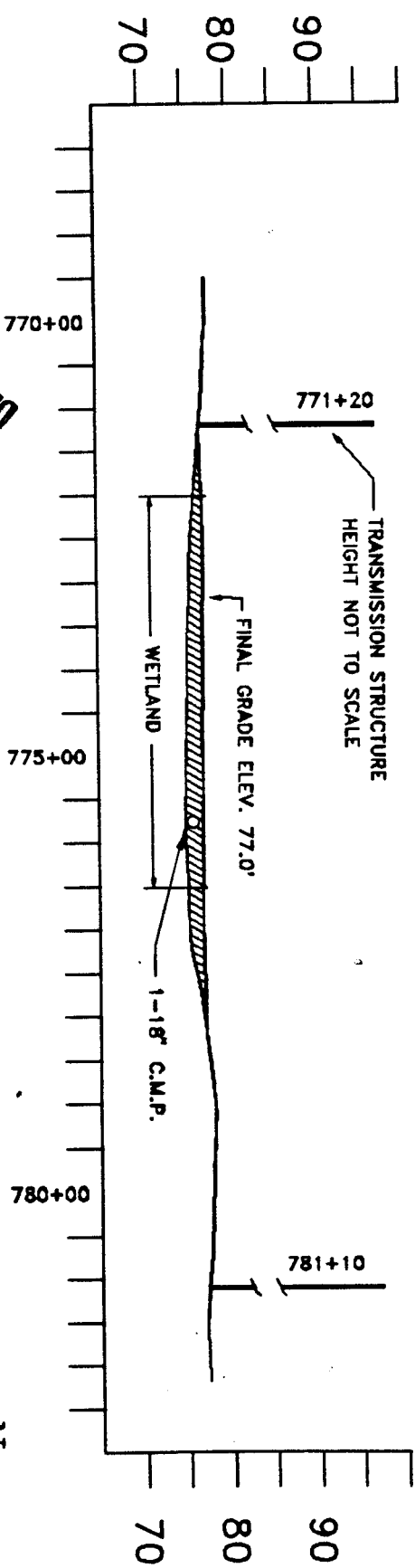
LEGEND

- WETLAND 1.39 ACRES CLEARED (DISTURBED SHRUB)
- 0.28 ACRES FILLED
- ACCESS ROAD
- WETLAND JURISD. BOUNDARY
- ROW BOUNDARY

NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS

LEGEND for PROFILE

- FILL
- ROW C/L



RECEIVED
WET. RES. MGMT
DEC 23 1991

WETLAND "JJ"
PLAN/PROFILE

SCALE: 1"=200'

SHW ± 76
NWL ± 75
SLW ± 74

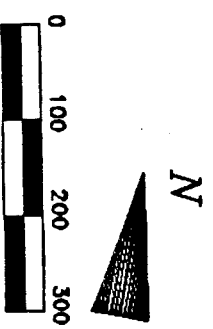
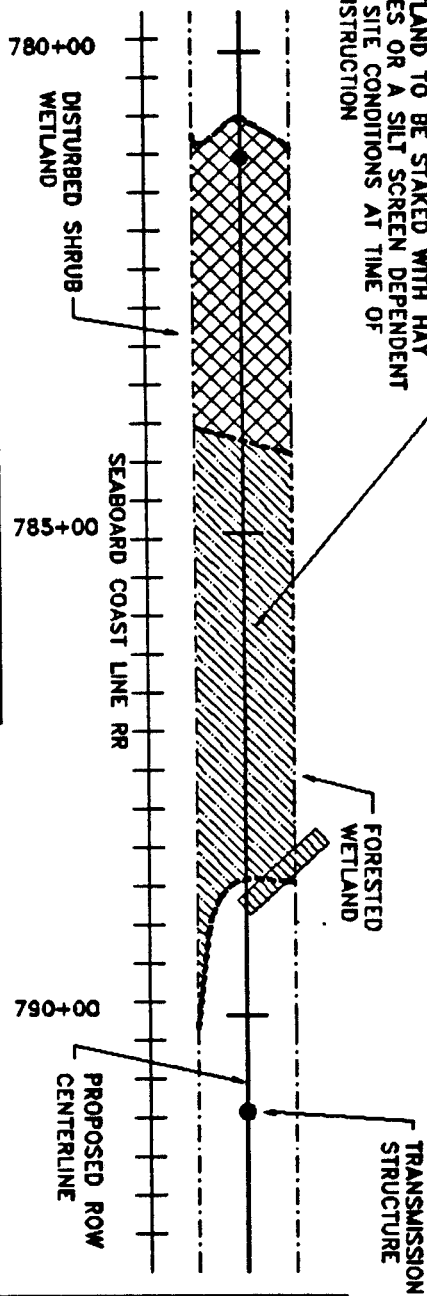


FIGURE 12

FDER/SWFMD
JURISDICTION
FORESTED/DISTURBED SHRUB WETLAND

Signature
11/1/91

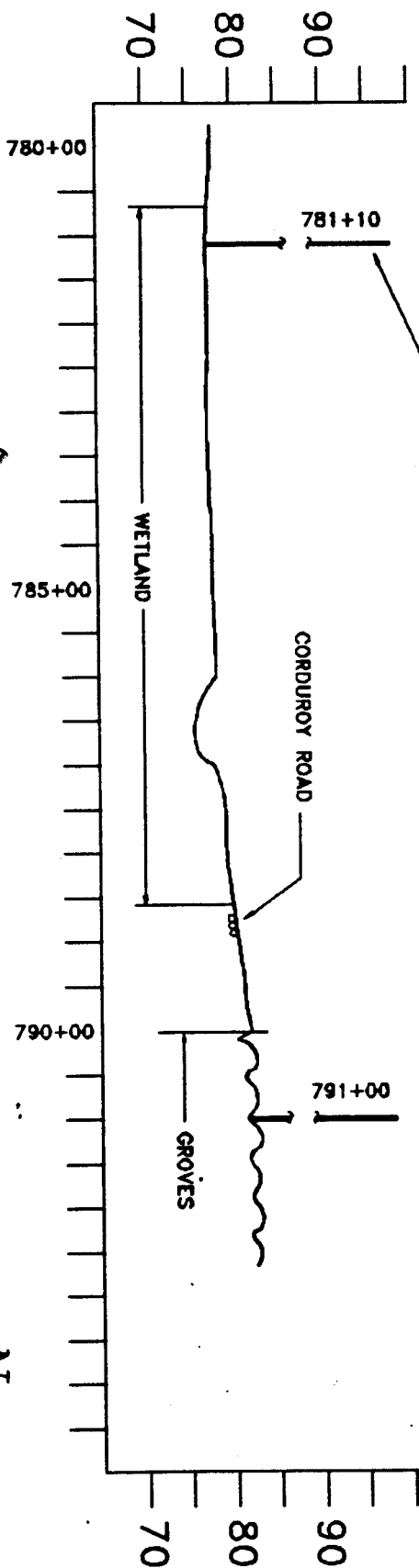
NOTE: EDGE OF CORDUROY ROAD IN
WETLAND TO BE STAKED WITH HAY
BALES OR A SILT SCREEN DEPENDENT
ON SITE CONDITIONS AT TIME OF
CONSTRUCTION



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

LEGEND	
	0.74 ACRES CLEARED (DISTURBED SHRUB)
	1.07 ACRES CLEARED (FORESTED)
	0.05 ACRES FILLED CORDUROY ROAD
	WETLAND JURISD. BOUNDARY
	ROW BOUNDARY

TRANSMISSION STRUCTURE
HEIGHT NOT TO SCALE



LEGEND for PROFILE

CORDUROY ROAD
 ROW C/L

RECEIVED
WET. RES. MGMT.
DEC 23 1991

WETLAND "KK"
PLAN/PROFILE

SCALE: 1"=200'

SHW ± 77
NWL ± 76
SLW ± 75



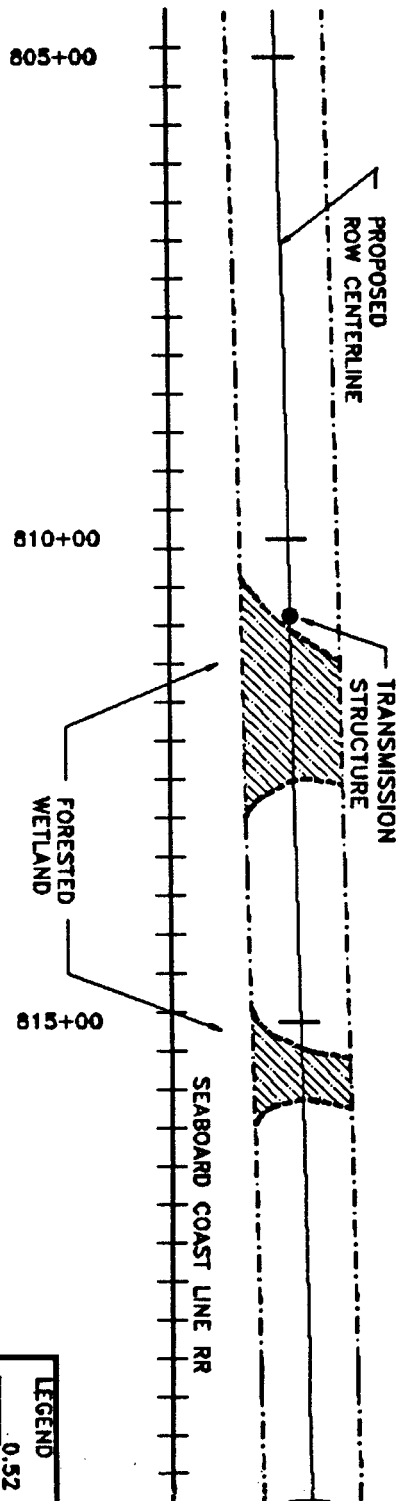
DATUM: NGVD



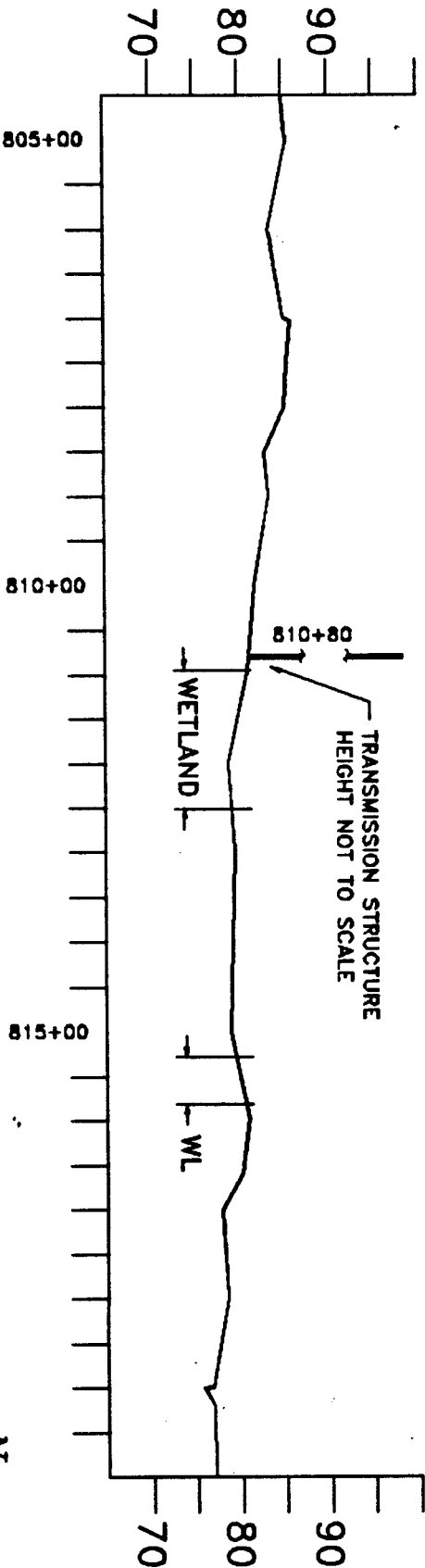
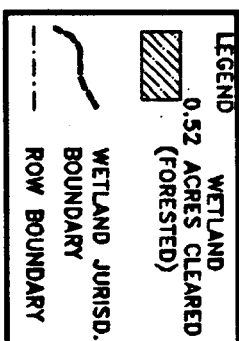
SEMINOLE
ELECTRIC
COOPERATIVE
INCORPORATED

FIGURE 13

FDER/SWFWMD
JURISDICTION
FORESTED WETLAND



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS



LEGEND for PROFILE

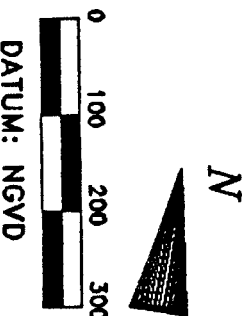
ROW C/L

RECEIVED
MET. RES. MGMT.
DEC 23 1991

WETLAND "LL,MM"
PLAN/PROFILE

SCALE: 1"=200'

SLW ± 74
NLW ± 75
SHW ± 76



SEMINOLE
ELECTRIC
COOPERATIVE
INCORPORATED

FIGURE 14



SEMINOLE
ELECTRIC
COOPERATIVE
INCORPORATED

LEGEND FOR PROFILE
FILL
ROW C/L

RECEIVED
MET. RES. MGR.
DEC 23 1991

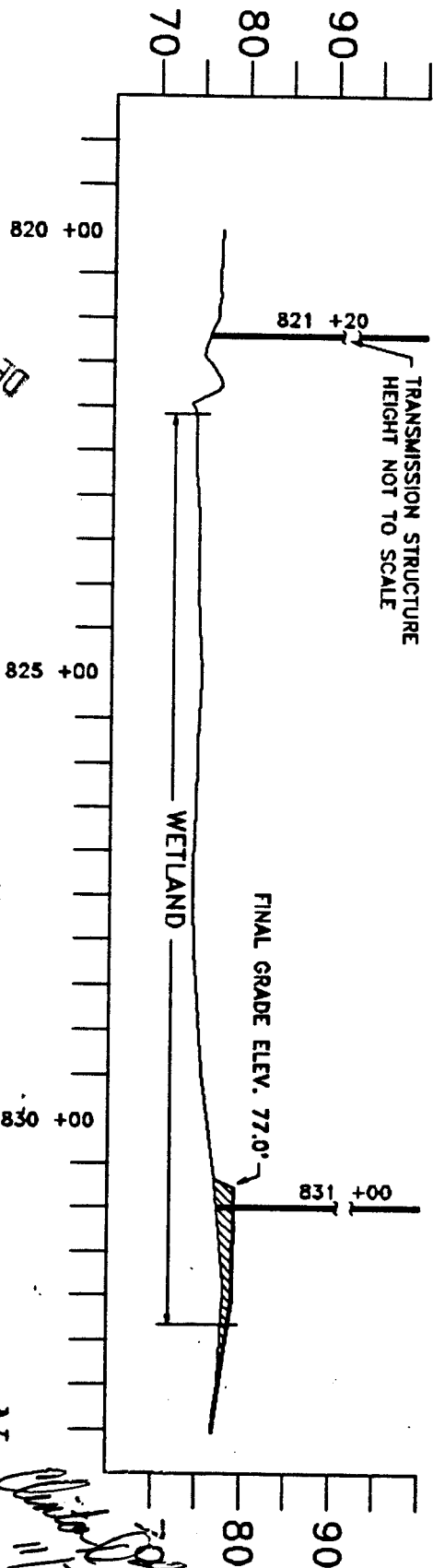
WETLAND "NN" PLAN/PROFILE

SCALE: 1"=200'

SHW ± 76
NWL ± 75
SLW ± 74



N



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

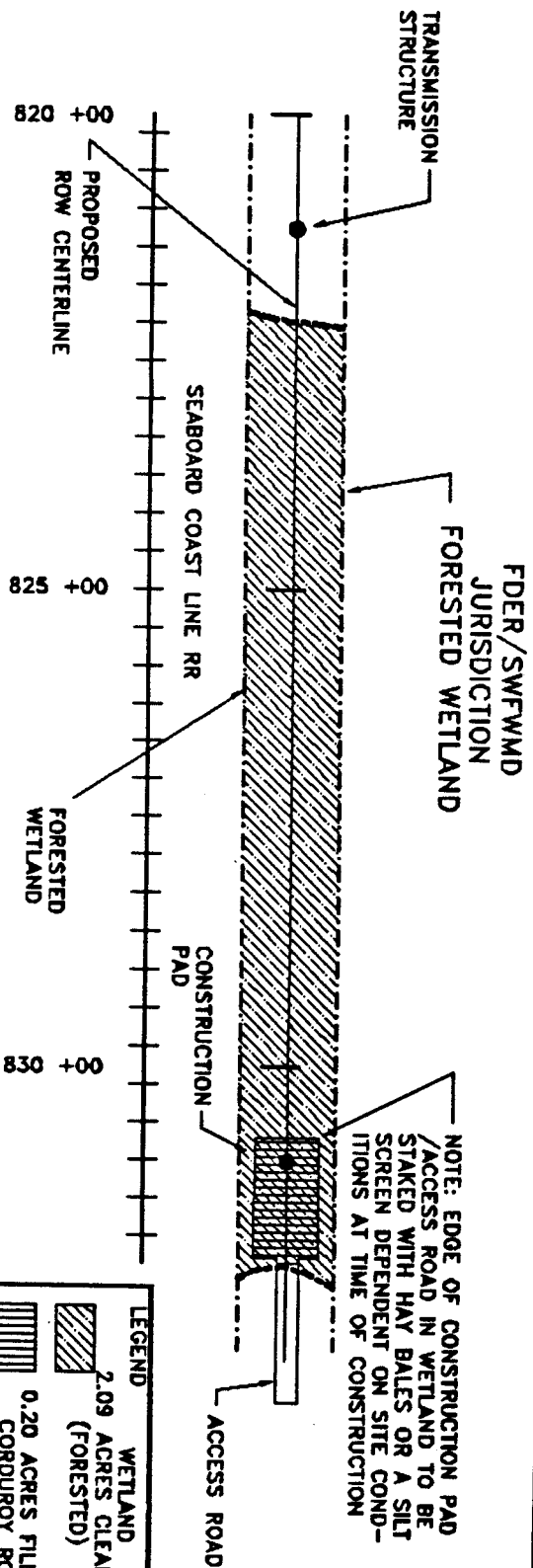
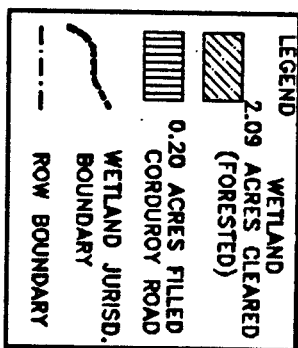
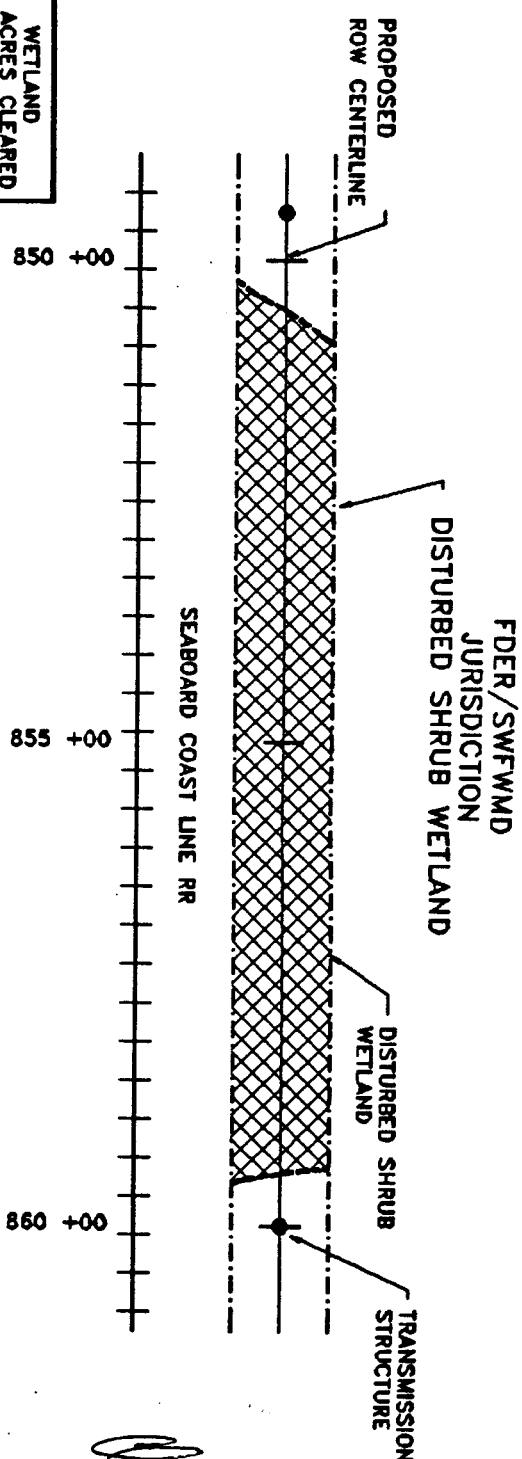


FIGURE 15



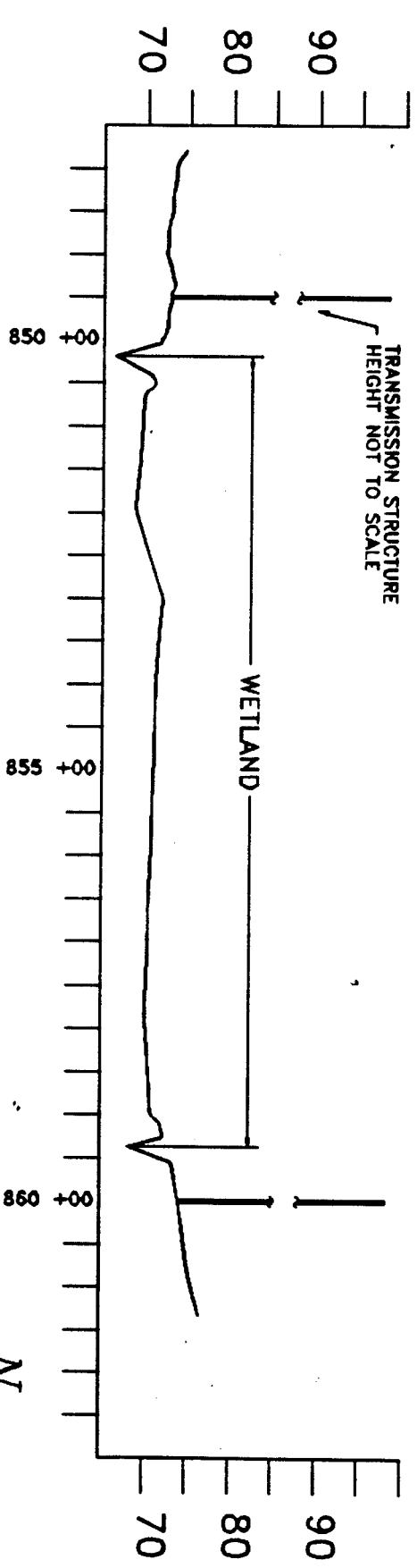
LEGEND

WETLAND
2.05 ACRES CLEARED
(DISTURBED SHRUB)

WETLAND JURISD.
BOUNDARY

ROW BOUNDARY

NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS



LEGEND for PROFILE
ROW C/L

RECEIVED
WET. RES. MGMT.
DEC 23 1991

WETLAND "OO" PLAN/PROFILE

SCALE: 1"=200'



FIGURE 16

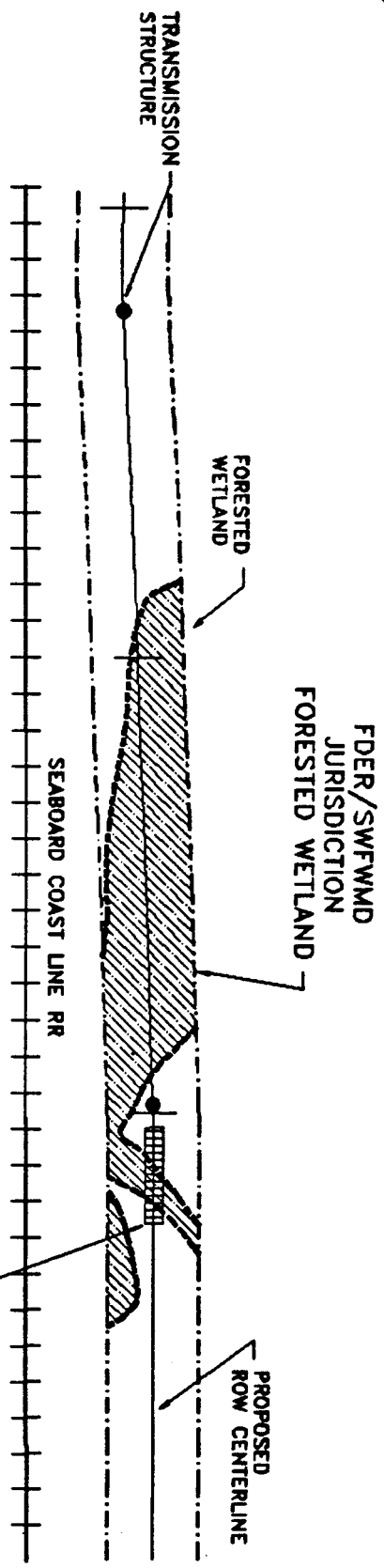
LEGEND

- WETLAND 1.10 ACRES CLEARED (FORESTED)
- 0.02 ACRES FILLED CORDUROY ROAD
- WETLAND JURISD. BOUNDARY
- ROW BOUNDARY

NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS

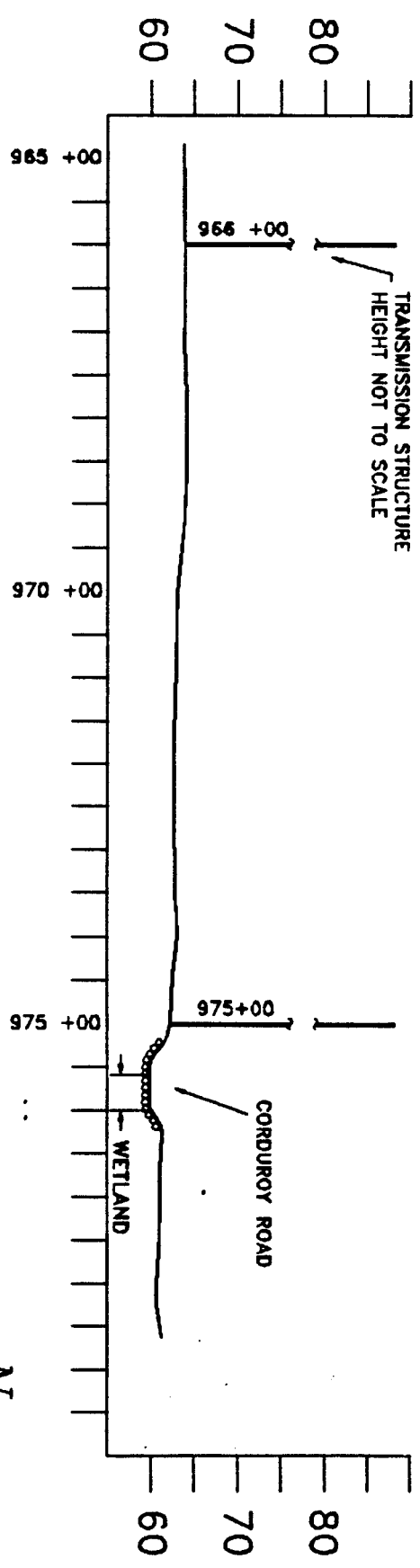
NOTE: EDGE OF CORDUROY ROAD IN WETLAND TO BE STAKED WITH HAY BALES OR A SILT SCREEN DEPENDENT ON SITE CONDITIONS AT TIME OF CONSTRUCTION

