



RECEIVED

APR 1 1992

D. E. A.  
SITING COORDINATION

March 27, 1992

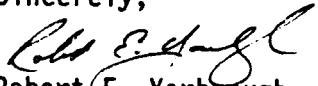
Mr. Hamilton Oven  
Florida Department of Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Dear Mr. Oven

Re: PA 89-25 Hardee Power Station Post Certification - South Arcadia to Lee Substation.

Attached are an original and 2 copies of post certification submittals for the Hardee Power Station Certification, this portion covers Segment 2 of the line from south Arcadia to the Lee substation. These submittals include drawings, text and plan/profile drawings of the right-of-way. We previously submitted the archeological survey and the threatened/endangered species survey along with the post certification submittals for the Hardee to Vandolah segment of this transmission line. Trudy Bell of DER, Janet Strutzel of SFWMD, and Howard Knight of SFWMD have all received the plan/profile portions of this document for ROW approval.

Sincerely,

  
Robert E. Yarbrough  
Environmental Engineer

HARDEE POWER STATION  
CERTIFICATION PA 89-25  
POST CERTIFICATION SUBMITTAL  
  
ARCADIA - LEE 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 PI 37 (South Arcadia) in DeSoto County to the Lee Substation in Lee County, Florida. The information supplied responds directly to the Post Certification Conditions.

This proposed segment of transmission line is approximately 43 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' plan/profiles 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 on aerials to Ms. Trudy Bell of the DER Water Management Resource section in January, 1992, to the Southwest Florida Water Management District in February, 1992, and to SFWMD in March, 1992.

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.

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 wetland areas. Portions of Lee County have limited Melaleuca and a plan will be developed to control these plants. 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. In large portions of southern Charlotte County and Lee County the vegetation community consist of a sparse slash pine canopy with a wet prairie ground cover. In these areas the pines will be cleared with a Feller-Buncher which is a low ground pressure rubber tired vehicle that shears the trees at the ground line. The pines will then be carried off to upland areas for disposal. 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 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. The wetlands jurisdictional lines have been field reviewed by SWFWMD and have been approved.

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  $\pm 1$  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 - Culverts have been limited to as few locations as possible. Justifications for these culverts are currently being put together as a coherent package. Corduroy roads do not appear to require justification as they do not impede water flow since the road surface will be constructed at the invert of the ditch/stream.

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.

TABLE 1  
WETLAND ACTIVITIES  
(FDER/SWFMD JURISDICTION)

| FORESTED WETLAND |         |        | DISTURBED SHRUB WETLAND |        |         | MARSH  | UPLAND DITCH |
|------------------|---------|--------|-------------------------|--------|---------|--------|--------------|
| WETLAND          | CLEARED | FILLED | CLEARED                 | FILLED | CORD.RD | FILLED | FILLED       |
| 2D-1             | -       | -      | 0.04                    | -      | -       | -      | -            |
| 2D-2             | -       | -      | 0.07                    | -      | -       | -      | -            |
| 2D-3             | 1.25    | -      | -                       | -      | -       | -      | -            |
| 2D-4             | -       | -      | -                       | -      | -       | **     | -            |
| 2D-5             | -       | -      | -                       | -      | -       | -      | 0.02         |
| 2D-6             | -       | -      | -                       | -      | -       | -      | 0.02         |
| 2D-7             | 0.60*** | -      | -                       | -      | -       | -      | -            |
| 2D-8             | -       | -      | -                       | -      | -       | -      | **           |
| 2D-9             | 0.47    | -      | -                       | -      | -       | -      | **           |
| 2D-10            | -       | -      | -                       | -      | -       | -      | 0.01         |
| 2D-11            | -       | -      | -                       | -      | -       | -      | 0.02         