Signature
11/1/91



LEGEND for PROFILE

- CORDUROY ROAD
- ROW C/L



WETLAND "QQ" PLAN/PROFILE

SCALE: 1"=200'

SHW ± 61
NWL ± 60
SLW ± 59

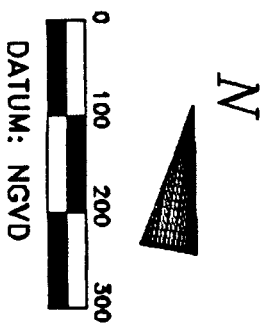


FIGURE 17

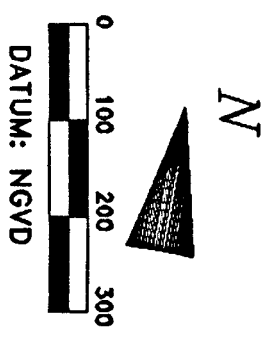


RECEIVED
MET. RES. MGR.
DEC 23 1991

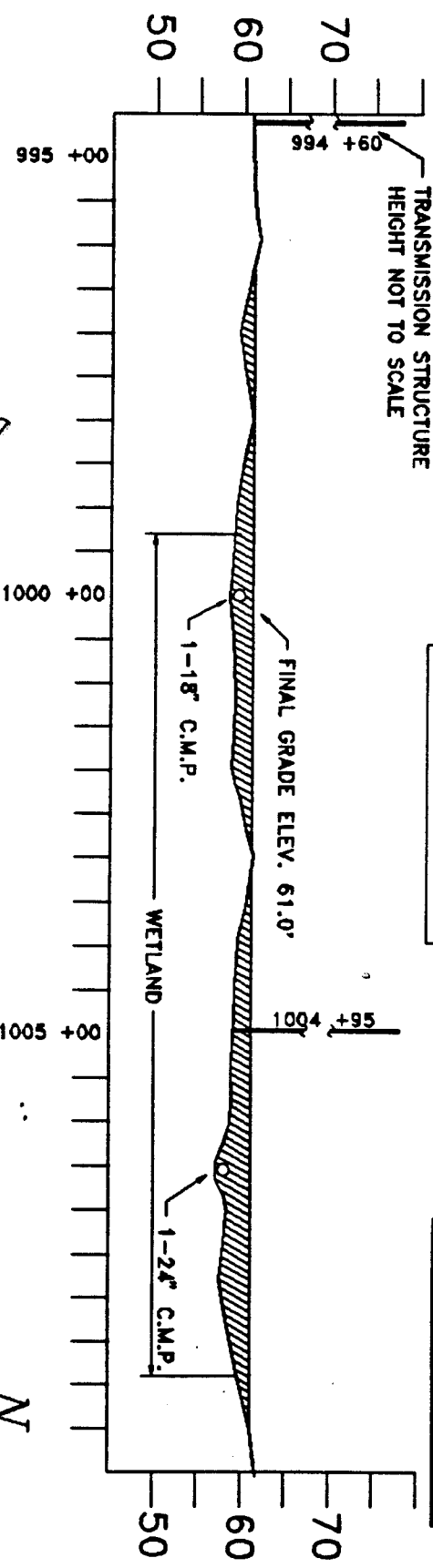
WETLAND "SS" PLAN/PROFILE

SCALE: 1"=200'

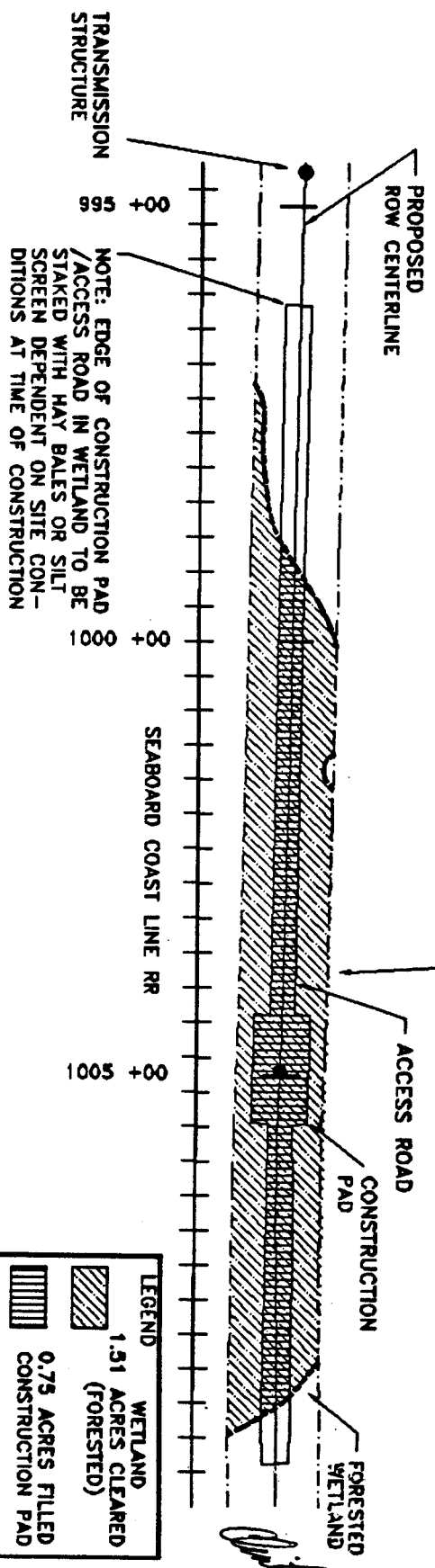
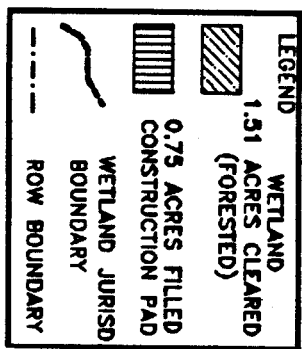
SHW ± 60
NWL ± 59
SLW ± 58



LEGEND for PROFILE
ROW C/L
FILL



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS



FDER/SWFMD
JURISDICTION
FORESTED WETLAND

FIGURE 18

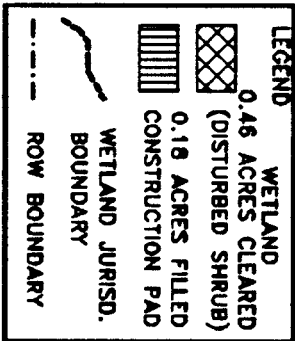
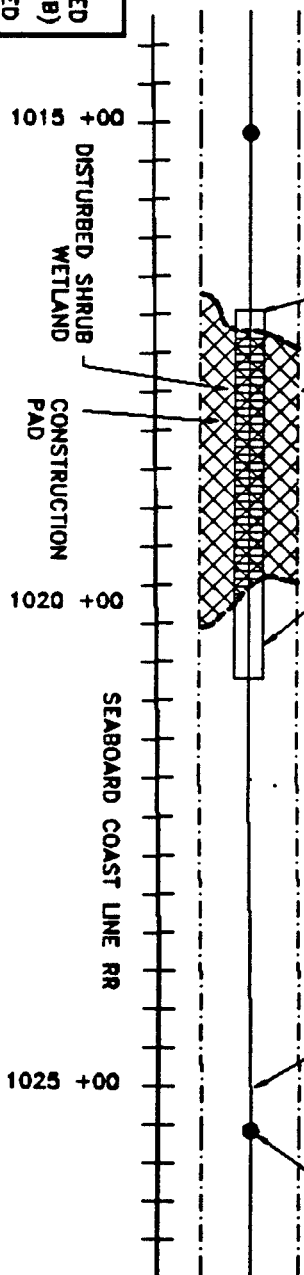
NOTE: EDGE OF CONSTRUCTION PAD / ACCESS ROAD IN WETLAND TO BE STAKED WITH HAY BALES OR A SILT SCREEN DEPENDENT ON SITE CONDITIONS AT TIME OF CONSTRUCTION

FDER/SWFWM D JURISDICTION

DISTURBED SHRUB WETLAND

PROPOSED ROW CENTERLINE

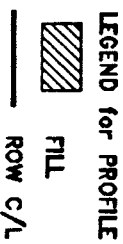
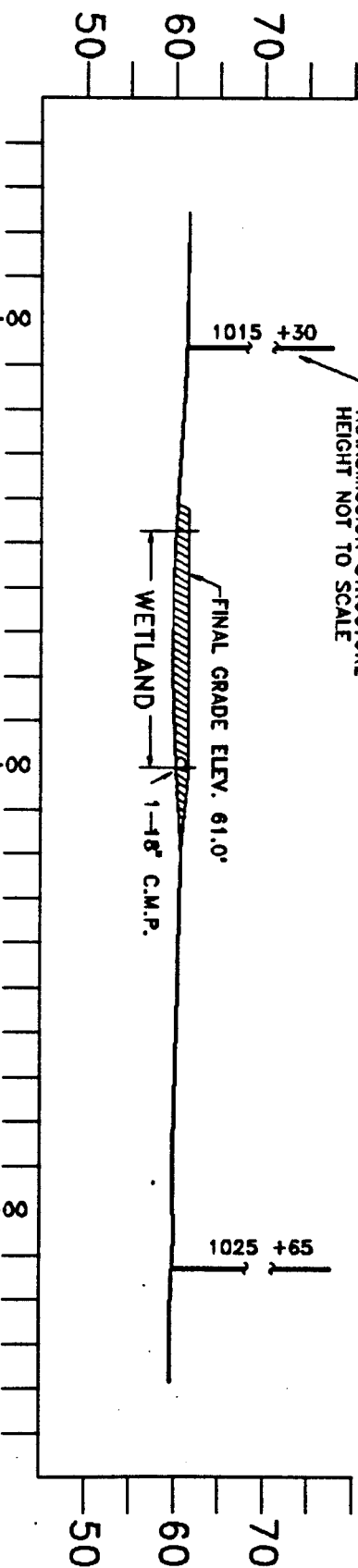
TRANSMISSION STRUCTURE



NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS

[Signature]
11/11/11

TRANSMISSION STRUCTURE HEIGHT NOT TO SCALE

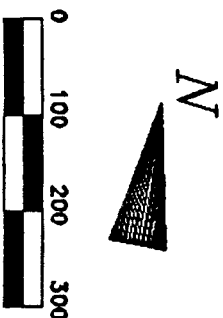


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WET. RES. MGMT.
DEC 23 1991

WETLAND "TT" PLAN/PROFILE

SCALE: 1"=200'

SHW ± 60
NWL ± 59
SLW ± 58



DATUM: NGVD



FIGURE 19



SEMINOLE
ELECTRIC
COOPERATIVE
INCORPORATED

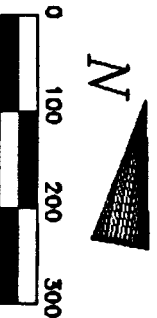
LEGEND for PROFILE
CORRUROY ROAD
ROW C/L

RECEIVED
DEC 23 1991
WET. RES. MGR.

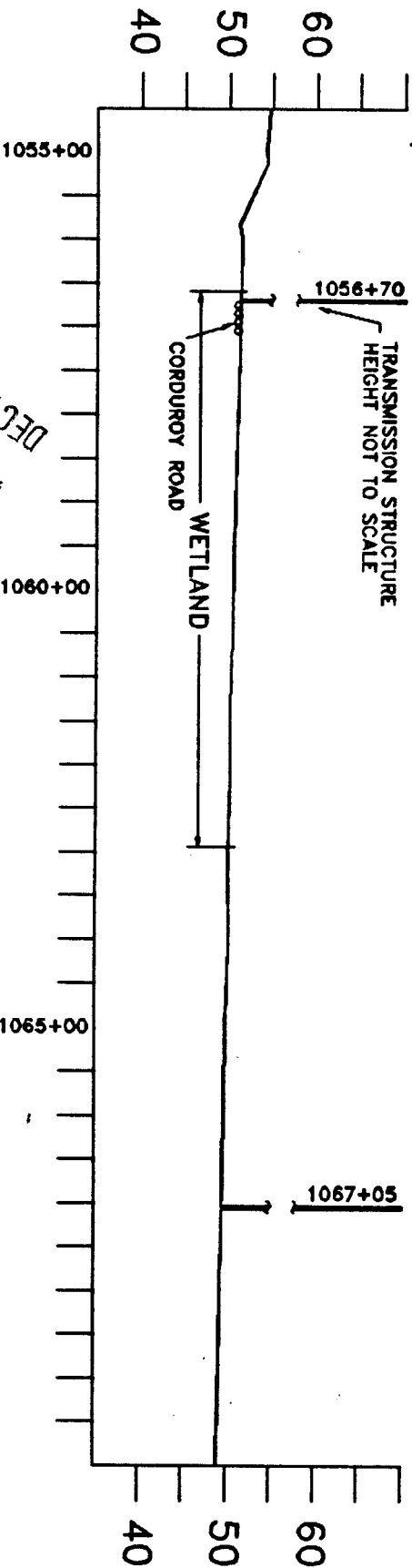
WETLAND "VV" PLAN/PROFILE

SCALE: 1"=200'

SHW ± 42
NLW ± 41
SLW ± 40



DATUM: NGVD



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

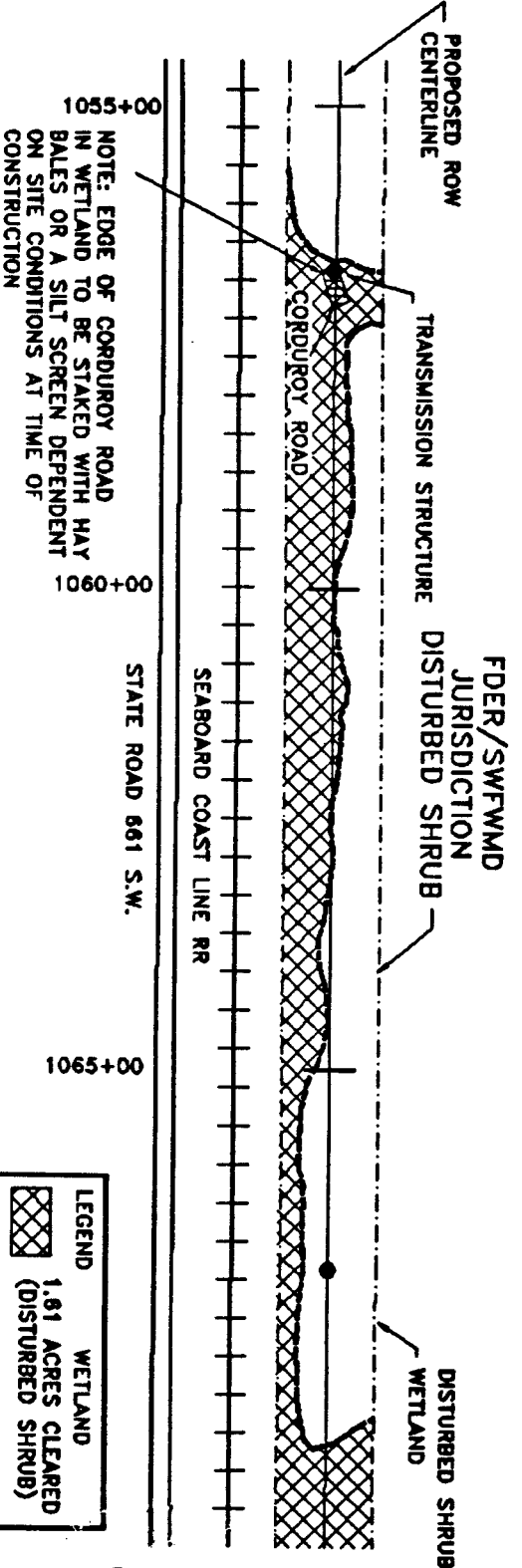
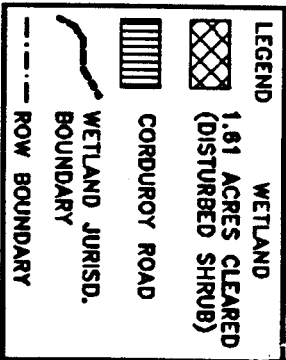


FIGURE 20



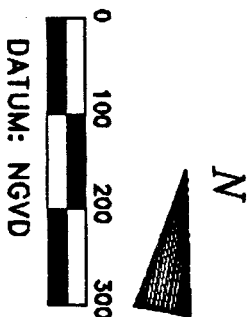
SEMINOLE
ELECTRIC
COOPERATIVE
INCORPORATED

RECEIVED
WET. RES. MGMT.
DEC 23 1991

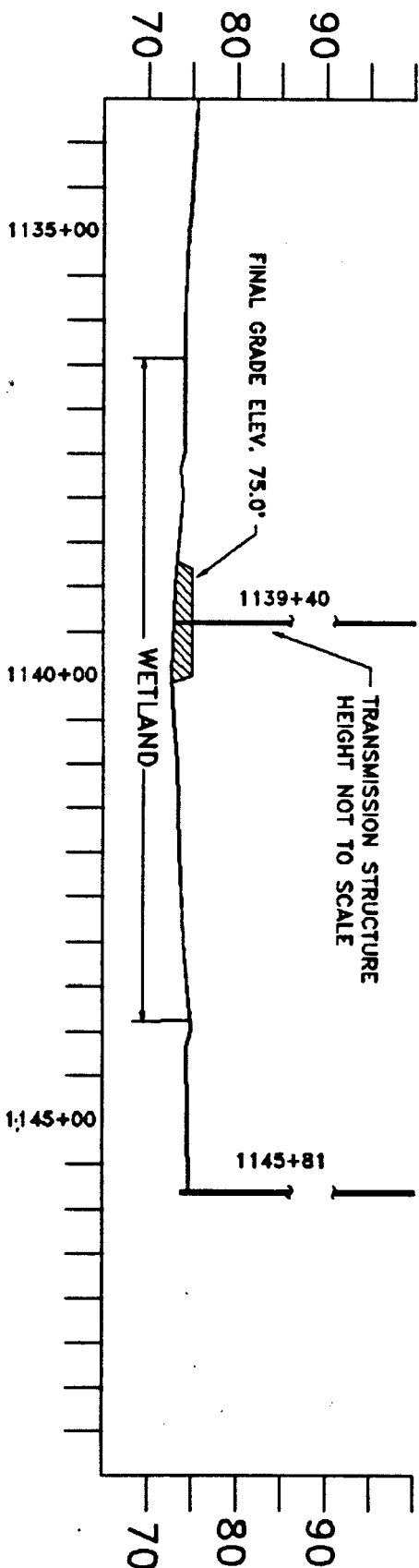
WETLAND "ZZ" PLAN/PROFILE

SCALE: 1"=200'

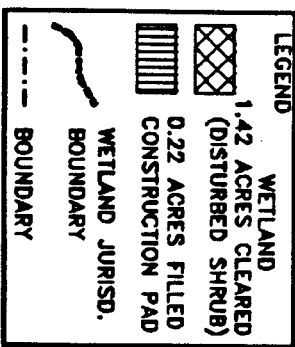
SHW ± 74
NWL ± 73
SLW ± 72



LEGEND for PROFILE
FILL
ROW C/L



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS



NOTE: EDGE OF CONSTRUCTION PAD
IN WETLAND TO BE STAKED WITH
HAY BALES OR A SILT SCREEN DEP-
ENDENT ON SITE CONDITIONS AT
TIME OF CONSTRUCTION

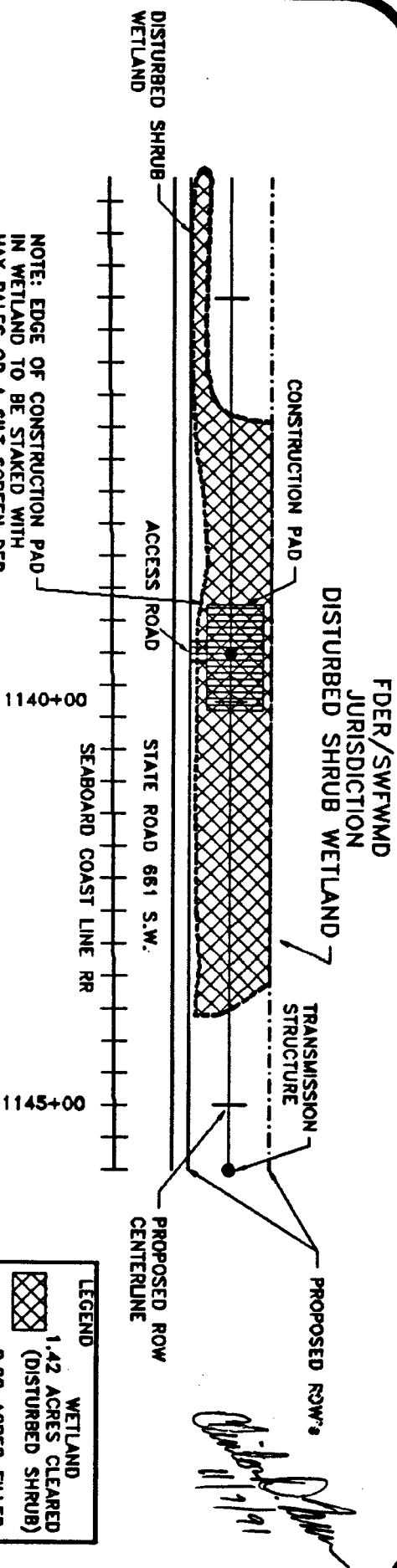


FIGURE 21



SEMINOLE
ELECTRIC
COOPERATIVE
INCORPORATED

DEC 23 1991
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MET. RES. MGR.

WETLAND "PP" PLAN/PROFILE

SCALE: 1"=200'

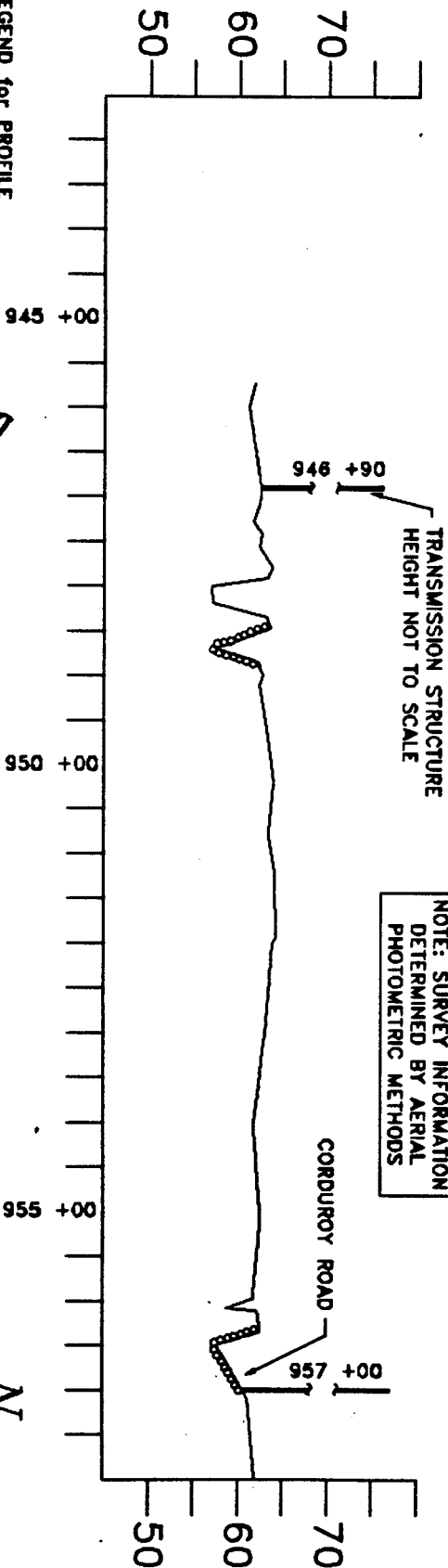
SHW ± 62
NWL ± 61
SLW ± 60



DATUM: NGVD



LEGEND for PROFILE
CORDUROY ROAD
ROW C/L



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

LEGEND
0.06 ACRES
CORDUROY ROAD
DITCH
BOUNDARY
ROW BOUNDARY

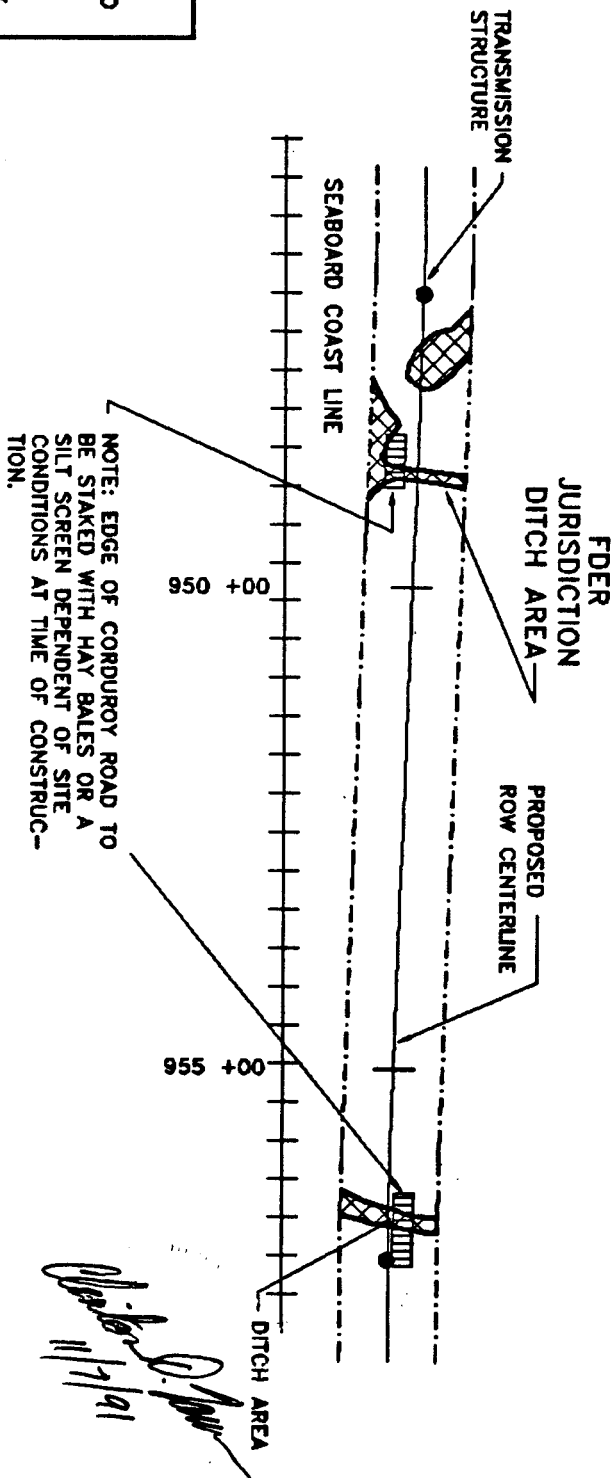


FIGURE 22

FDER/SWFWM
JURISDICTION

NOTE: EDGE OF CORDUROY ROAD TO BE STAKED WITH HAY BALES OR A SILT SCREEN DEPENDENT ON SITE CONDITIONS AT TIME OF CONSTRUCTION.

DISTURBED SHRUB WETLAND

PROPOSED ROW CENTERLINE

SEABOARD COAST LINE RR

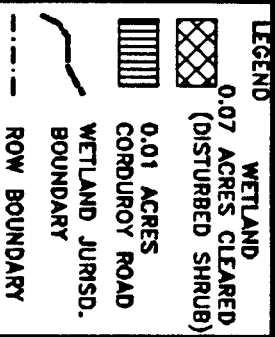
TRANSMISSION STRUCTURE

DISTURBED SHRUB WETLAND

1025 +00

1030 +00

1035 +00



NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS

Handwritten signature and date: 11/1/91

TRANSMISSION STRUCTURE
HEIGHT NOT TO SCALE

1025 +65

1036 +00

CORDUROY ROAD

WETLAND

LEGEND for PROFILE

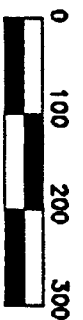
CORDUROY ROAD

ROW C/L

WETLAND "UU"
PLAN/PROFILE

SCALE: 1"=200'

RECEIVED
DEC 23 1991
WET. RES. MGMT.



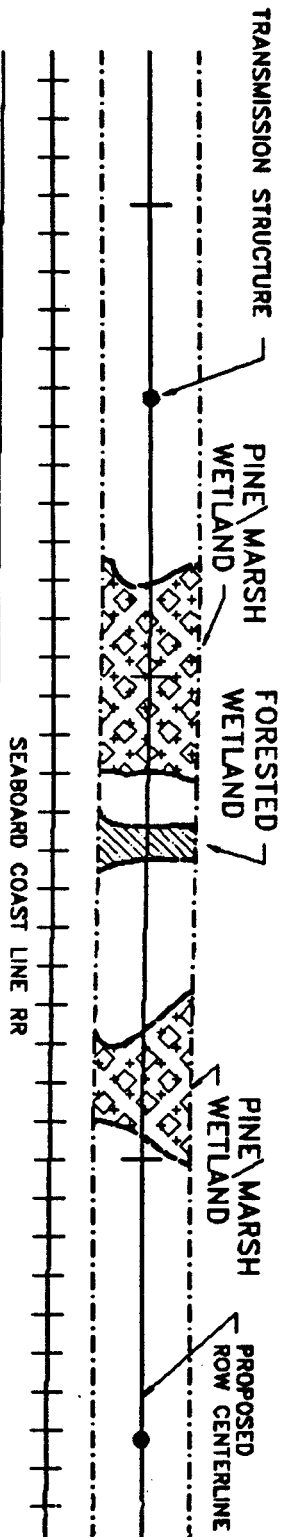
DATUM: NGVD



SEMINOLE
ELECTRIC
COOPERATIVE
INCORPORATED

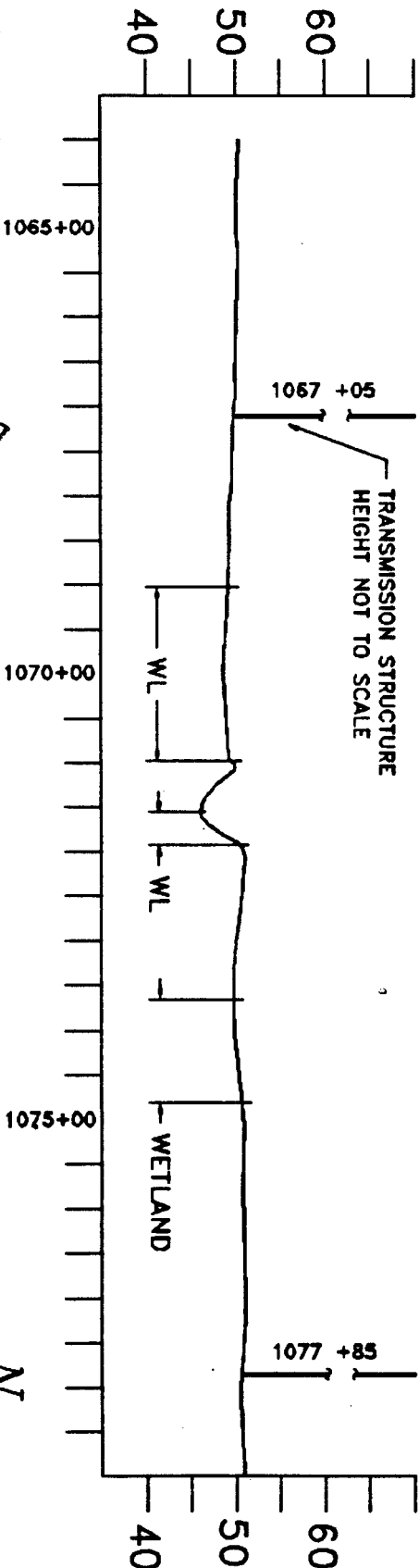
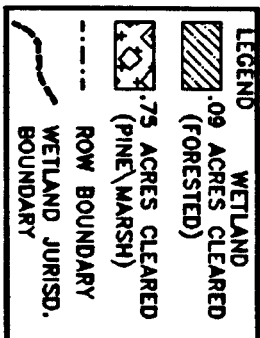
FIGURE 23

FDER/SWFMD
JURISDICTION



[Signature]
11/11/91

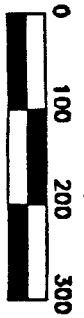
NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS



WETLAND "WW,XX,YY"
PLAN/PROFILE

RECEIVED
WET. RES. MGMT.
DEC 23 1991

SCALE: 1"=200'



DATUM: NGVD



FIGURE 24,25,26

PROPOSED
ROW CENTERLINE

FDER/SWFWM
JURISDICTION

DISTURBED SHRUB WETLAND

STATE ROAD 661 S.W.

CONSTRUCTION PAD

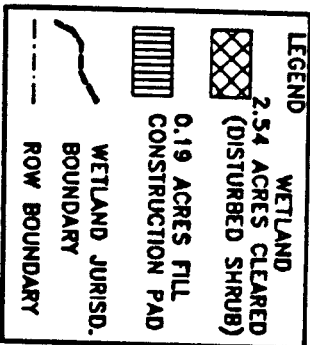
SEABOARD COAST LINE RR

NOTE: EDGE OF CONSTRUCTION
PAD IN WETLAND TO BE STAKED
WITH HAY BALES OR SILT SCREEN
DEPENDENT ON SITE CONDITIONS
AT TIME OF CONSTRUCTION

TRANSMISSION
STRUCTURE

NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

DISTURBED SHRUB
WETLAND



LEGEND for PROFILE

ROW C/L

Received
DEC 23 1991
WET. RES. MGT.

WETLAND "EEE"
PLAN/PROFILE

SCALE: 1"=200'

SHW ± 60
NWL ± 59
SLW ± 58

N

11/16/91

DATUM: NGVD



SEMINOLE
ELECTRIC
COOPERATIVE
INCORPORATED

FIGURE 27

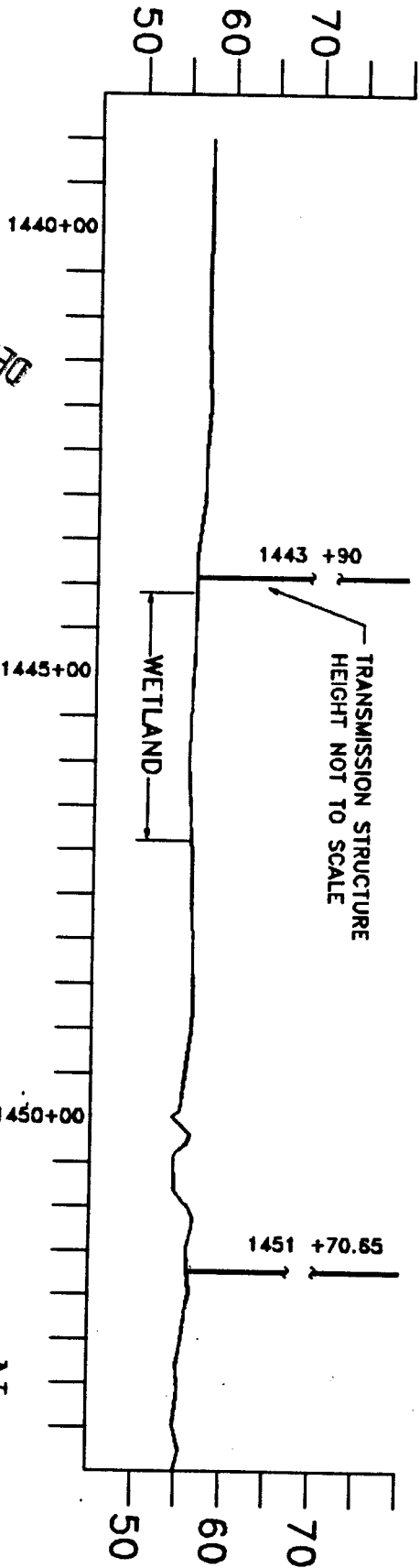
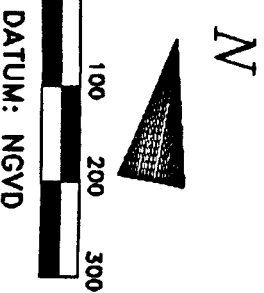


SEMINOLE
ELECTRIC
COOPERATIVE
INCORPORATED

RECEIVED
WET. RES. MGT.
DEC 23 1991

WETLAND "GGG" PLAN/PROFILE

SCALE: 1"=200'



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

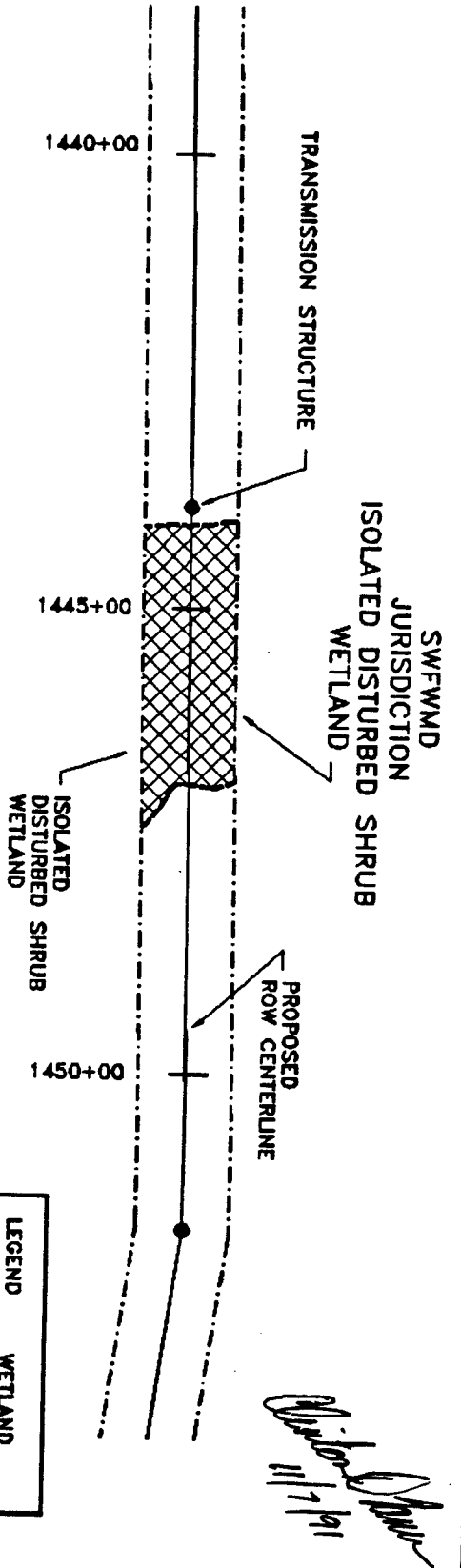
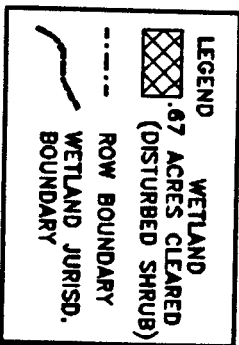
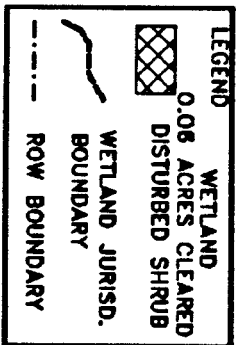
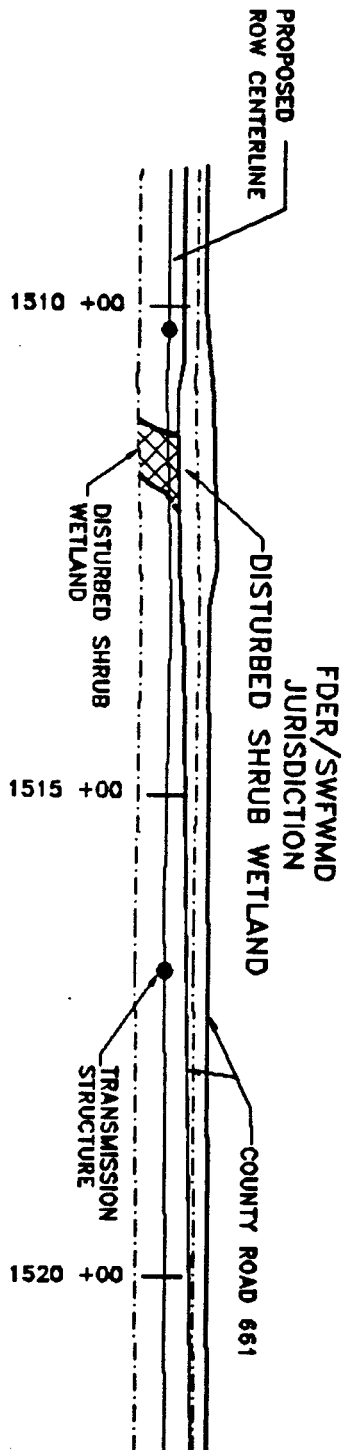
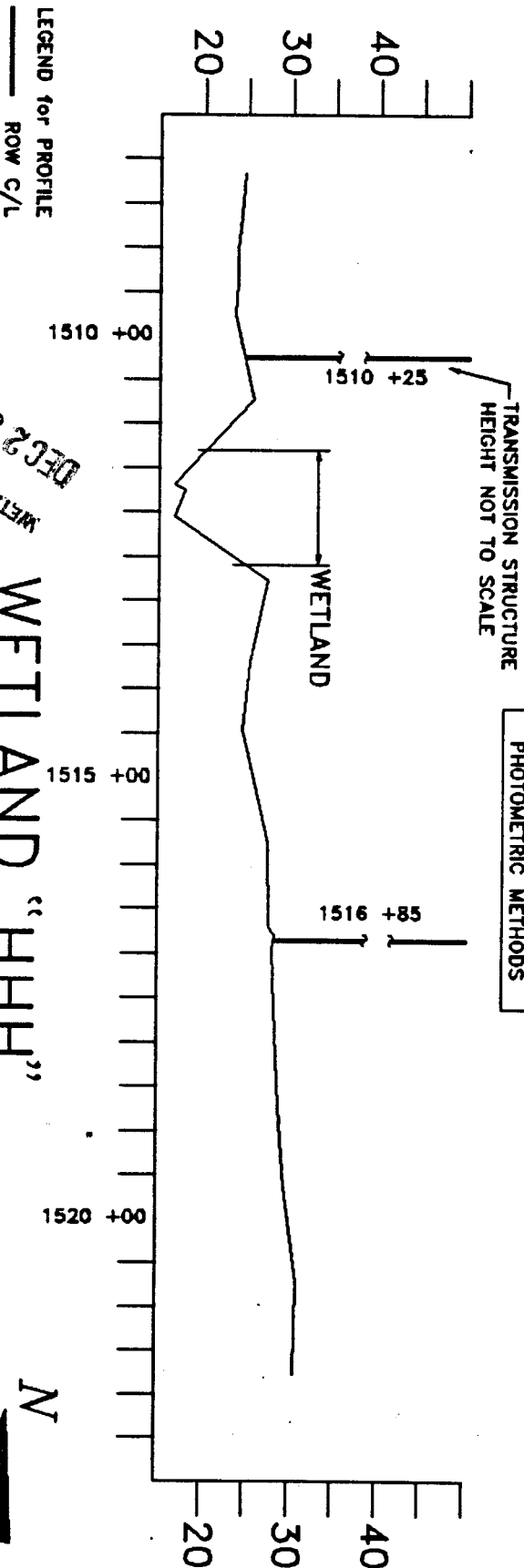


FIGURE 29



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS



RECEIVED
WET. RES. MGR.
DEC 23 1991

WETLAND "HHH"
PLAN/PROFILE

SCALE: 1"=200'

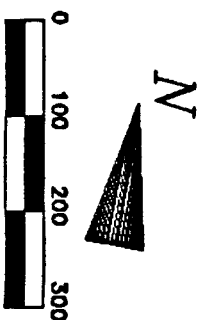


FIGURE 30



SEMINOLE
ELECTRIC
COOPERATIVE
INCORPORATED

RECEIVED
MET. RES. MGMT.
DEC 23 1991

WETLAND "III" PLAN/PROFILE

SCALE: 1"=200'

SHW ± 28
NWL ± 27
SLW ± 26

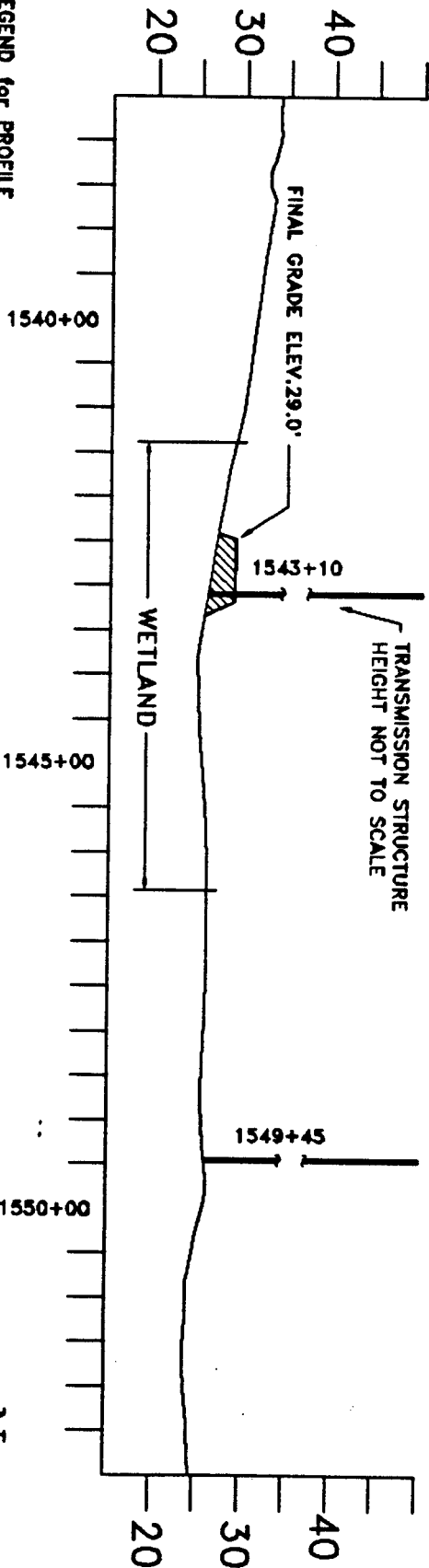


DATUM: NGVD

N



LEGEND for PROFILE
FILL
ROW C/L



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

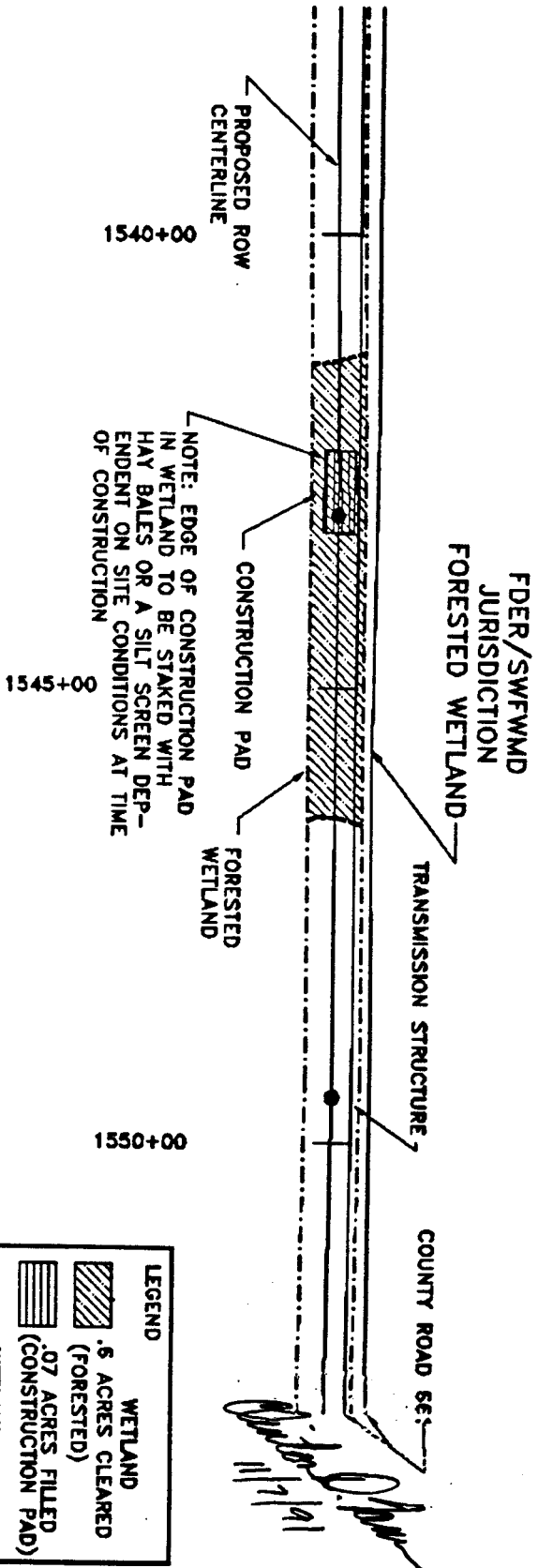
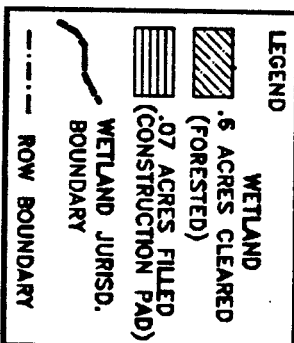
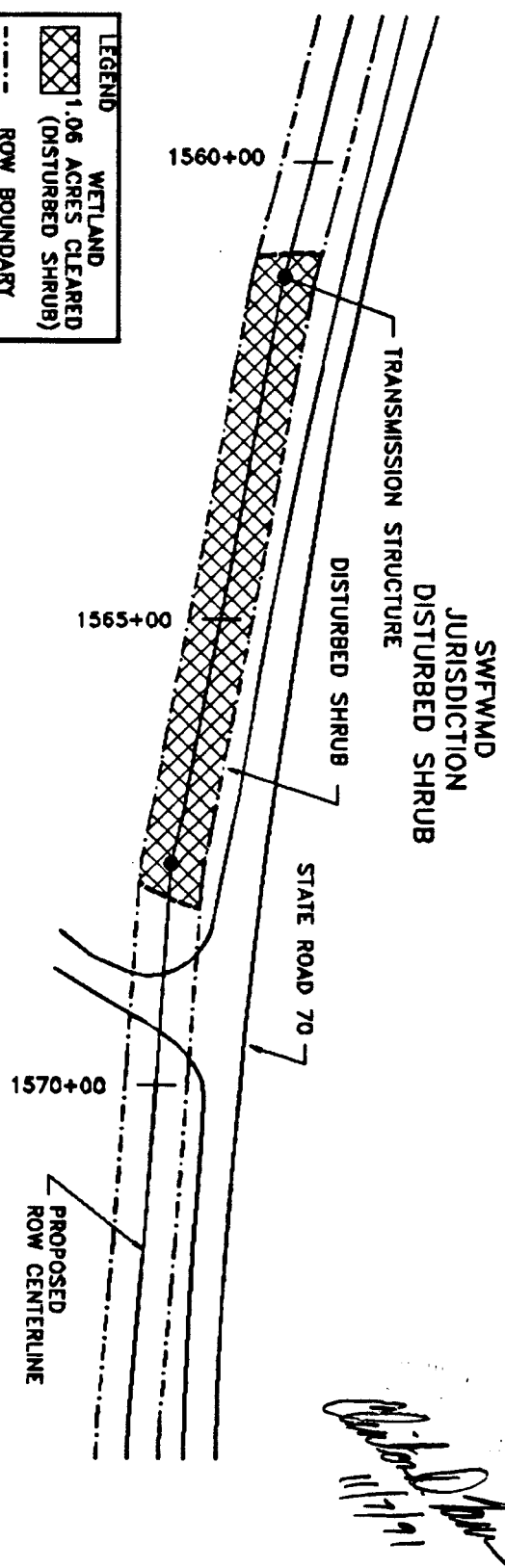


FIGURE 31

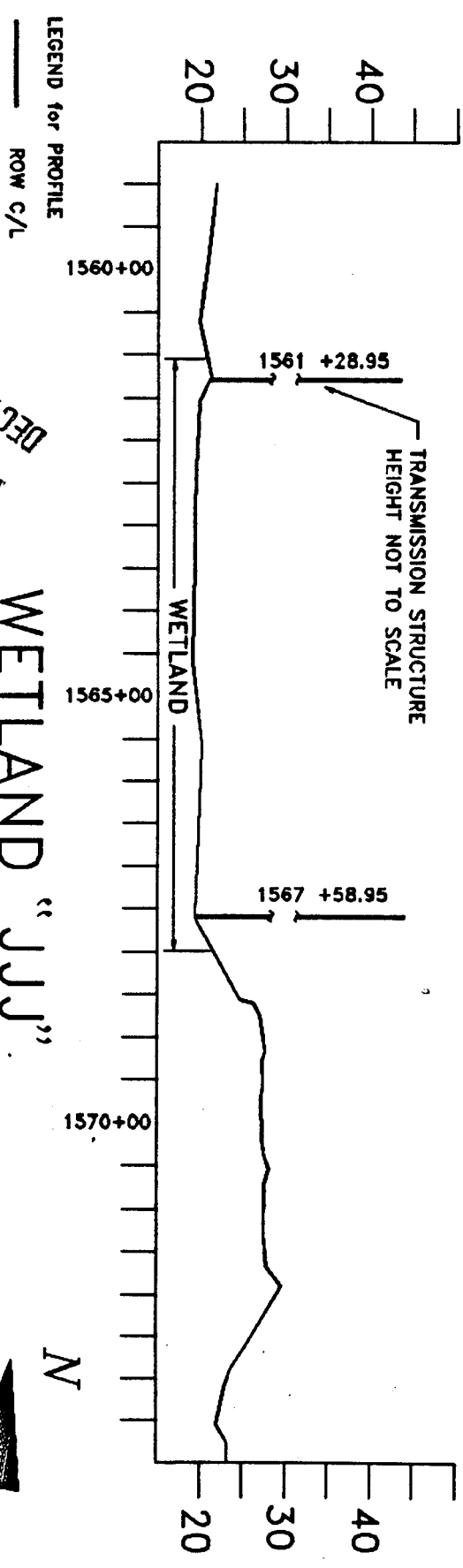


[Signature]
11/17/91

LEGEND

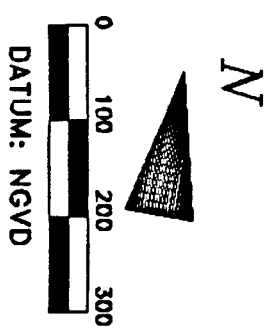
- WETLAND 1.06 ACRES CLEARED (DISTURBED SHRUB)
- ROW BOUNDARY
- WETLAND JURISD. BOUNDARY

NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS



WETLAND "JJJ" PLAN/PROFILE

SCALE: 1"=200'



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WET. RES. MGMT.
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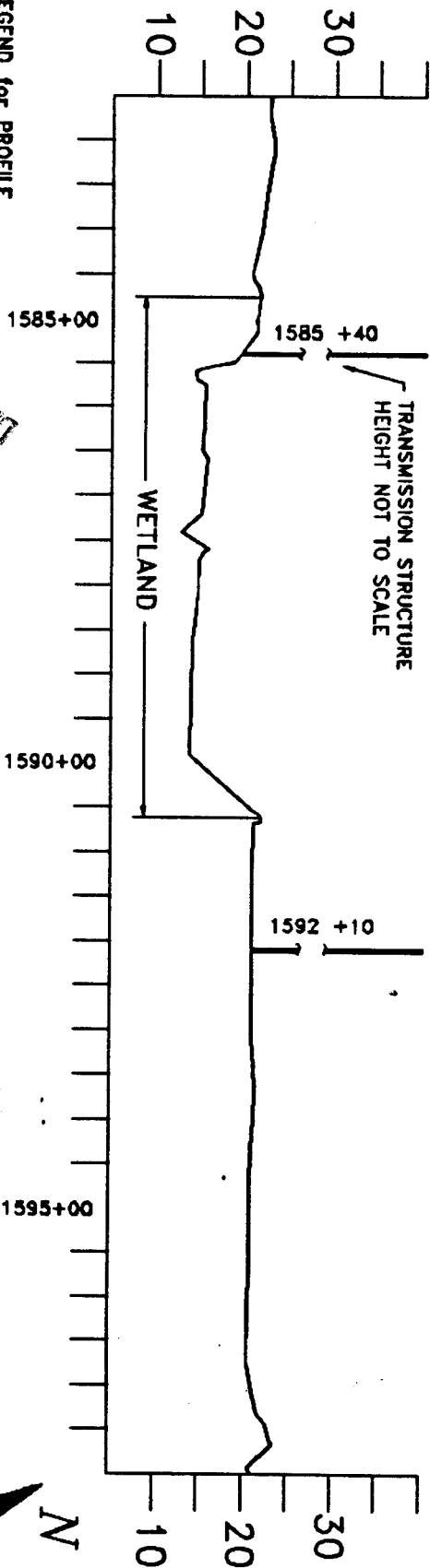
WETLAND "KKK" PLAN/PROFILE

SCALE: 1"=200'



LEGEND for PROFILE

— ROW C/L



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

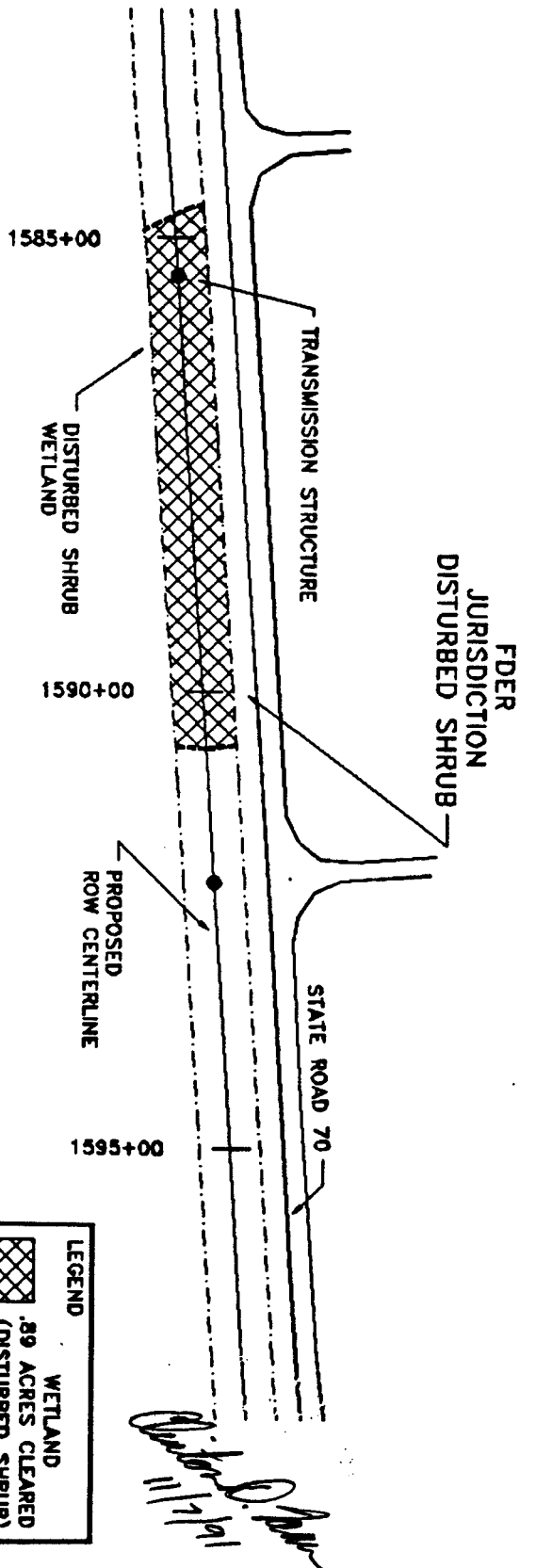
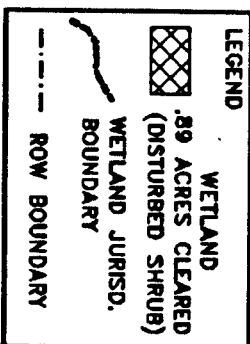
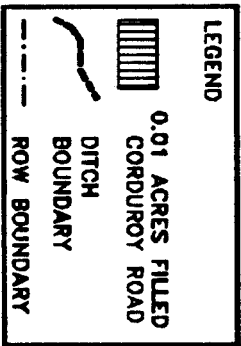


FIGURE 33



LEGEND for PROFILE

- CORDUROY ROAD
- ROW C/L



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ELECTRIC
COOPERATIVE
INCORPORATED**

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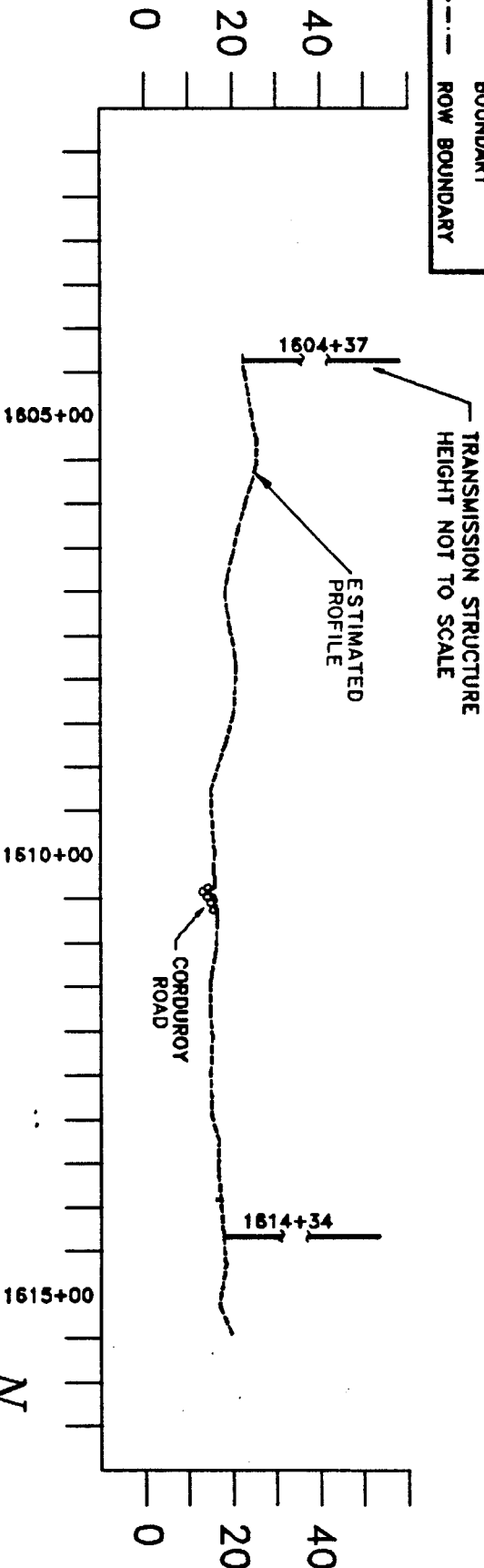
WETLAND "LLL" PLAN/PROFILE

SCALE: 1"=200'

SHW ± 14
NLW ± 13
SLW ± 12



N



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

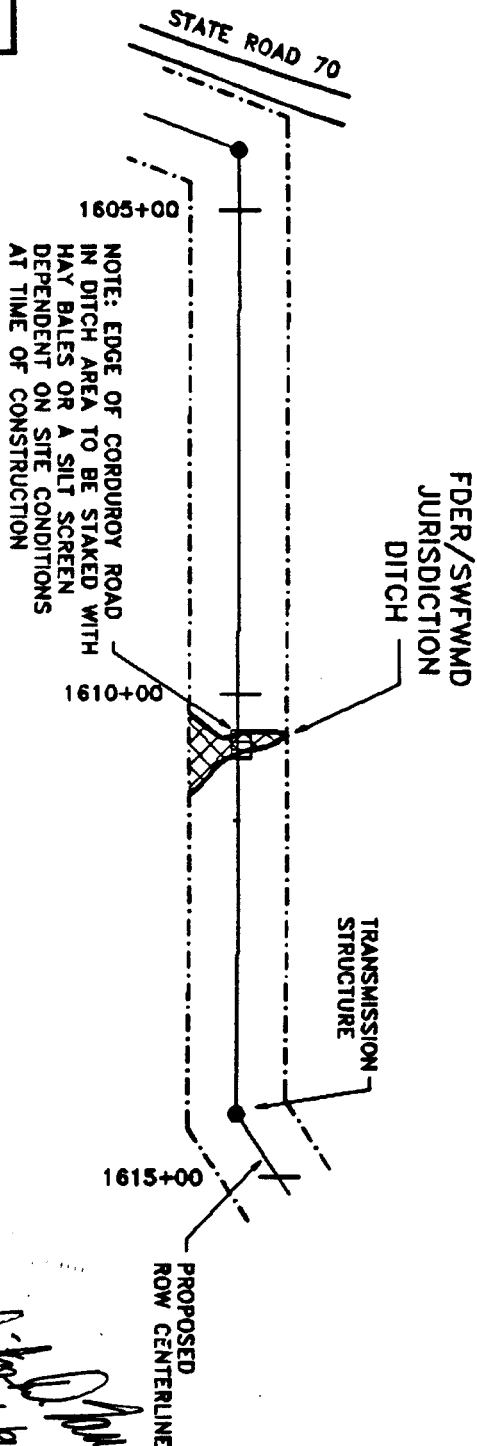


FIGURE 34



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ELECTRIC
COOPERATIVE
INCORPORATED

LEGEND for PROFILE
CORDUROY ROAD
ROW C/L

DEC 23 1991
RECEIVED
PLAT. RES. MGT.

WETLAND "NNN" PLAN/PROFILE

SCALE: 1"=200'

SHW ±26
NWL ±25
SLW ±24

DATUM: NGVD

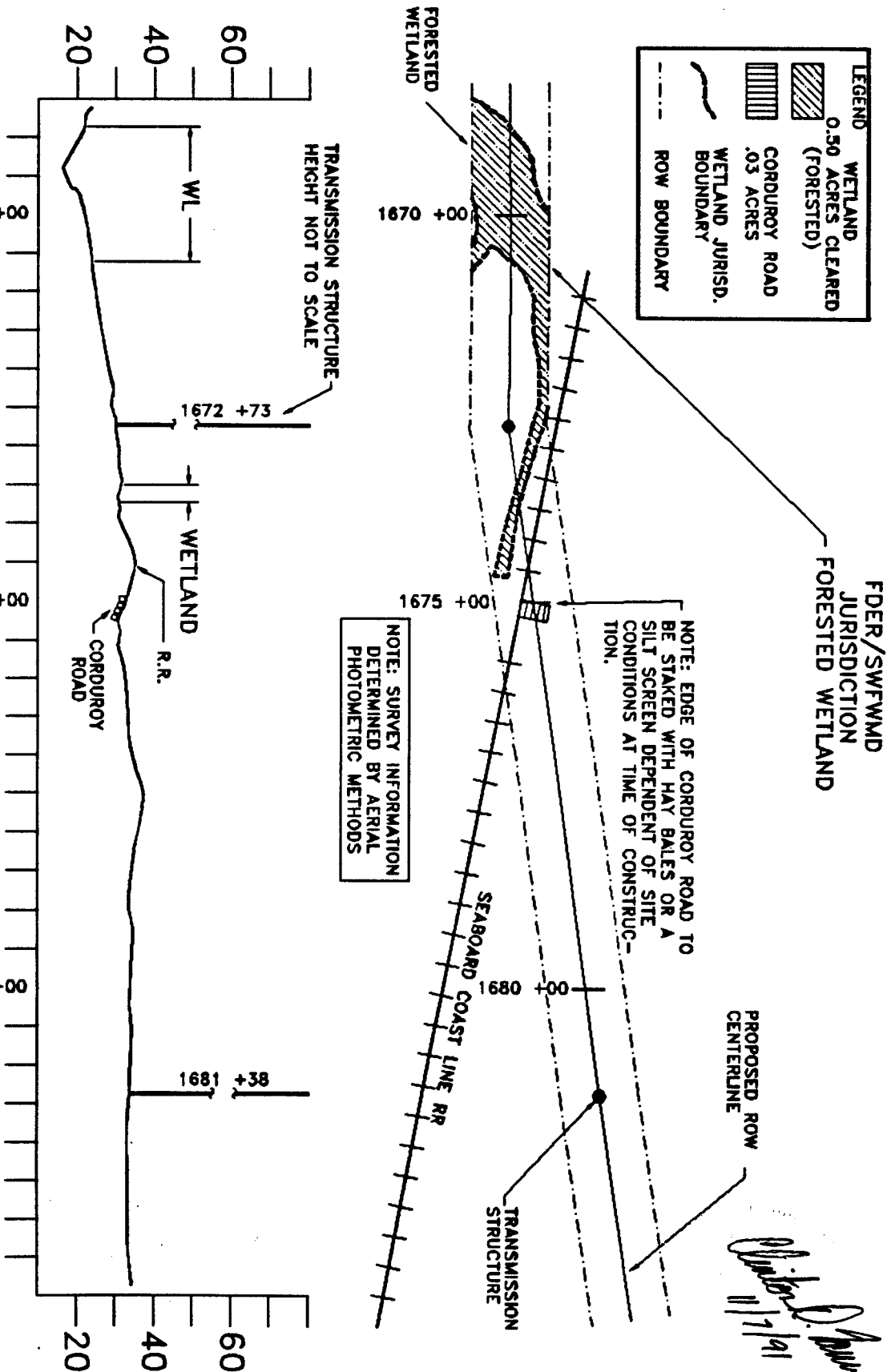
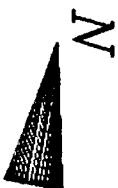
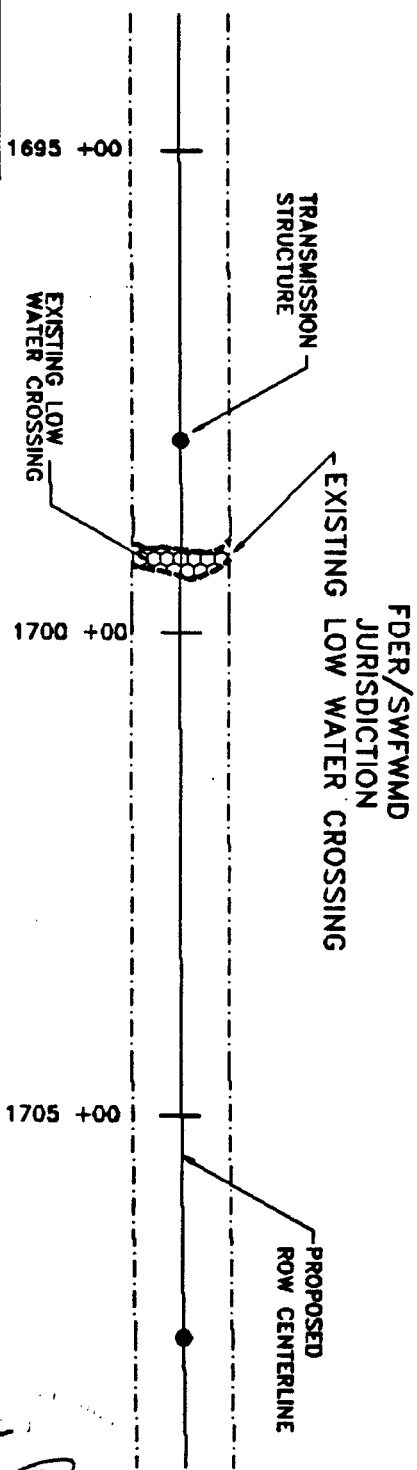


FIGURE 35



LEGEND

WETLAND

0.05 ACRES CLEARED

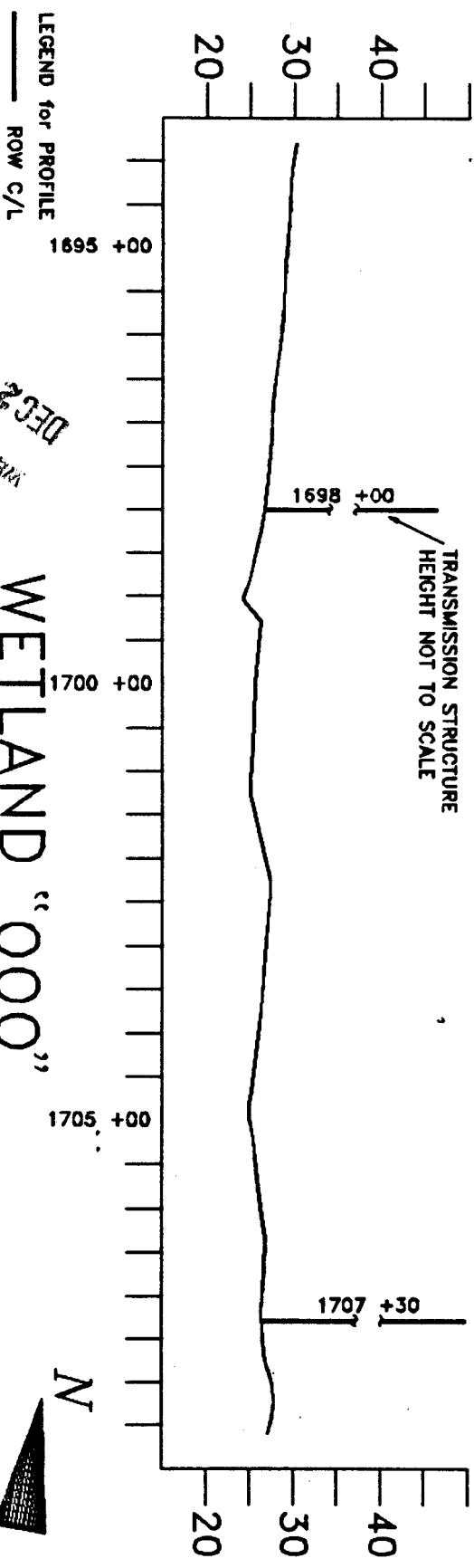
EXISTING LOW WATER CROSSING

WETLAND JURISD. BOUNDARY

ROW BOUNDARY

NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS

Quinn D. Brown
11/16/11

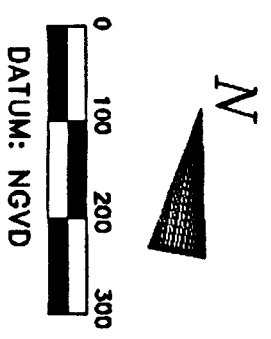


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WET. RES. MGR.
DEC 23 1991

WETLAND "000"

PLAN/PROFILE

SCALE: 1"=200'





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ELECTRIC
COOPERATIVE
INCORPORATED

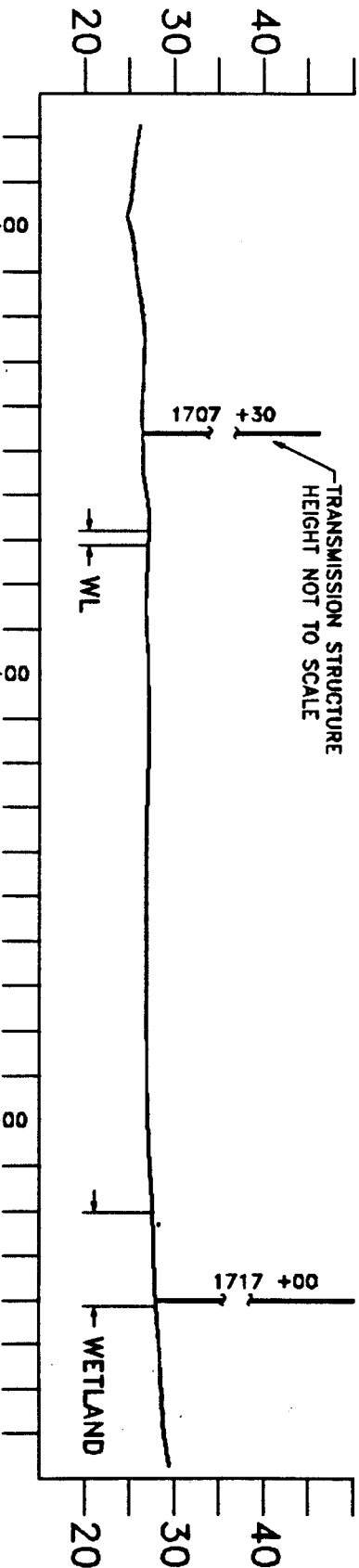
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MET. RES. MGR.
DEC 23 1991

WETLAND "PPP,QQQ" PLAN/PROFILE

SCALE: 1"=200'



N



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

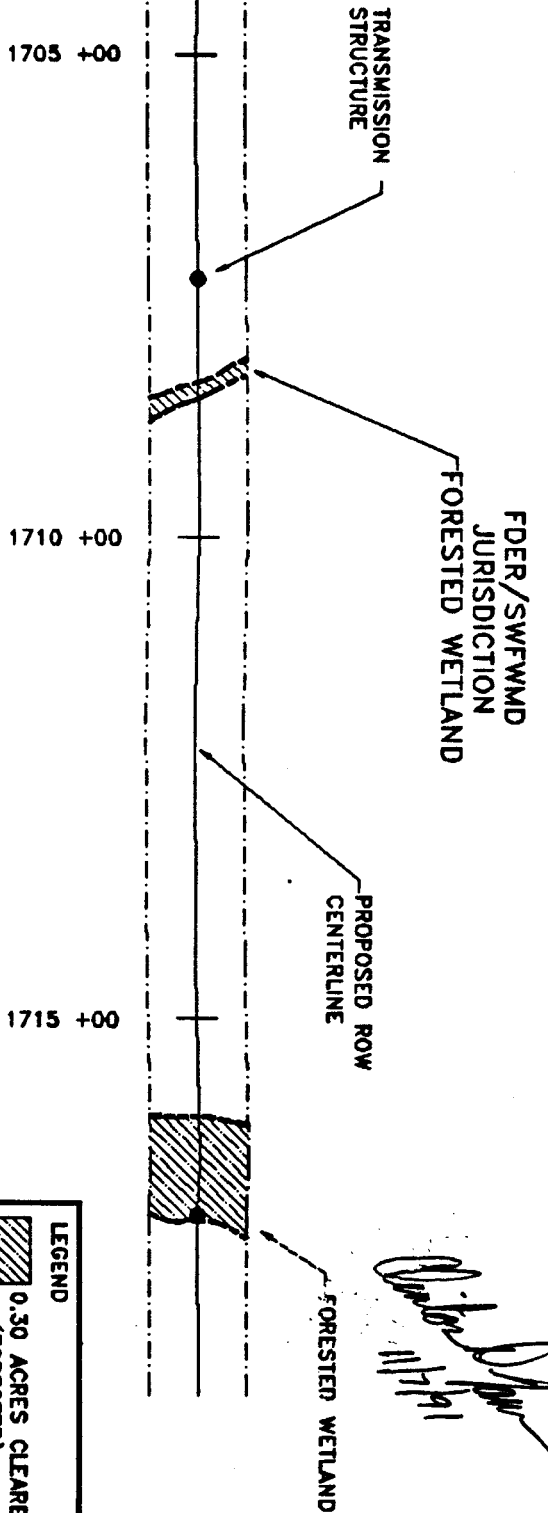
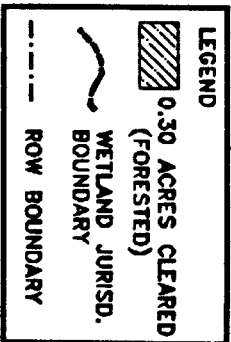
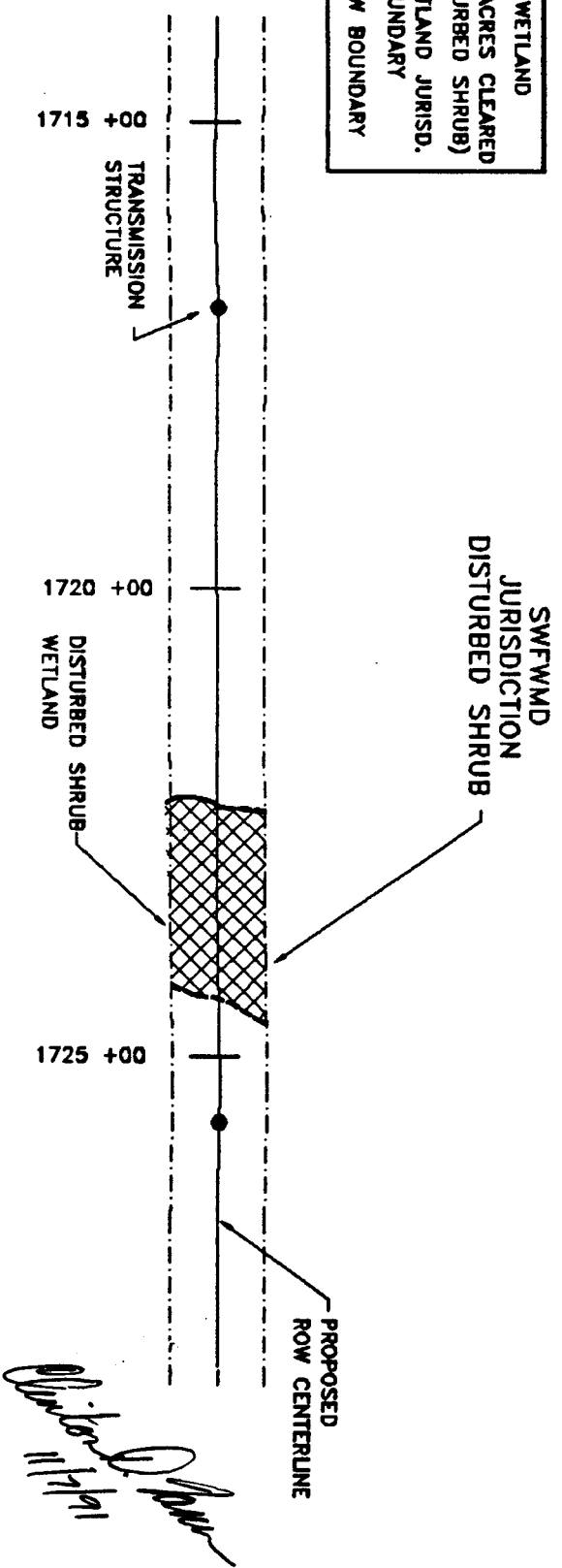
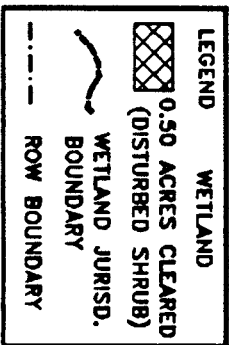
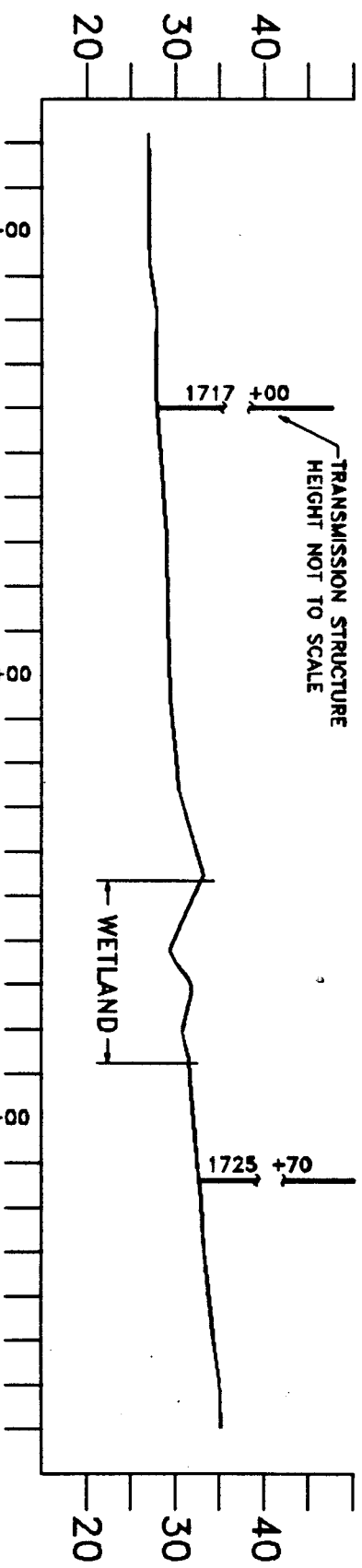


FIGURE 37,38



NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

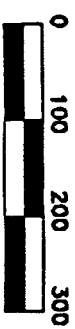


LEGEND for PROFILE
ROW C/L

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MET. RES. MGMT.
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WETLAND "RRR" PLAN/PROFILE

SCALE: 1"=200'



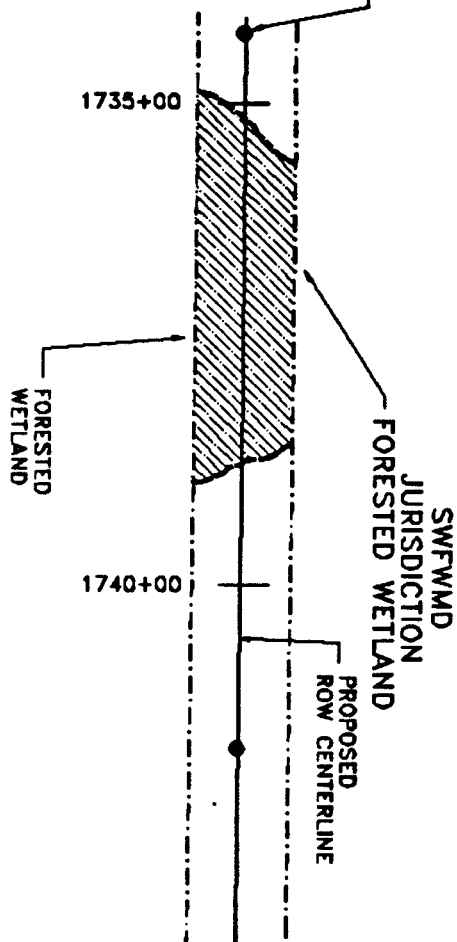
DATUM: NGVD



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ELECTRIC
COOPERATIVE
INCORPORATED

FIGURE 39

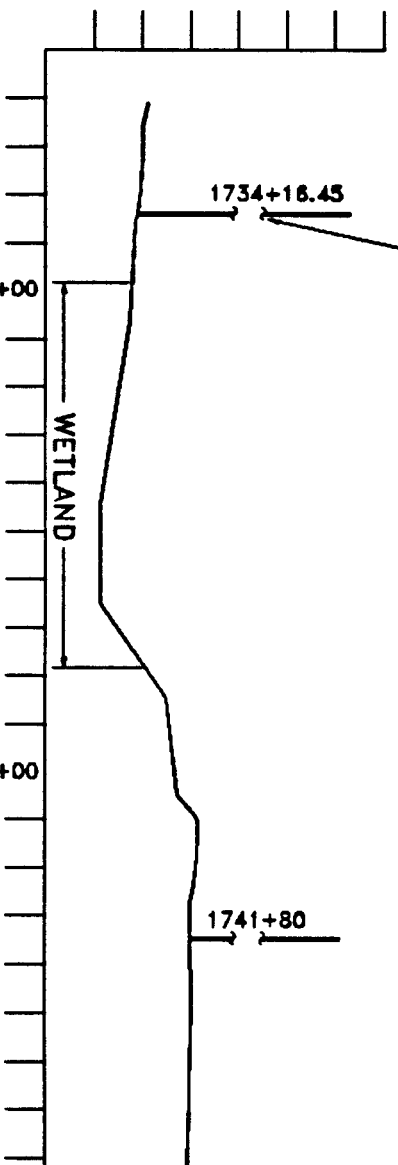
TRANSMISSION STRUCTURE



NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS

TRANSMISSION STRUCTURE HEIGHT NOT TO SCALE

80
70
60



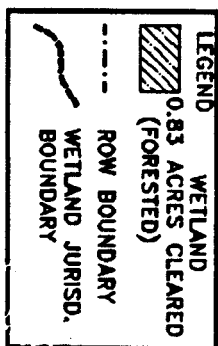
LEGEND for PROFILE

ROW C/L

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DEC 28 1991

WETLAND "SSS" PLAN/PROFILE

SCALE: 1"=200'



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11/7/91

N

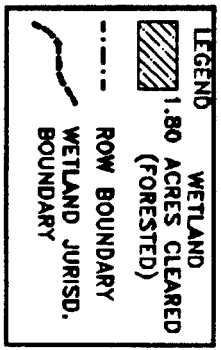
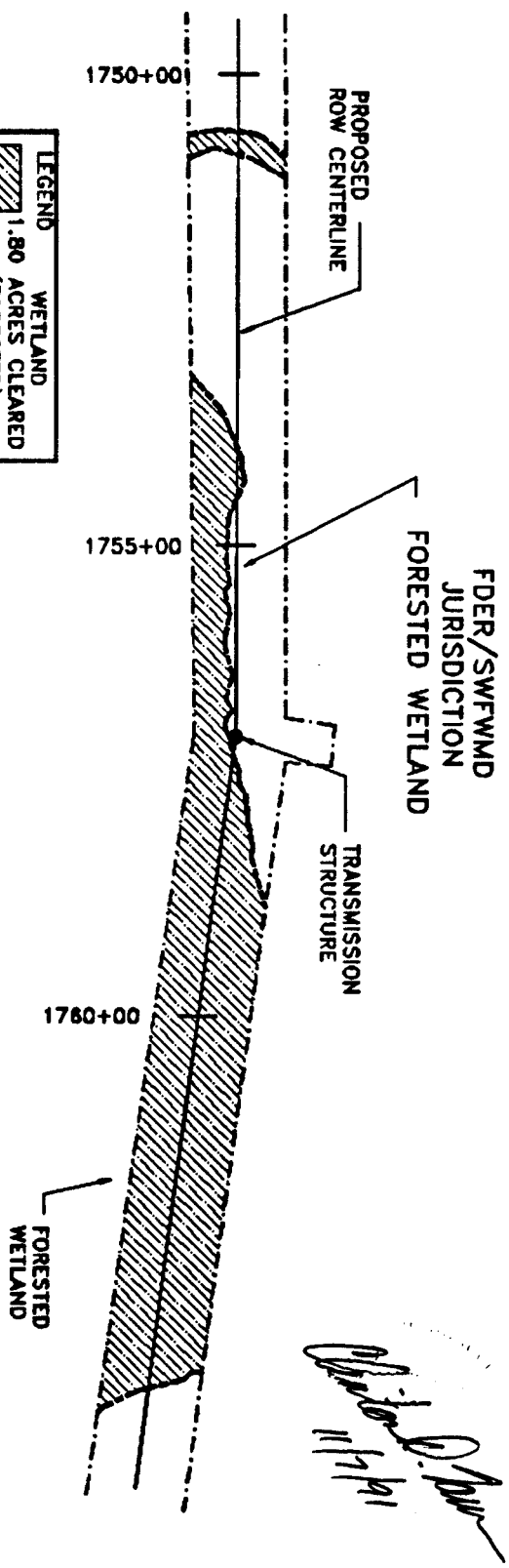


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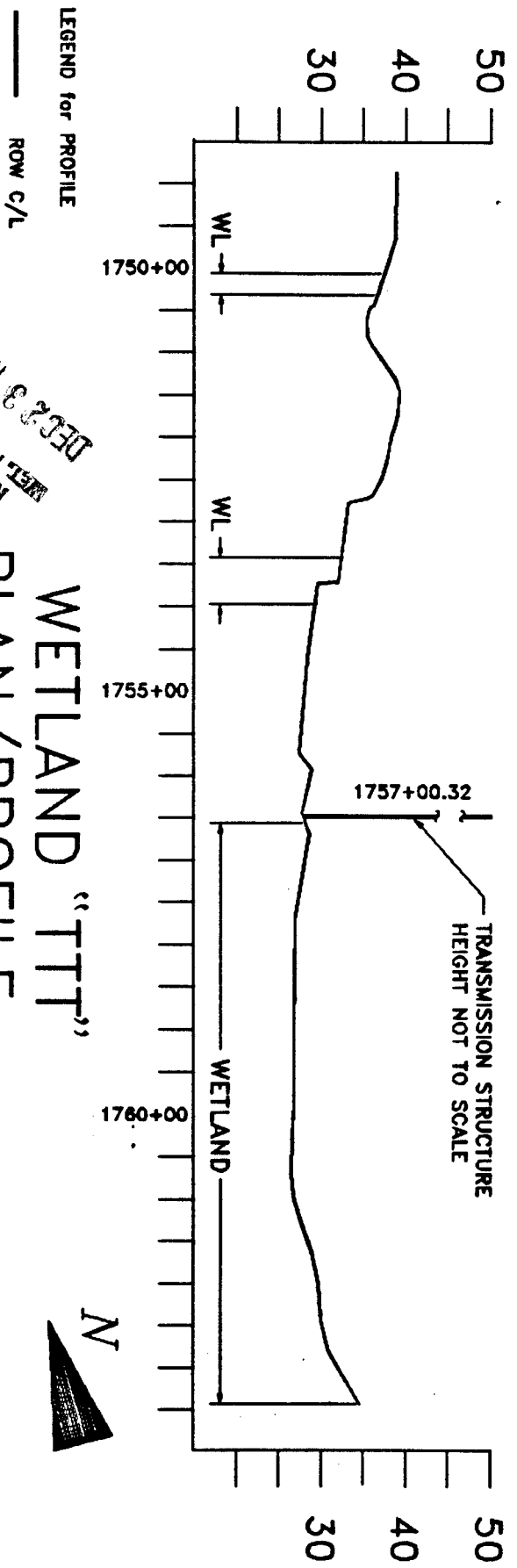
FIGURE 40



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INCORPORATED



NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS



WETLAND "TTT" PLAN/PROFILE

SCALE: 1"=200'



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WET. RES. MGR.
DEC 23 1991

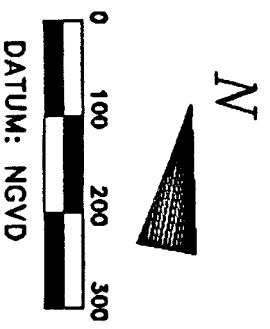
FIGURE 41



SEMINOLE
ELECTRIC
COOPERATIVE
INCORPORATED

WETLAND "DITCH" PLAN/PROFILE

SCALE: 1"=200'



DATUM: NGVD

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WET. RES. MGMT.

LEGEND for PROFILE
CORDUROY ROAD
ROW C/L

LEGEND
0.01 ACRES FILLED
CORDUROY ROAD
DITCH
BOUNDARY
ROW BOUNDARY

NOTE: SURVEY INFORMATION
DETERMINED BY AERIAL
PHOTOMETRIC METHODS

NOTE: EDGE OF CORDUROY ROAD
IN DITCH TO BE STAKED WITH HAY
BALES OR A SILT SCREEN DEPENDENT
ON SITE CONDITIONS AT TIME OF
CONSTRUCTION

Signature
11/1/91

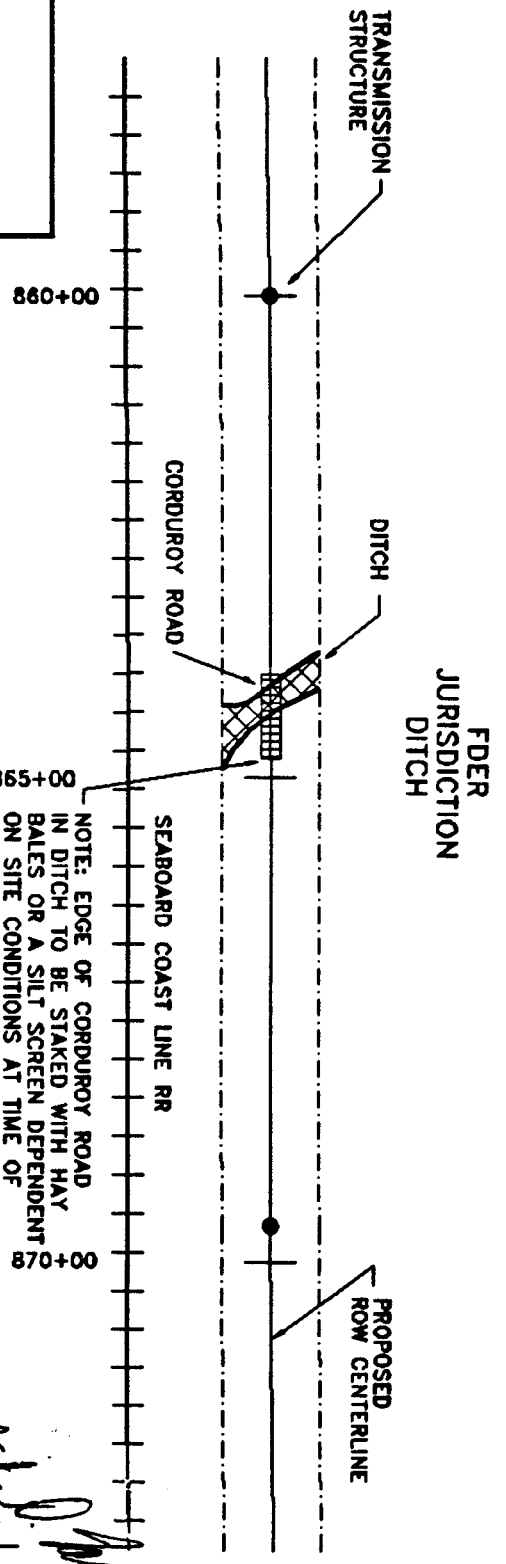
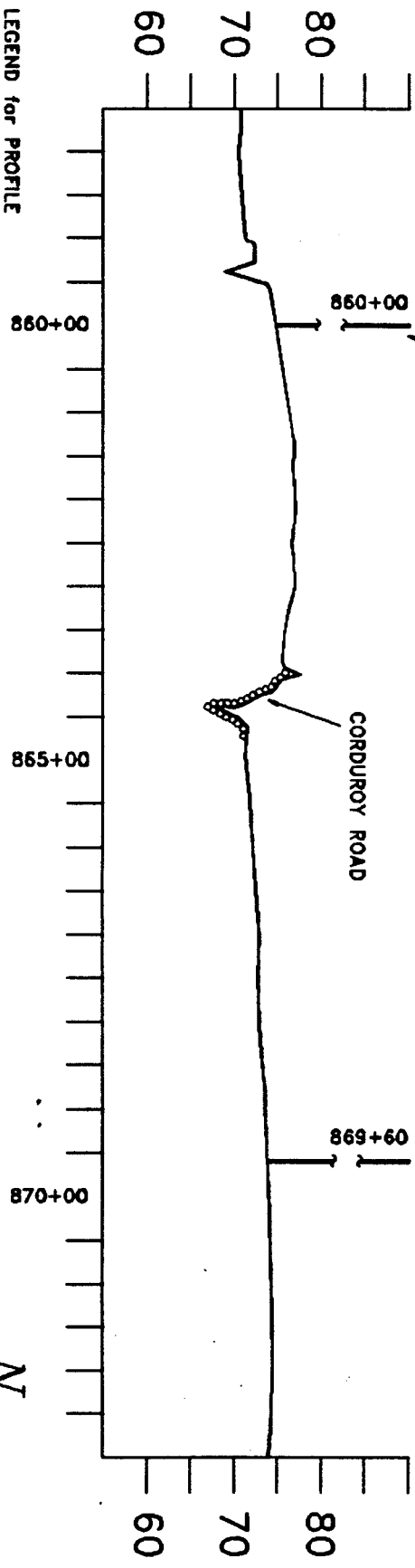
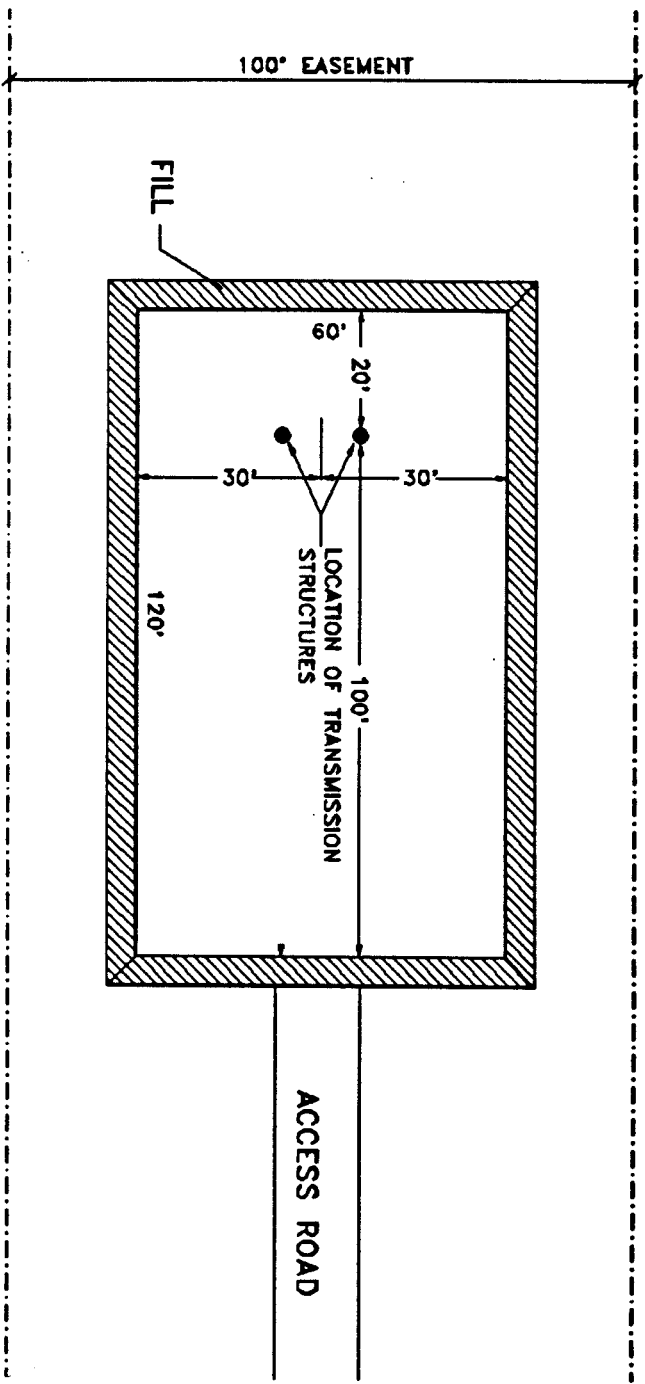
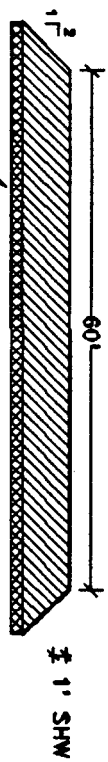


FIGURE 42



N.T.S.

GEOTEXTILE FABRIC OPTIONAL



N.T.S.

“H” FRAME

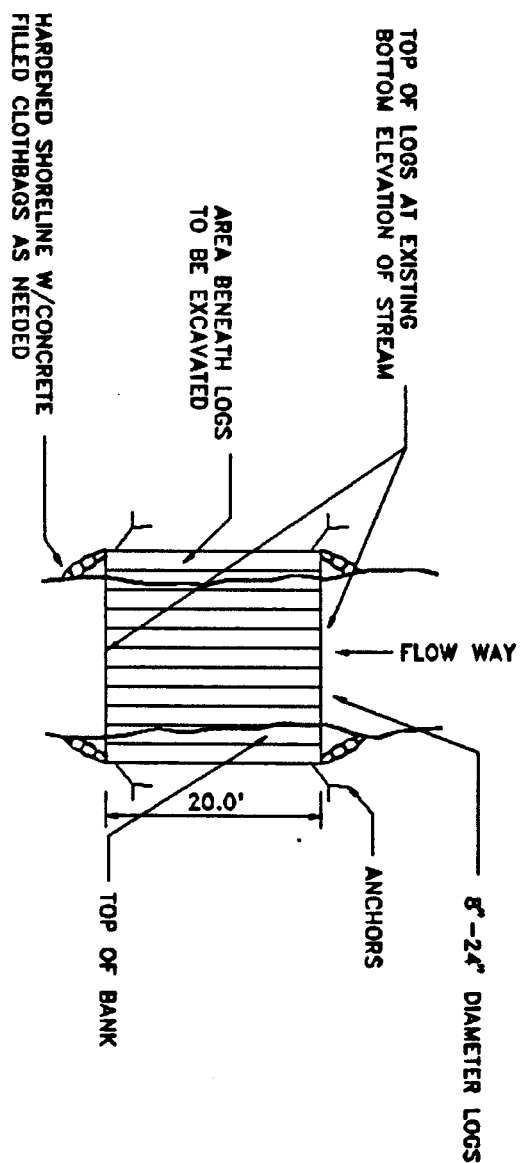
TYPICAL PAD LAYOUT

Signature
11/17/91

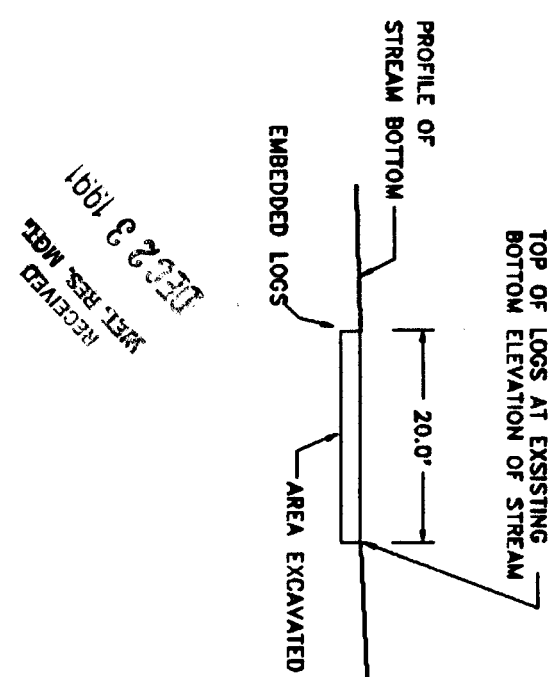
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MET. RES. MGMT.
DEC 23 1991



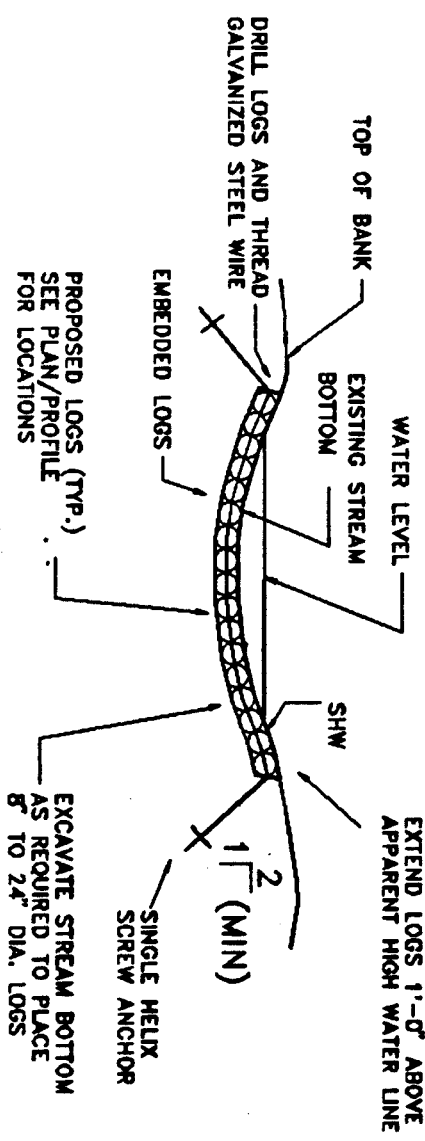
SEMINOLE
ELECTRIC
COOPERATIVE
INCORPORATED



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 11/17/91



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 WEST. RES. MGMT.



CORDUROY ROAD

FIGURE 44

DRAWING TITLE

VANDOLAH-LEE 230KV LINE
TYPICAL TANGENT STRUCTURES

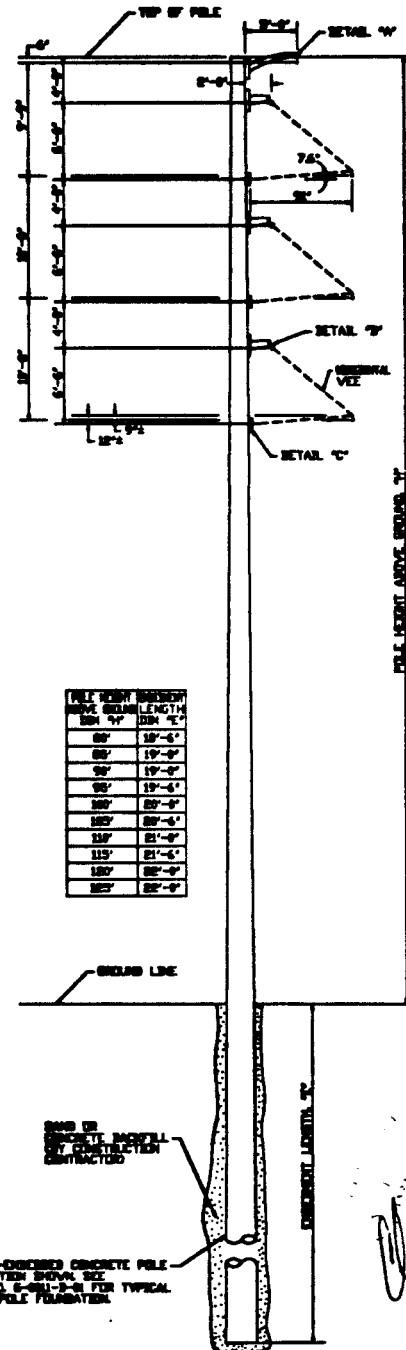
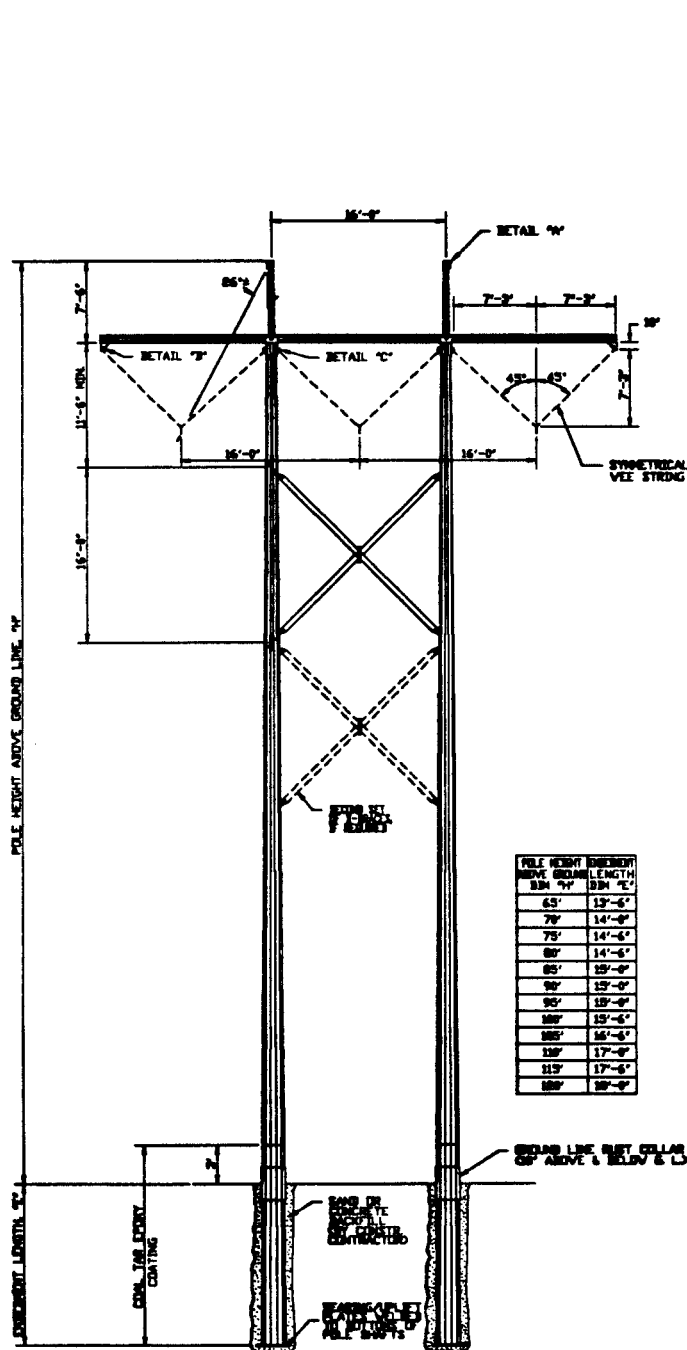
REV.
NO.

BY

DATE

APPR.

REVISION



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DEC 23 1991

Walter D. [Signature]
11/19/91



DIVISION

ENGINEER

DRN. BY:

APPR. BY:

DATE



GUETNER & ASSOCIATES, INC.

DWG. NO.

XX

SHT.

REV.

SCALE

NONE

D:TAN

08:57:04 11/15/91

APPENDIX A

HARDEE POWER STATION 230 KV TRANSMISSION LINE

REVISED MITIGATION PLAN

VANDOLAH - SOUTH ARCADIA

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**WETLAND COMPENSATION PLAN
FOR THE
SEMINOLE ELECTRIC COOPERATIVE
VANDOLAH SUBSTATION TO ARCADIA P.I. #37
230 KV ELECTRICAL TRANSMISSION LINE**

INTRODUCTION

Seminole Electric Cooperative, Inc. (SECI) proposes the following wetland compensation plan for wetland impacts caused by the construction of a 230 kV electrical transmission line south from the Vandolah Substation for 23 miles to Arcadia at P.I. #37. This represents the middle segment of a total 78 mile transmission line south to the Ft. Myers Substation. This project has been reviewed and approved by the state of Florida through the Electrical Power Plant Siting Act and received Site Certification #89-25. In association with this transmission line, there are wetland impacts which include filling for power poles and access roads and clearing for transmission lines. The wetland compensation plan has been designed in Charlotte County on the C.M. Webb Wildlife Management Area (CMWWMA) to provide wetland creation and restoration areas. These areas are described below and referenced in the plan exhibits.

PROJECT DESIGN

This project segment is an approximate 23 mile 230 kV transmission line which runs south from Seminole Electric's Vandolah Substation to P.I. #37 just south of Arcadia, Florida. In association with this project there are impacts to jurisdictional wetlands which include filling and clearing. The following table shows the types and acreages of wetland impacts. These are shown in detail on the previously submitted permit exhibit drawings.

<u>Wetland Filling</u>	<u>Area</u>	<u>Corduroy Road Fill</u>
forest	1.02 acres	0.07 acres
oak/pine	0.00 acres	0.00 acres
shrub	0.00 acres	0.00 acres
disturbed shrub	0.59 acres	0.47 acres
marsh	<u>0.00 acres</u>	<u>0.04 acres</u>
TOTAL	1.61 acres	0.58 acres

<u>Wetland Clearing</u>	<u>Area</u>
forest	12.26 acres
oak/pine	0.75 acres
shrub	0.00 acres
disturbed shrub	16.97 acres
marsh	<u>0.00 acres</u>
TOTAL	29.98 acres

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Two types of compensation are proposed for these wetland impacts. For the wetland filling, a wetland creation plan has been designed on the CMWWMA. This area is located between existing wetland sloughs #2 and #3 within the Myrtle Slough drainage basin. For the wetland clearing, a wetland restoration plan has been designed on three wetland sloughs which are tributaries to Myrtle Slough. These plans are described below.

WETLAND CREATION

A type for type wetland creation plan has been designed for the 1.61 acres of wetland filling impacts and 0.58 acres of corduroy road filling impacts caused by this second segment of the project. A 2.5:1 mitigation ratio is proposed for filling forested wetlands, a 1.5:1 mitigation ratio is proposed for filling disturbed shrub and marsh areas and a 1:1 ratio is proposed for the corduroy road filling. As a result of the filling impacts to wetlands there is a total of 4.02 acres of wetland creation provided for this second segment of the project. This is comprised of 2.62 acres of forested wetland and 1.40 acres of marsh. The disturbed shrub filling is compensated by creation of marsh areas. All wetland creation areas have been integrated within an anticipated 20 acre wetland creation site for the entire project corridor. The overall wetland mitigation area is expected to be constructed at one time and concurrent with the actual construction impacts of the first segment of the corridor.

Overall, the wetland creation site is designed to provide type for type mitigation for wetland filling impacts. As a result, the mitigation site includes appropriate areas of mesic forest, cypress swamp and marsh. The design uses the wetland hydroperiod elevations of the adjacent restored slough systems and provides a diversification of wetland habitat on the CMWWMA. In addition, within the creation wetland, an isolated wetland component has been incorporated which relies on groundwater level fluctuations. Standard wetland creation designs have been used and vegetation species scheduled for planting are derived from the wetland impact areas.

WETLAND RESTORATION

For the wetland clearing caused by the project, a wetland restoration plan has been designed on the CMWWMA. This plan proposes the restoration of three slough tributaries which are part of the Myrtle Slough drainage basin in the north central portion of the CMWWMA. These three tributaries were ditched in the early 1900's as part of the construction of a north-south railroad grade. As a result, wetland hydroperiods and vegetative communities have been variously damaged and degraded. Generally, existing wetland conditions become more degraded from south to north along the flow pattern of the canal. At the northern slough, the historic wetland area closest to the existing canal has been so severely dewatered that it is no longer jurisdictional. This area is proposed for a wetland creation design through restoration of the historic hydroperiod.

Wetland restoration will be accomplished by SECI through the construction of earthen

berms located parallel to the main north-south canal and abandoned railroad grade. These berms will hold wetland water elevations to historic levels during the summer wet season. These elevations have been determined from evaluation of the saw palmetto lines along each wetland area. Each earthen berm will have a weir located at the berm midpoint or its intersection with the existing wetland scour line. The weir invert elevation will be set at the historic seasonal high water elevation and will be constructed of inter-locking, open-faced concrete blocks. This will provide stability to the structure and also serve as a fish ladder to the restored wetlands upstream. Overall, this design is expected to cause the return of natural vegetative communities and the return of all historic wetland functions. Design criteria for the earthen berms and structures were derived from meetings with the Southwest Florida Water Management District (SWFWMD) and the Florida Department of Environmental Regulation (FDER).

The extent of existing wetland degradation has been assessed for all areas of the three sloughs. This has allowed the determination of the amount of wetland restoration expected within the different areas of the three sloughs. These determinations are shown on the wetland restoration plan sheet. The approximate 11 acre wetland creation area on the northern slough (#3) will provide 1:1 wetland mitigation credit (wetland restoration acreage : wetland clearing acreage). The wetland restoration in the middle area of the northern slough (#3) and the western area of the central slough (#2) will provide wetland mitigation at a 3:1 ratio. The wetland restoration at the eastern extent of the northern slough (#3), eastern extent of the central slough (#2) and the entire southern slough (#1) will provide wetland mitigation at a 5:1 ratio.

The permit application and the preceding table of wetland impacts shows that this second powerline corridor segment causes 29.98 acres of wetland clearing. This is comprised of 12.26 acres of forested wetland, 0.75 acres of live oak/slash pine wetland and 16.97 acres of disturbed shrub wetland. As compensation for these wetland impacts, SECI proposes ratios of 1:1 (wetland restoration acreage : wetland clearing acreage) for the forested wetland clearing, and 0.5:1 for the oak/pine and disturbed shrub wetland clearing. Based on these ratios, a total of 21.12 acres of wetland restoration credits must be provided on the CMWWMA area. This includes 12.26 acres of restoration for the forested wetland clearing and 8.86 acres of restoration for the oak/pine and disturbed shrub clearing.

On the CMWWMA, this acreage of wetland restoration credits is provided in the northern slough (#3) within the remaining wetland creation area (3.81 acres), the wetland restoration-type A area (3.52 acres), the wetland restoration-type B area (1.66 acres), and within the central slough (#2) the wetland restoration-type A area (3.33 acres), the wetland restoration-type B area (8.38 acres) and within the southern slough (#1) a portion of the wetland restoration-type B area (0.42 acres). These areas are shown on the attached construction plans and permit exhibits.

WETLAND MONITORING

The wetland restoration and creation areas will be subjected to a monitoring program to determine the success of the compensation plan. The restoration monitoring will include

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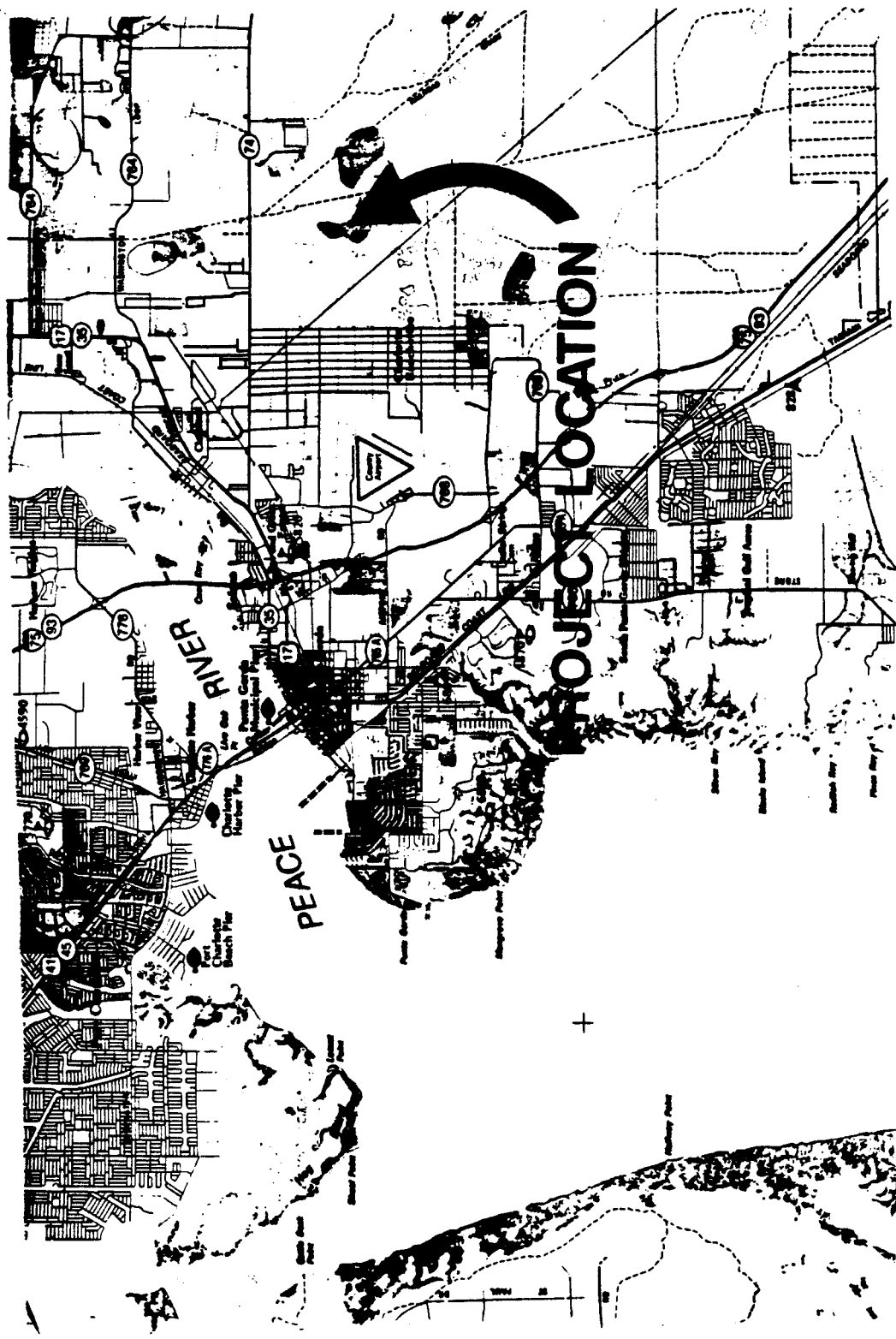
vegetation transects in representative areas of the restored wetlands. Separately, an overall visual assessment of success will be conducted for the wetland creation areas (see mitigation construction plans). The restoration monitoring transects and overall creation monitoring will be conducted on a quarterly basis in April, July and October with only a photograph and water depth measuring event in January. This will be conducted over a two year period with semi-annual events scheduled during the third year. A baseline monitoring event can be completed immediately following comment and approval of the restoration and creation plan from the environmental agencies. Nuisance vegetation establishment will be evaluated during the monitoring events and will be controlled through maintenance, if necessary. Depending on the extent and type of nuisance vegetation cover, the selective application of a herbicide or hand removal will be implemented.

SUMMARY

This wetland restoration and creation plan is designed to compensate fully for the wetland impacts caused by the initial segment of the project corridor. The incorporation of the diverse wetland creation design and the extensive wetland slough restoration will provide complete wetland compensation along with important regional benefits to the CMWWMA. Further impacts to wetlands caused by the remaining portion of the corridor will be incorporated into this wetland compensation plan. This will be shown in future permit applications.

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10559-028-019

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SEMINOLE ELECTRIC WETLAND RESTORATION

FIGURE 1

LOCATION MAP

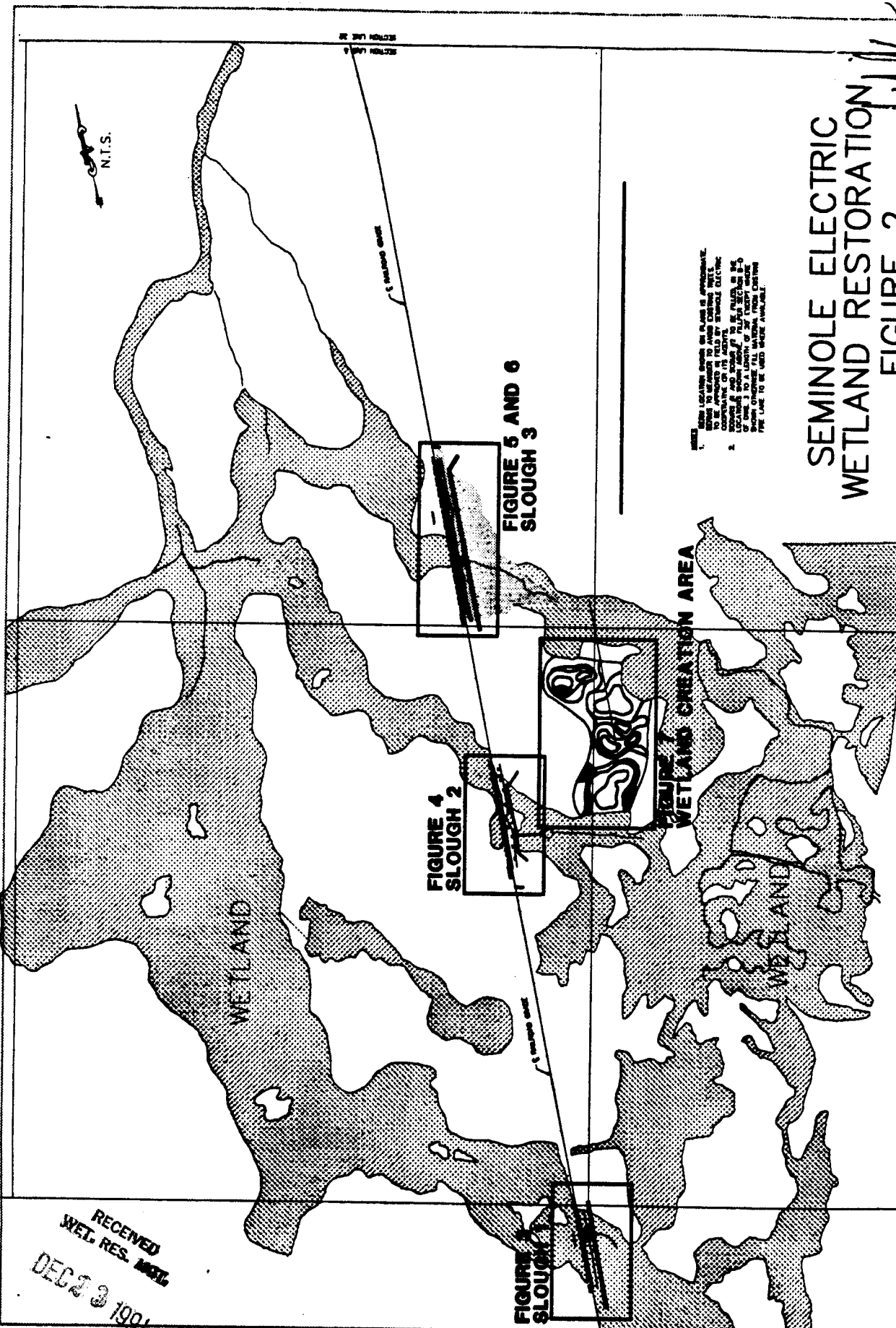
Dames & Moore

Civil Engineering/Water Resources/Waste Management/Planning
Environmental Services/Geotechnical Engineering

One North State Library Suite Seven Hundred Tampa, Florida 33602



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NOTE: LOCATION SHOWN ON MAP IS APPROXIMATE. NO MEASUREMENTS WERE MADE. THE LOCATION OF THE WETLAND CREATION AREA IS BASED ON THE LOCATION OF THE WETLAND CREATION AREA. THE LOCATION OF THE WETLAND CREATION AREA IS BASED ON THE LOCATION OF THE WETLAND CREATION AREA. THE LOCATION OF THE WETLAND CREATION AREA IS BASED ON THE LOCATION OF THE WETLAND CREATION AREA.

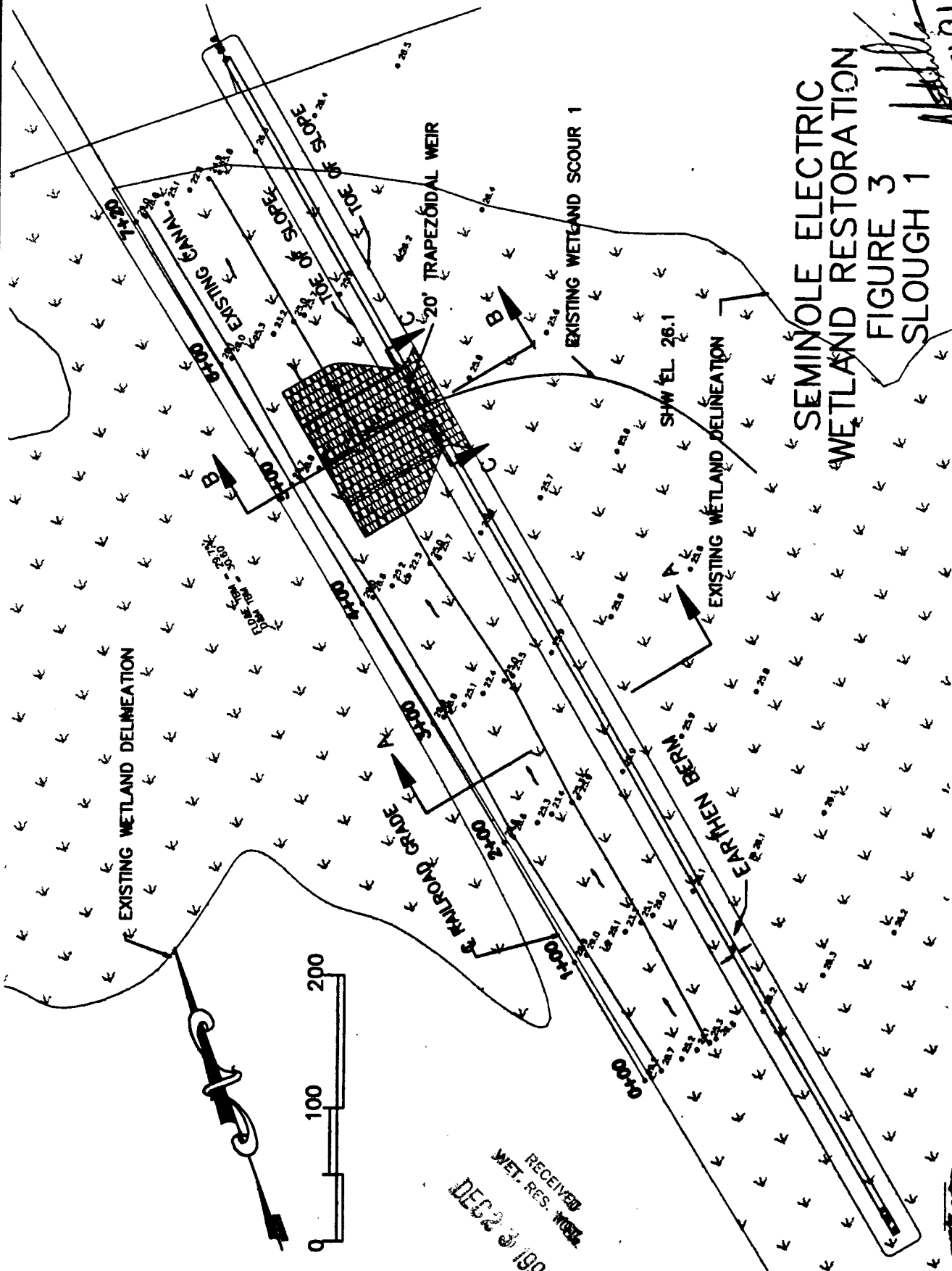
SEMINOLE ELECTRIC WETLAND RESTORATION

FIGURE 2 PROJECT MAP

DAMES & MOORE

CIVIL ENGINEERING/WATER RESOURCES/PLANT MANAGEMENT/
ENVIRONMENTAL SERVICES/GEOTECHNICAL ENGINEERING/
PLANNING/LANDSCAPE ARCHITECTURE
ONE NORTH DALE HARBOR, SUITE 200 TAMPA, FLORIDA 33606
TAMPA (813) 241-6677





SEMINOLE ELECTRIC
WETLAND RESTORATION
FIGURE 3
SLOUGH 1

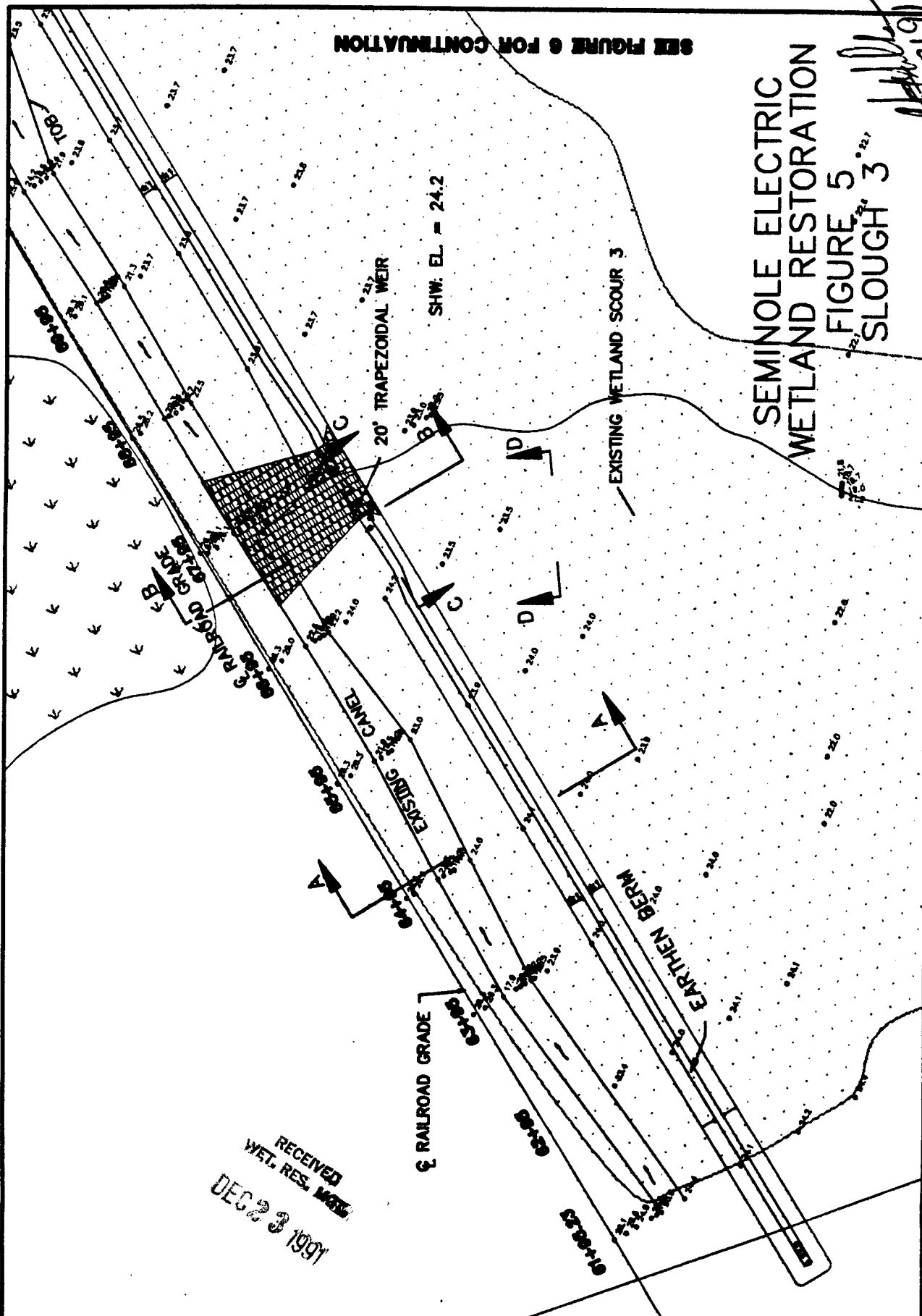
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11-21-91

DAMES & MOORE

CIVIL ENGINEERING/WATER RESOURCES/HAZARD MANAGEMENT/
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SEE FIGURE 6 FOR CONTINUATION

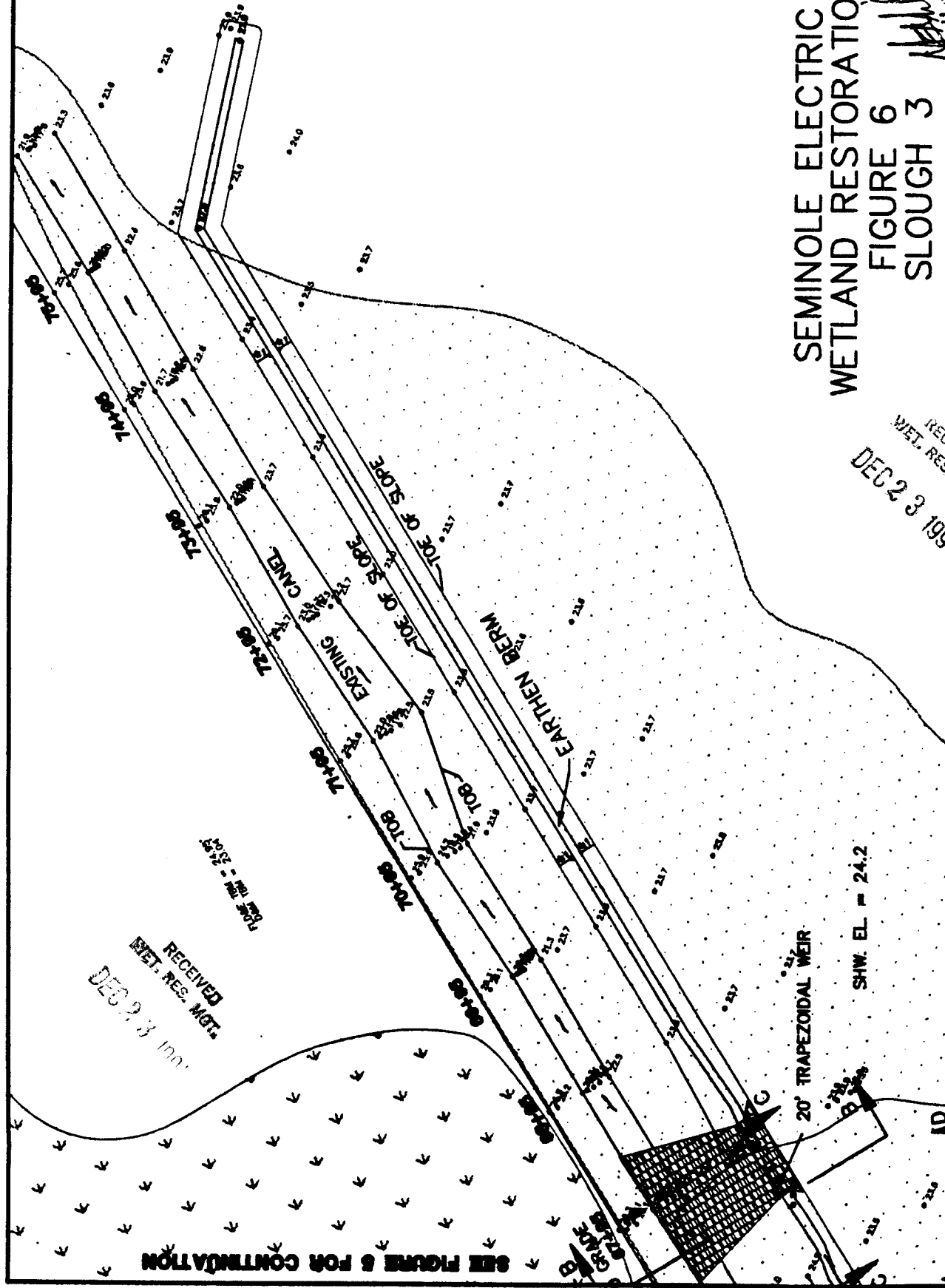
SEMINOLE ELECTRIC
WETLAND RESTORATION
FIGURE 5
SLOUGH 3

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SEMINOLE ELECTRIC WETLAND RESTORATION FIGURE 6 SLOUGH 3

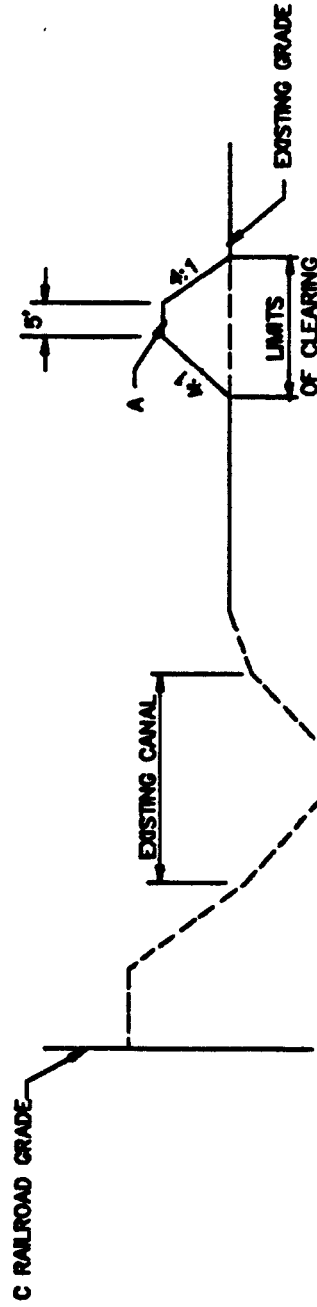
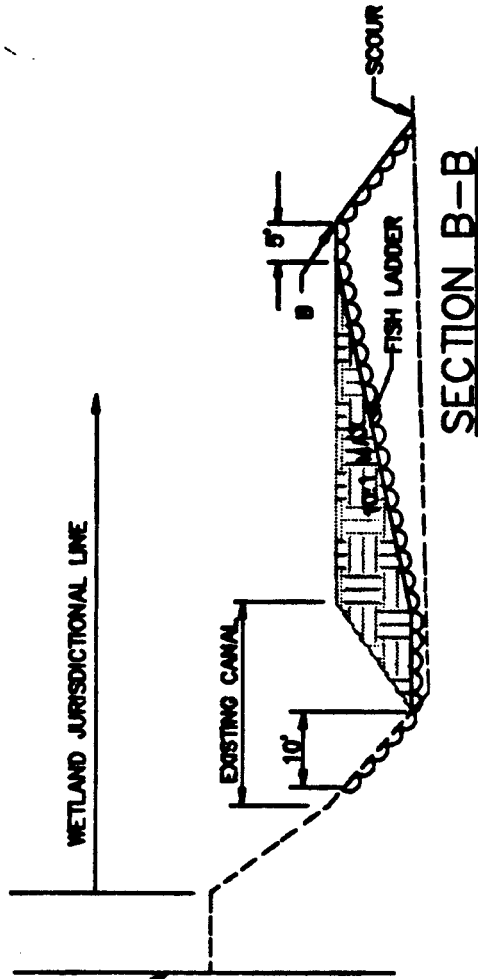
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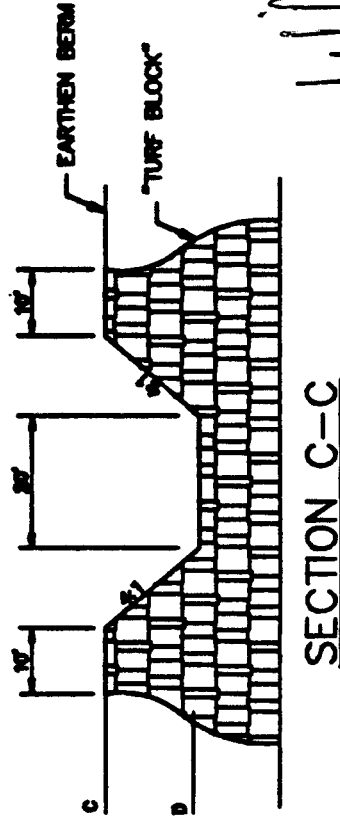
SCOUR/ELEVATION CHART

	A	B	C	D
SCOUR 1	28.8	26.1	28.8	26.1
SCOUR 2	27.5	25.2	27.5	25.2
SCOUR 3	27.0	24.2	27.0	24.2



SECTION A-A

SCALE: HORIZ. 1" = 30'
VERT. 1" = 4'



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FIGURE 10



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FORESTED	SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
	AR	369	<i>Acer rubrum</i>	Red maple	1 Gallon, 3' - 4' HT., 10' o.c.
	FC	229	<i>Fraxinus caroliniana</i>	Pop ash	1 Gallon, 3' - 4' HT., 10' o.c.
	MV	125	<i>Magnolia virginiana</i>	Sweetbay magnolia	1 Gallon, 3' - 4' HT., 10' o.c.
	QN	293	<i>Quercus nigra</i>	Water oak	1 Gallon, 3' - 4' HT., 10' o.c.
	UA	125	<i>Ulmus americana</i>	American elm	1 Gallon, 3' - 4' HT., 10' o.c.
	PS	427	<i>Pekania spp.</i>	Green anem	2' Pot, 6' - 9' HT., 5' o.c.
	PC	427	<i>Portulaca cordata</i>	Pickertweed	2' Pot, 6' - 9' HT., 5' o.c.
	BS	122	<i>Blechnum serrulatum</i>	Swamp fern	2' Pot, 6' - 9' HT., 5' o.c.
	LR	122	<i>Ludwigia repens</i>	Ludwigia	2' Pot, 6' - 9' HT., 5' o.c.
	CA	122	<i>Citrus americanum</i>	Swamp lily	2' Pot, 6' - 9' HT., 5' o.c.
	PH	836	<i>Polygonum hydropiperoides</i>	Smartweed	2' Pot, 6' - 9' HT., 5' o.c.
	WS	334	<i>Woodwardia spp.</i>	Chain-fern	2' Pot, 6' - 9' HT., 5' o.c.
	RC	502	<i>Ruellia carolinensis</i>	Wild petunia	2' Pot, 6' - 9' HT., 5' o.c.
	HM	334	<i>Hypericum myrsinites</i>	St. John's-wort	1 Gallon, 1' - 2' HT., 5' o.c.
	MC	502	<i>Myrica cerifera</i>	Wax myrtle	1 Gallon, 1' - 2' HT., 5' o.c.
	IC	502	<i>Ilex cassine</i>	Dahoon holly	1 Gallon, 1' - 2' HT., 5' o.c.
	CF	334	<i>Cornus foemina</i>	Swamp dogwood	1 Gallon, 1' - 2' HT., 5' o.c.
MARSH					
	FL	490	<i>Flaveria linearis</i>	Yellowtop	2' Pot, 6' - 9' HT., 3' o.c.
	PH	1,176	<i>Polygonum hydropiperoides</i>	Smartweed	2' Pot, 6' - 9' HT., 3' o.c.
	LC	598	<i>Lachnanthes caroliniana</i>	Redroot	2' Pot, 6' - 9' HT., 3' o.c.
	COO	1,176	<i>Cyperus odoratus</i>	Sedge	2' Pot, 6' - 9' HT., 3' o.c.
	RS	490	<i>Rhynchospora spp.</i>	Rush	2' Pot, 6' - 9' HT., 3' o.c.
	FS	151	<i>Furcraea scirpoides</i>	Umbrella grass	2' Pot, 6' - 9' HT., 3' o.c.
	PHE	303	<i>Panicum hemiltonianum</i>	Maldenian	2' Pot, 6' - 9' HT., 3' o.c.
	BC	606	<i>Bacopa caroliniana</i>	Bacopa	4' x 4' Plug, 3' o.c.
	LR	151	<i>Ludwigia repens</i>	Ludwigia	2' Pot, 6' - 9' HT., 3' o.c.
	JP	1,235	<i>Juncus polycephalus</i>	Juncus	2' Pot, 6' - 9' HT., 3' o.c.
	PC	329	<i>Portulaca cordata</i>	Pickertweed	2' Pot, 6' - 9' HT., 3' o.c.
	SL	82	<i>Sagittaria latifolia</i>	Arrowhead	2' Pot, 6' - 9' HT., 3' o.c.

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[Handwritten signature]

GRAPHIC SCALE



(IN FEET)
1 inch = 100 ft.

MITIGATION CONSTRUCTION AREA 8
0.47 ACRES ISOLATED MARSH (SEGMENT 1)

MITIGATION CONSTRUCTION AREA 7
0.42 ACRES ISOLATED MARSH (SEGMENT 2)

WETLAND
AREA #3

EXISTING
SAW
PALMETTO
PRAIRIE

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115/FL 276/COD
276/PH 115/RS
138/LC

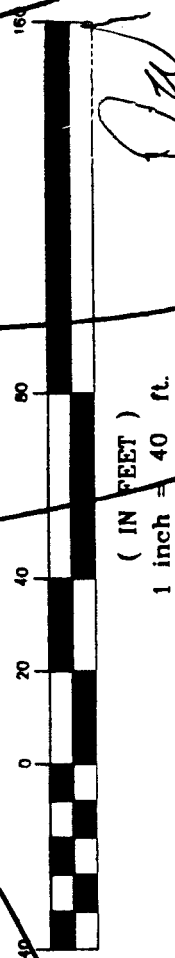
48/FS
97/PHE
194/BC
48/LR

545/JP
145/PC
36/SL
EL. 25.0
(SHGW)

EL. 24.5
EL. 24.0

EL. 23.0

GRAPHIC SCALE



B-1

C-1

MITIGATION CONSTRUCTION AREA 7

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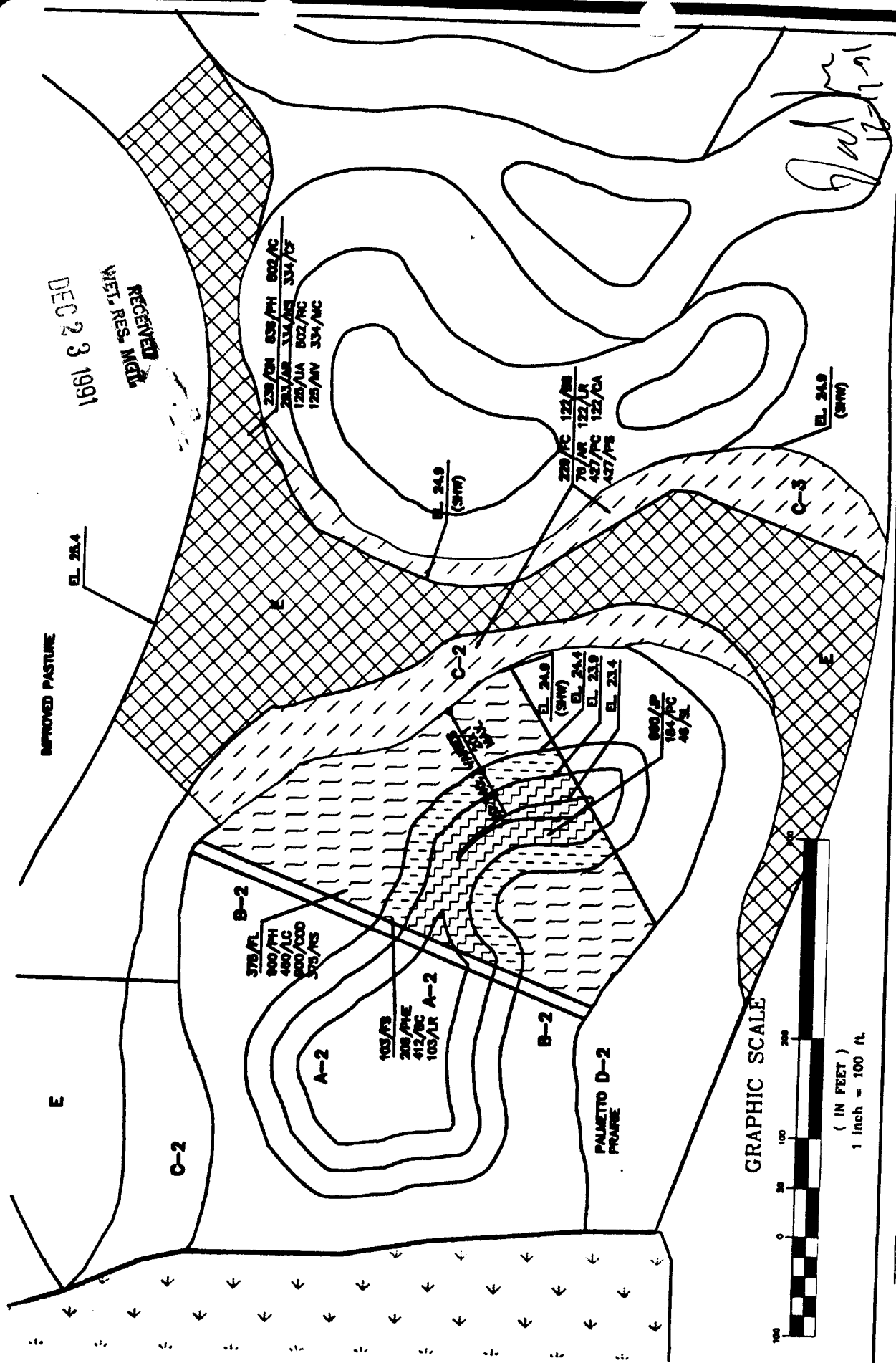
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MITIGATION CONSTRUCTION AREA 3 & 4



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WETLAND RESTORATION MONITORING PLAN

Monitoring of the expected vegetation changes within the proposed wetland restoration areas will be necessary to determine the success of the overall restoration plan. Changes in wetland species composition, percent cover and densities are anticipated because of the hydrological improvements to the wetland sloughs. To accurately determine and then evaluate these changes, permanently marked transects will be established at key points within the wetland restoration areas. In addition, two reference transects are proposed to be located substantially further east of the restored wetland areas. Full scale monitoring is proposed to be conducted three times a year in April, July and October with only a photograph and water depth measuring event in January. This will be conducted over a two year period with semi-annual events scheduled during the third year. A baseline monitoring event can be completed immediately following comment and approval from the environmental agencies. The data can then be compared to the following three years of expected vegetation changes.

The proposed transect locations are marked on page 1 of 6 of the construction plan sheets for each of the three slough systems. They correspond to the wetland areas which are expected to show response to the improved hydrological conditions. The transects will be field located following a detailed assessment of each proposed location. They will be marked by iron rods driven into the ground at the end points. The transects will vary in length because of the varying dimensions of the wetland areas. Permanently marked sampling plots will be systematically located along each transect line. The size and location of each plot will vary dependent upon the length of the transect and the vegetation community dimensions and diversity at each sampling area. For example, if a sampled area is comprised of a monoculture of a transitional grass species the plots may be of uniform size at regular intervals. However, if the sampled area is comprised of several community types the plots must be spaced and sized to accurately depict the changes in percent cover and species composition anticipated with the hydrological improvements. The total transect sampling length will represent a minimum of 10% of the total wetland transect length.

The southern slough restoration area (#1) will have two transects located perpendicular to the slough flow. They are numbered 1A and 1B. This area is expected to show a significant but subtle vegetation change in response to the hydroperiod restoration. As a result the two vegetation transects are similarly oriented and located in proximity to each other within the main area of the slough.

The central slough restoration area (#2) will require five monitoring transects because of the extended length of the existing wetland scour/fire line, the existing extent of wetland impacts and the convoluted configuration of the wetland area. Three of the transects (2A, 2B and 2E) are located at the western extent of the slough where significant improvements are expected. Further east the wetland restoration is expected to be subtle but significant so two transects (2C and 2D) are oriented perpendicular to

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the existing scour over 800' lengths. These are the only two transects proposed which do not extend to the existing wetland delineation line. This design is proposed because of the expected limit of restoration at a greater distance from the shallow scour.

The northern slough restoration area (#3) will require three transects (3A, 3B and 3C). All three transects are located perpendicular to the flow of the slough. The western-most transect will be established within the existing upland area adjacent to the proposed earthen berm which will be selectively located between the individual pine trees. This will allow an evaluation of not only the ground cover vegetation changes, but also the response of the existing slash pine tree cover. This area is anticipated to have a 0.2'-0.4' depth of water during the summer wet season. No more than half of the slash pine trees are expected to be detrimentally affected so little deforestation is expected. The other transects will provide an assessment of the two other types of wetland restoration areas located further east.

In addition to this design for the location of the vegetation monitoring transects, a permanent field mark will be made of the existing delineation between vegetative communities along each transect. This will be accomplished by the placement of iron rods in the wetland systems at the point of existing community zonation delineations. For example, where these zones are present, an iron rod will be located at the delineation between the pickerelweed and maidencane zone, or a St. Johns wort and transitional vegetation zone. This will allow a second, larger scale evaluation of wetland response to the improved hydrological conditions.

All data will be evaluated based on the classification of the individual plant species as either transitional or submerged. Then following repeated monitoring events the expected shifts in vegetation species and types can be evaluated. It is expected that landward shifts in vegetation community zones and an increase in more hydric species will prove successful restoration of the wetlands. This information can then be compared with the two reference transects to be located in undisturbed wetland areas substantially further east from these restoration areas. A photographic record will be made during the monitoring of all sampling locations.

WETLAND CREATION MONITORING PLAN

The criteria for determining the success of the wetland creation areas will follow the methodology of FDER Chapter 17-312.350. In this manner, the reference wetland transects (see data table) sampled in the wetland fill areas of the corridor will serve as the basis to evaluate success of the wetland creation areas. The analysis will be completed to compare the cover and type of vegetation determined within the fill areas with the vegetation determined within the wetland creation areas. This comparison will use Morisita's Similarity Index.

Final mitigation creation success will be obtained with 85% plant survival in all mitigation creation areas, with 85% of the planted trees in the forested mitigation areas reaching 10'

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Final mitigation creation success will be obtained with 85% plant survival in all mitigation creation areas, with 85% of the planted trees in the forested mitigation areas reaching 10' in height, with a proper hydrological regime, and with a 0.6 similarity index between the reference wetlands and the creation wetlands.

Monitoring reports will be submitted to the environmental agencies within 30 days except for the annual event which will require 60 days to allow an examination of vegetation trends over the previous year and previous seasons.

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APPENDIX B

HARDEE POWER STATION 230 KV TRANSMISSION LINE

WETLANDS DESCRIPTIONS

VANDOLAH - SOUTH ARCADIA

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WETLAND "M"
Oak Creek Basin

Community Type: Marsh.
Agency Jurisdiction: DER/SWFWMD
Predominant Species Present:* Pontedaria cordata, Panicum hemitomon, Cyperus spp.
Hydrology: Seasonal High Water $\pm 24"$ above lowest elevations in ROW.
Proposed Impacts - none.

WETLAND "N"
Tributary to Oak Creek

Community Type : Channelized Stream ± 3 ft. wide, existing low water crossing.
Agency Jurisdiction : DER/SWFWMD
Predominant Species Present:* Quercus laurifolia, Salix caroliniana, Myrica cerifera. Low water crossing area - no vegetation.
Canopy Cover : 100 % except for low water crossing area.
Hydrology : Flow to east - ± 1 ft. deep SHW in channelized area.
Proposed Impacts - Clearing, corduroy road.

WETLAND "O"
Oak Creek Basin

Community Type : Marsh
Agency Jurisdiction : DER/SWFWMD
Predominant Species Present:* Pontedaria cordata, Sagittaria lancifolia, Rhyncospora spp.
Proposed Impacts - none.

WETLAND "P"
Tributary to Oak Creek

Community Type : Channelized Stream approximately 4 ft. wide.
Agency Jurisdiction : DER/SWFWMD
Predominant Species Present:* Quercus laurifolia, Pinus ellioti, Myrica cerifera.
Canopy Cover : 100 %
Hydrology : Flow to east - ± 1 ft. deep SHW in channelized area.
Proposed Impacts - Clearing, corduroy road.

WETLAND "Q"
Oak Creek Basin

Community Type : Marsh
Agency Jurisdiction : SWFWMD
Predominant Species Present:* Juncus spp., Hydrocotyle spp., Fleocharis spp.
Proposed Impacts - none.

* Wetland species listed in order of predominance.

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WETLAND "R"
Tributary to Oak Creek

Community Type : Disturbed Shrub, channelized stream approximately 5 ft. wide,
existing low water crossing.
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* Myrica cerifera.
Canopy Cover : 50 %
Hydrology : Flow to east - ± 1 ft. deep SHW in channelized area.
Proposed Impacts - Clearing, corduroy road.

WETLAND "S"
Oak Creek Basin

Community Type : Disturbed shrub
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* Myrica cerifera, Juncus spp.
Proposed Impacts - none.

WETLAND "T"
Oak Creek Basin

Community Type : Marsh
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* Pontedaria cordata, Sagittaria lancifolia,
Hypericum spp.
Proposed Impacts - none.

WETLAND "U"
Tributary to Oak Creek

Community Type : Disturbed Shrub, channelized stream approximately 3 ft. wide,
existing low water crossing.
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* Myrica cerifera, Ludwigia peruviana, Quercus
laurifolia, Liquidambar styraciflua.
Canopy Cover : 70 % except for low water crossing area.
Hydrology : Flow to east - ± 2 ft. deep SHW in channelized area.
Proposed Impacts - Clearing, corduroy road.

WETLAND "W"
Oak Creek Basin

Community Type : Disturbed shrub.
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* Pontedaria cordata, Myrica cerifera, Ludwigia
peruviana.
Hydrology : ± 1 ft. water at SHW.
Proposed Impacts - Clearing, construction pad.
* Wetland species listed in order of predominance.

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WETLAND "X,Y,Z"
Oak Creek Basin

Community Type : Isolated marshes.

Agency Jurisdiction : SWFWMD

Predominant Species Present:* Typha latifolia, Salix caroliniana, Ludwigia peruviana.

Proposed Impacts - Clearing of willows.

WETLAND "AA"
Oak Creek Basin

Community Type : Forested Wetland.

Agency Jurisdiction : DER/SWFWMD

Predominant Species Present:* Acer rubrum, Magnolia virginiana, Quercus laurifolia.

Canopy Cover : 95 %

Hydrology : No discernable flow.

Proposed Impacts - Clearing.

WETLAND "BB"
Oak Creek Basin

Community Type : Disturbed Shrub.

Agency Jurisdiction : DER/SWFWMD

Predominant Species Present:* Pontedaria cordata, Sagittaria lancifolia, Ludwigia peruviana.

Proposed Impacts - Construction pad.

WETLAND "CC"
Oak Creek Basin

Community Type : Marsh.

Agency Jurisdiction : DER/SWFWMD

Predominant Species Present:* Pontedaria cordata, Sagittaria lancifolia, Panicum hemitomon.

Proposed Impacts - none.

WETLAND "DD"
Oak Creek Basin

Community Type : Marsh.

Agency Jurisdiction : DER/SWFWMD

Predominant Species Present:* Pontedaria cordata, Sagittaria lancifolia, Thalia geniculata.

Proposed Impacts - none.

* Wetland species listed in order of predominance.

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WETLAND "EE"
Oak Creek Basin

Community Type : Upland Cut Ditches.
Agency Jurisdiction : DER.
Predominant Species Present:* Pontedaria cordata, Diodia spp., Thalia
geniculata.
Proposed Impacts - none.

WETLAND "FF"
Oak Creek Basin

Community Type : Borrow Pit.
Agency Jurisdiction : SWFWMD
Predominant Species Present:* Pontedaria cordata.
Proposed Impacts - none.

WETLAND "GG"
Oak Creek

Community Type : Forested Wetland w/± 15-40 ft. wide channelized area.
Agency Jurisdiction : DER/SWFWMD
Predominant Species Present:* Quercus nigra, Quercus laurifolia, Acer rubrum.
Canopy Cover : 95 %
Hydrology : Flow to east, ±4 ft. deep at SHW.
Proposed Impacts - Clearing, culvert/fill.

WETLAND "HH"
Oak Creek Basin

Community Type : Forested Wetland.
Agency Jurisdiction : DER/SWFWMD
Predominant Species Present:* Acer rubrum, Quercus nigra, Quercus laurifolia.
Canopy Cover : 95 %
Hydrology : No discernable flow.
Proposed Impacts - Clearing.

WETLAND "II"
Oak Creek Basin

Community Type : Upland cut ditch.
Agency Jurisdiction : DER
Predominant Species Present:* Ludwigia peruviana.
Proposed Impacts - Corduroy road.

* Wetland species listed in order of predominance.

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WETLAND "JJ"
Oak Creek Basin

Community Type : Disturbed Shrub.
Agency Jurisdiction : SWFWMD
Predominant Species Present:* Ludwigia peruviana, Salix caroliniana, Myrica cerifera.
Proposed Impacts - Access road fill.

WETLAND "KK"
Oak Creek Basin

Community Type : Forested, Disturbed Shrub.
Agency Jurisdiction : DER/SWFWMD
Predominant Species Present:* Forested - Acer rubrum, Magnolia virginiana, Liquidambar styraciflua. Disturbed Shrub - Magnolia virginiana, Acer rubrum, Myrica cerifera.
Proposed Impacts - Clearing, corduroy road through ditched area.

WETLAND "LL, MM"
Oak Creek Basin

Community Type : Forested
Agency Jurisdiction : DER/SWFWMD
Predominant Species Present:* Quercus laurifolia, Ludwigia peruviana, Myrica cerifera.
Proposed Impacts - Clearing.

WETLAND "NN"
Oak Creek Basin

Community Type : Forested Wetland.
Agency Jurisdiction : DER/SWFWMD
Predominant Species Present:* Acer rubrum, Ulmus americana, Quercus nigra, Sambucus canadensis, Ludwigia peruviana, Myrica cerifera.
Canopy Cover : 80 %
Hydrology : No discernable flow.
Proposed Impacts - Clearing, construction pad.

WETLAND "OO"
Oak Creek Basin

Community Type : Disturbed Shrub.
Agency Jurisdiction : DER/SWFWMD
Predominant Species Present:* Sambucus canadensis, Salix caroliniana, Acer rubrum.
Proposed Impacts - Clearing.

* Wetland species listed in order of predominance.

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WETLAND "PP"
Limestone Creek Basin

Community Type : Upland cut ditch.
Agency Jurisdiction : DER
Predominant Species Present:* Lemna spp., Typha latifolia.
Proposed Impacts - Corduroy road.

WETLAND "QQ"
Limestone Creek

Community Type : Forested Wetland / Open water channelized creek.
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* Forested Area - Fraxinus caroliniana, Salix caroliniana, Acer rubrum, Quercus laurifolia.
Canopy Cover : 90 %
Hydrology : Flow to east, ± 10 - 20 ft. wide, 4 ft. deep.
Proposed Impacts - Clearing, construction pad.

WETLAND "SS"
Limestone Creek Basin

Community Type : Forested Wetland.
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* Quercus laurifolia, Fraxinus caroliniana, Ulmus americana, Salix caroliniana.
Canopy Cover : 70 %
Hydrology : ± 2 ft. deep at SHW.
Proposed Impacts - Clearing, construction pad, access road.

WETLAND "TT"
Limestone Creek Basin

Community Type : Disturbed Shrub.
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* Ludwigia peruviana, Thalia geniculata, Baccharis spp., Salix caroliniana.
Proposed Impacts - Clearing, access road.

WETLAND "UU"
Limestone Creek Basin

Community Type : Disturbed Shrub.
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* Panicum repens, Cyperus spp.
Proposed Impacts - Corduroy road.

* Wetland species listed in order of predominance.

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WETLAND "VV"
Limestone Creek Basin

Community Type : Disturbed Shrub.

Agency Jurisdiction : DER/SWFMD

Predominant Species Present:* Salix caroliniana, Ludwigia peruviana, Myrica
cerifera, Quercus laurifolia.

Proposed Impacts - Clearing, corduroy road.

WETLAND "WW,XX,YY"
Limestone Creek Basin

Community Type : Pine / Marsh; Upland Cut Ditch

Agency Jurisdiction : DER/SWFMD

Predominant Species Present:* Panicum hemitomon, Pinus ellioti, Quercus
laurifolia

Proposed Impacts - Clearing.

WETLAND "ZZ"
Limestone Creek Basin

Community Type : Disturbed shrub.

Agency Jurisdiction : DER/SWFMD

Predominant Species Present:* Shrub - Salix caroliniana, Ludwigia peruviana,
Myrica cerifera.

Proposed Impacts - Clearing, construction pad.

WETLAND "BBB"
Walker Branch Basin

Community Type : Isolated wet prairie.

Agency Jurisdiction : SWFWMD

Predominant Species Present:* Rhynchospora spp., Eleocharis spp., Panicum spp.,
Typha latifolia, Cyperus spp.

Proposed Impacts - none.

WETLAND "CCC"
Walker Branch Basin

Community Type : Isolated marsh.

Agency Jurisdiction : SWFWMD

Predominant Species Present:* Pontedaria cordata, Cyperus spp., Juncus spp.,
Spartina bakeri.

Proposed Impacts - none.

* Wetland species listed in order of predominance.

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WETLAND "DDD"
Walker Branch Basin

Community Type : Marsh.
Agency Jurisdiction : DER/SWFWMD
Predominant Species Present:* Pontedaria cordata, Ludwigia peruviana, Typha
latifolia, Juncus spp., Baccharis spp., Myrica cerifera, Salix
caroliniana, Spartina bakeri, Panicum spp., Hydrocotyle spp., Cyperus spp.
Proposed Impacts - none.

WETLAND "EEE"
Walker Branch Basin

Community Type : Disturbed shrub.
Agency Jurisdiction : DER/SWFWMD
Predominant Species Present:* Shrub - Salix caroliniana, Baccharis spp.,
Myrica cerifera, Sagittaria spp., Cyperus spp., Panicum spp.,
Proposed Impacts - Clearing, construction pad.

WETLAND "FFF"
Walker Branch

Community Type : Disturbed shrub.
Agency Jurisdiction : DER/SWFWMD
Predominant Species Present:* Shrub - Salix caroliniana, Acer rubrum, Ludwigia
peruviana.
Proposed Impacts - Clearing.

WETLAND "GGG"
Walker Branch

Community Type : Disturbed shrub.
Agency Jurisdiction : SWFWMD
Predominant Species Present:* Shrub - Salix caroliniana, Ludwigia
peruviana.
Proposed Impacts - Clearing.

WETLAND "HHH"
Unnamed Tributary to Peace River

Community Type : Disturbed shrub.
Agency Jurisdiction : DER/SWFWMD
Predominant Species Present:* Salix caroliniana, Ludwigia peruviana.
Proposed Impacts - Clearing.

* Wetland species listed in order of predominance.

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WETLAND "III"
Unnamed Tributary to Peace River

Community Type : Forested Wetland.
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* Taxodium distichum, Acer rubrum, Quercus nigra,
Magnolia virginiana.
Canopy Cover : 90 %
Hydrology : $\pm$ 2 ft. deep at SHW.
Proposed Impacts - Clearing, construction pad.

WETLAND "JJJ"
Peace River Basin

Community Type : Disturbed shrub.
Agency Jurisdiction : SWFWMD
Predominant Species Present:* Salix caroliniana, Baccharis spp., Acer rubrum,
Panicum spp.
Proposed Impacts - Clearing, transmission line structures without pads or roads.

WETLAND "KKK"
Peace River High Water Flowway

Community Type : Disturbed shrub.
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* Salix caroliniana, Ludwigia peruviana.
Proposed Impacts - Clearing, transmission line structure without pads or roads.

WETLAND "LLL"
Peace River Basin

Community Type : Marsh.
Agency Jurisdiction : DER
Predominant Species Present:* Panicum hemitomon
Proposed Impacts - Corduroy road.

WETLAND "MMM"
Peace River

Community Type : Open Water.
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* open water Quercus virginiana on top of banks.
Proposed Impacts - none.

* Wetland species listed in order of predominance.

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WETLAND "NNN"
Unnamed Tributary to Peace River

Community Type : Forested wetland, ditch.
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* Taxodium distichum, Quercus laurifolia, Acer rubrum, Persia borbonia.
Canopy Cover : 90 %
Hydrology : Forested area flow to west. Ditch - no evidence of flow.
Proposed Impacts - Forested area -Clearing. Ditch - corduroy road.

WETLAND "OOO"
Unnamed Tributary to Peace River

Community Type : Ditch.
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* Cyperus spp.
Proposed Impacts - Ditch - utilization of existing low water crossings.

WETLAND "PPP"
Unnamed Tributary to Peace River

Community Type : Forested wetland.
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* Quercus virginiana.
Canopy Cover : 90 %
Hydrology : Forested area flow to west.
Proposed Impacts - Forested area -Clearing.

WETLAND "QQQ"
Unnamed Tributary to Peace River

Community Type : Forested wetland.
Agency Jurisdiction : DER/SWFMD
Predominant Species Present:* Quercus virginiana, Ludwigia peruviana.
Canopy Cover : 70 %
Hydrology : Flow to west.
Proposed Impacts - Clearing.

WETLAND "RRR"
Peace River Basin

Community Type : Disturbed shrub.
Agency Jurisdiction : SWFWMD
Predominant Species Present:* Fraxinus caroliniana, Nyssa sylvatica
Proposed Impacts - Clearing.

* Wetland species listed in order of predominance.

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WETLAND "SSS"
Peace River Basin

Community Type : Forested wetland.

Agency Jurisdiction : SWFWMD

Predominant Species Present:* Nyssa sylvatica, Fraxinus caroliniana, Carya
aquatica, Ulmus americana.

Canopy Cover : 95 %

Proposed Impacts - Clearing.

WETLAND "TTT"
Unnamed Tributary to Peace River

Community Type : Forested wetland, channelized stream.

Agency Jurisdiction : DER/SWFWMD

Predominant Species Present:* Nyssa sylvatica, Magnolia virginiana, Quercus
laurifolia, Quercus nigra.

Canopy Cover : 95 %

Hydrology : Flow to west.

Proposed Impacts - Clearing.

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APPENDIX E

HARDEE POWER STATION 230 KV TRANSMISSION LINE

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XXIX. ROW DELINEATION AND COMPLIANCE VERIFICATION (HPS)

TPS is responsible for compliance with this General Condition with respect to the natural gas pipeline. TEC is responsible for compliance with this condition with respect to the Pebbledale transmission line. SECI is responsible for complying with this condition with respect to the Vandolah and Lee transmission lines.

At least 90 days prior to commencement of construction, three copies of blue-line reproductions of aerial photographs of at least 1:400 scale shall be submitted to DER and one copy to each water management district (insofar as an area within its jurisdiction is involved) delineating the ROW routes selected, boundaries, preliminary pole and pad locations, and access roads. The Permittees shall notify all parties of such filing. These photographs shall be submitted prior to commencement of construction on the various segments of the linear facility; it is recommended that this information be submitted in segments rather than waiting until the entire ROW is acquired. DER, the water management districts, and any other party who requests to do so shall have 30 days from receipt of notice to review the photographs and to call any apparent conflicts with the requirements of the conditions of certification to the Permittees' attention. However, this paragraph shall not operate to avoid the need for post-certification submittals and compliance reviews otherwise required by the conditions of certification.

If DER or any substantially affected party has reason to believe that the construction of the linear facility and access roads within the Permittees' designated ROW cannot be accomplished in compliance with the conditions of certification, the Permittees shall be notified in writing. Failure of such a notice to be served on Permittees within 30 days from the notice of filing of the various segments in the aerial photographs with DER constitutes acknowledgment that construction of the linear facility and access roads can be accomplished in compliance with the conditions of certification within the designated ROW or the various segments of ROW submitted for review.

The acquisition of a particular ROW or the expenditure of funds toward acquisition of a particular ROW prior to post-certification review pursuant to this condition will be at the Permittees' risk, and no party will be estopped by such acquisition to seek disapproval of the construction of the linear facility or access roads within the ROW in accordance with these conditions of certification.

XXXI. POST-CERTIFICATION SUBMITTALS (HPS)

Conditions of certification which provide for the post-certification submittal of information to agencies by the Permittees are intended to allow the agencies to monitor the effects arising from the location of the natural gas pipeline and transmission line rights-of-way and the construction and maintenance of the permitted activities to thereby assure continued compliance with state water quality requirements, other agency nonprocedural rules and standards, and the conditions of certification, without any further government action.

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XXXII. TRANSMISSION (TEC and SECI) AND PIPELINE (TPS) ROWs

A. Construction

1. The Permittee shall avoid impacting wetlands within all certified corridors wherever practicable. When necessary and feasible, the location of the span between power poles shall be maximized or varied to eliminate or reduce wetland impacts.

2. The Permittee shall, wherever practicable, utilize adjacent existing public roads for access to the ROW for construction, operation and/or maintenance purposes.

3. The Permittee shall consult with the Bureau of Wetland Resource Management prior to final determination of the access road locations, (including those not located on the ROW), tower locations, and construction techniques which are to be reflected on any post-certification review information submittals. At DER's request, the Permittee shall conduct field inspection with staff of this agency.

4. Prior to clearing activities within any of the ROW associated with the various linear facilities, an ecological survey shall be conducted to identify the presence of threatened or endangered species (plant and animals) as defined in the application, likely to occur in the ROW based on range and habitat. This survey shall also identify the location of any wading bird colonies. Results of this survey shall be submitted to the DER and the Florida Game and Freshwater Fish Commission (FGFWFC) and the United States Fish and Wildlife Service (USFWS). If any clearing activity will take place in or otherwise adversely affect jurisdictional wetlands, survey results will also be submitted to the appropriate water management district. If it is determined that any of these species will be affected by the construction of any of the linear facilities, the Permittee shall consult with DER and FGFWFC to determine the appropriate steps to be taken to avoid, minimize, mitigate, or otherwise appropriately deal with, any adverse impacts within each agency's respective jurisdiction.

5. After all ROWs have been selected, the Permittee shall conduct a survey of archaeological sensitive areas, as determined in consultation with the Department of State, Division of Historical Resources, where they are crossed by the ROW. This report shall be submitted to DHR. If practicable, sites considered to be eligible for the National Register shall be avoided during construction of the linear facilities, and subsequently during maintenance of the ROWs. For any other significant site, Permittee shall consult with DHR to determine appropriate action. If avoidance is not practicable, impact shall be mitigated through archaeological salvage operations or other methods acceptable to DHR.

6. All materials used for any purpose related to the construction of the transmission lines or other linear facilities shall come from fill sources in compliance with applicable local ordinances. No fill materials shall be obtained from excavated wetlands within the ROW unless authorized by DER and appropriate water management district in accordance with a mitigation plan submitted in compliance with certification.

7. The Permittee shall provide mitigation/compensation (M/C) for any wetland or open water habitat within the jurisdiction of DER or WMD which is degraded or destroyed as a result of the construction of any portion of the transmission lines, natural gas pipelines, or power plant facilities. M/C may include the creation of new wetland or openwaters habitat, the restoration of degraded habitat, the enhancement of functions and values provided by existing wetland or openwater habitats, removal of exotics, or other activities found by the relevant agencies and appropriate local government to be in compliance with their applicable regulations. Prior to the elimination or degradation of any such wetland or openwater habitat, the Permittee shall concurrently submit mitigation plans to DER, Bureau of Wetland Resources Management and the appropriate water management district. These mitigation plans shall, at a minimum, include the following:

- (a) Specific acreage figures, descriptions and locations of all jurisdictional wetlands, both within the ROW as well as adjacent to it which would be impacted by the construction or ROW maintenance activities, including an explanation of why no feasible alternative exists which would avoid impact to these wetlands;
- (b) A discussion and a detailed set of plan-view and cross-sectional drawings of the proposed M/C activities to be undertaken, including the location of all M/C areas and a description of the manner in which these areas will be created, restored or otherwise enhanced. Success standards will be determined based on the functional values of wetlands impacted and created. The Permittees will work with the appropriate agency staff to establish success criteria. The M/C plans proposed by Permittees shall be submitted concurrently to DER and the appropriate water management district for review and compliance monitoring.
- (c) A timetable for accomplishing the proposed M/C activities (i.e., the time for commencement and completion of activities for each mitigation area) concurrently with the construction of the various aspects of proposed facilities and any associated wetland impacts.
- (d) A monitoring and maintenance program including success criteria, to ensure the survival and success of any created, restored, or enhanced wetlands.

8. M/C plans must be found to fully compensate for the functions and values provided by wetlands that will be degraded or eliminated. DER and WMDs will work with the permittee in the development of acceptable mitigation plans. The mitigation plans proposed by the permittee shall be submitted for review and compliance monitoring to DER and the appropriate water management district and such review shall be subject to the time constraints set forth in specific Conditions XXXII. 9., and XXXV. C. below, as appropriate.

9. For all construction activities in waters of the State where DER has wetland resource protection jurisdiction pursuant to Chapter 403, Florida Statutes, the Permittees shall file with DER, Office of Siting Coordination and

Bureau of Wetland Resource Management the information described in Florida Administrative Code Rule 17-17.665 and 17-1.212(1), Section 3.2.2.

- (a) DER shall promptly review the submittal for completeness and sufficiency. If the submittal is found to be incomplete or insufficient, Permittee shall be so notified. Failure to issue such a notice within 30 days after filing of the submittal shall constitute a finding of completeness and sufficiency.
- (b) Within 90 days filing complete and sufficient information, DER shall determine whether there is reasonable assurance of compliance with applicable substantive agency regulations as required by the conditions of certification if the plans are executed as filed. If it is determined that reasonable assurance has not been provided, the Permittee shall be notified with particularity and possible corrective measures suggested. Failure to notify Permittee in writing within 90 days of receipt of a complete information submittal shall constitute a compliance verification.
- (c) If DER does not object within the time period specified, Permittee may begin construction pursuant to the terms of the conditions of certification and the subsequently submitted construction details and DER shall provide to the Corps of Engineers a letter indicating that the full requirements of this condition have been met and the water quality certification for the purposes of 33 USC Section 1341 is thereby conveyed.
- (d) Permittee, at its option, may submit information for different wetlands modification activities at different time intervals. Each submittal shall be processed by DER separately.

10. Semi-annual narrative reports shall be submitted to DER's Bureau of Wetlands Resource Management in Tallahassee and DER's Southwest District Office, indicating the status of all construction activities within waters of the State. These reports shall be submitted until all construction in that respective area is complete. The reports include the following information:

- (a) Date the activity (dredge and fill) began; if work has not begun on-site, please so indicate.
- (b) Brief description and extent of work completed since the previous report.
- (c) Brief description and extent of work anticipated in the next six months.

11. Upon completion of construction, the permittee shall provide DER with detailed engineering drawings which depict the pre and post construction contours in all areas in which construction occurred in waters of the State.

12. During construction all Brazilian Pepper, Australian Pine, and malaleuca in each ROW shall be removed or the trees cut and the stumps treated with an

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approved herbicide consistent with these conditions. A plan for removal and disposal of such exotic species which minimizes seed dispersal shall be developed by the Permittee in consultation with DER. The Permittee shall abide by the plan.

13. Following construction, a plan for maintenance and control of Brazilian Pepper, Australian pine, and melaleuca within the ROWs shall be developed by the Permittee in consultation with DER. The Permittee shall abide by the plan.

14. The Permittee shall perform the work authorized under the certification in a manner so as to minimize any adverse impacts on fish, wildlife, native vegetation, natural environmental valued, water resources, and water quality.

15. The Permittee shall develop a water quality monitoring program to measure the turbidity generated by construction in all open waters to be crossed by the proposed natural gas pipeline. This program shall be developed in coordination with the Bureau of Wetland Resource Management of the Department prior to the commencement of construction.

16. The Permittee shall be responsible for the correction of any water quality problems that result from the construction, operation and/or maintenance of works authorized under this certification. The Permittee will work with DER to determine additional methods necessary to ensure that State Water Quality Standards are not violated as a result of construction.

17. Where necessary to prevent secondary impacts to adjacent wetlands during construction, adjacent wetland areas outside of the limits of construction shall be isolated from the construction area by silt fences. These silt containment devices shall be maintained and remain in place until all construction is complete and all associated side slopes or areas denuded of vegetation have been adequately stabilized. The Permittee shall be responsible for explaining the significance of these barriers to all construction personnel prior to construction. The Permittee shall use turbidity control as necessary so that turbidity levels in adjacent areas do not exceed 29 N.T.U.'s above natural background. Any placement of fill or encroachment into jurisdictional wetlands or waterbodies outside the limits of construction shall be immediately reported to DER, Southwest District Office in Tampa, and the Bureau of Wetland Resource Management in Tallahassee. Appropriate remedial action to restore the affected area shall be immediately undertaken.

18. In addition to the erosion and turbidity control measures specified above, best management practices, including but not limited to the use of floating silt screens in flowing waters, as well as the use of staked hay bales and silt curtains shall be used wherever necessary at all times during project construction. These erosion and turbidity control devices shall be regularly inspected and maintained when necessary. These devices shall remain in place until all construction is complete and all fill side slopes or denuded areas have been stabilized with suitable vegetation.

19. No dewatering operation shall be allowed unless the Permittee can provide reasonable assures to DER or WMD that no unauthorized adverse, off-site water resource impacts will occur as a result of the construction operation, and/or maintenance of the project.

B. Operation

1. Ground vehicles to be used in wetlands for maintenance access shall be low ground pressure vehicles unless limited to the access roads and structure pads.

2. Only EPA approved herbicides may be used in Waters of the State, or the use of other herbicides in any areas of the ROW, shall only be allowed with the concurrence of DER.

APPENDIX E

HARDEE POWER STATION 230 KV TRANSMISSION LINE

SWFWMD CONDITIONS OF CERTIFICATION

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C. Project Informational Requirements.

1. General.

a. At least 90 days prior to the commencement of construction of any portion of the project for which additional information is required under Condition XXXV.C.2. below, for that portion proposed for construction, the Permittees shall submit such information to SWFWMD or SFWMD staff, as applicable, for a completeness and sufficiency review. If the water management district staff does not issue a written request for additional information within 30 days of receipt of the information, the information will be deemed to be complete and sufficient.

b. Within 60 days of the determination by SWFWMD or SFWMD staff that the additional information is complete and sufficient, the water management district shall determine and notify the Permittees in writing whether the proposed activities conform to applicable criteria in Chapters 40D-4 and 40E-4, Florida Administrative Code, and the conditions of certification. If necessary, the water management district shall identify what items are in need of clarification. Construction activities which impact works of the water management district or have surface water management impacts shall not begin until the water management district has an opportunity to assure that the activities are in compliance with the applicable water management district rule criteria and conditions of site certification, either in writing or by failure to notify the Permittees in writing.

c. Subsequent modifications to the drawings and supporting calculations submitted to SWFWMD or SFWMD which may significantly alter the quantity and/or quality of waters discharged off site shall also be submitted to the respective water management district for a determination that the modifications are in compliance with Chapters 40D or 40E-4, Florida Administrative Code, as appropriate, prior to the commencement of construction. However, minor deviations from construction plans deemed necessary in the field including, but not necessarily limited to, changes in the number, size, and location of culverts and other structures, shall be allowed.

d. The respective water management districts and the Permittees may mutually agree to vary the information requirements.

2. Surface Water Management.

Prior to the commencement of construction of any portion or phase of the project which may obstruct, divert, control, or impound waters of the state, such construction must be reviewed by the water management district with jurisdiction for a determination of compliance with Chapters 40D-4 or 40E-4, Florida Administrative Code and the conditions of certification, as appropriate. "Construction" activities for which such review is required includes but is not limited to, installation of all surface water and stormwater management facilities, the placement of structure pads, dredging and filling, the installation of access/maintenance roads and culverts and fill materials, wetlands mitigation/compensation and related activities in circumstances where a permit from the water management district would ordinarily be required under

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applicable rules. For all construction activities, the applicable information requirements of Chapters 40D-4 and 40E-4, Florida Administrative Code, shall be submitted as may be appropriate. The Permittee shall submit to SWFWMD erosion control plans for the HPS construction project (or discrete phases of the project) detailing measures to be taken to prevent the offsite discharge of turbid waters during construction. These plans must also be provided to the construction contractor prior to the initiation of construction. For all construction activities related to linear facilities, the following information shall be provided at a minimum:

a. A centerline profile of existing topographic features along the proposed access/maintenance road(s) sufficient to show contours and drainage patterns;

b. Construction plans and designs of the proposed access/maintenance and finger road(s) with elevations and dimensions shown;

c. Typical cross-sections of the proposed access/maintenance and finger road(s);

d. Cross-section(s) of each wetland, stream or creek at the points to be crossed by the access/maintenance and finger road(s) or other construction;

e. Specifications showing the location of each linear facility structure, finger and maintenance/access road, and culvert to be constructed, including all areas to be filled or excavated;

f. Specifications, including supporting assumptions and calculations, showing the type and size of water control structures (ditch, culvert, equalizer, etc.) to be used, with proposed flowline elevations marked, drainage areas identified and design capacity verified;

g. A cross-section of all proposed fill/excavation areas, with the exception of fill/excavation directly associated with transmission line support poles, showing the proposed depth;

h. Identification of wet season water table elevations for each basin affected by construction.

3. In addition to the requirements of Section 2 above, specific detailed information shall be provided by the Permittees before, during and after construction which will be required to be submitted to the appropriate water management district to demonstrate compliance with recognized standards for reservoir and dam design, safety, construction, operation, and maintenance. The Permittees shall develop technical criteria and requirements which represent commonly recognized and accepted engineering and technical standards for reservoir and earthen dam design, safety, construction, operation, and maintenance. The criteria or standards shall be submitted to the District prior to final design of the dam and reservoir for consideration in accordance with the information submittal and review process outlined in the conditions of certification.

4. The Permittee shall employ culverts or other appropriate techniques and implement suitable maintenance practices where necessary to comply with the applicable regulation of the applicable WMD or DER and to maintain existing drainage patterns, hydroperiods, and sheetflow along the ROWs. The exact number, spacing, diameter, orientation, and length of culvert necessary to maintain existing hydrologic conditions and to maintain surface water flow conditions in the area shall be determined by the Permittee in consultation with applicable WMD or DER based on site-specific information. This information shall be submitted to SFWMD or SWFWMD as applicable for approval prior to construction to ensure that the culverting or other appropriate techniques meets applicable standards within all affected wetlands areas.

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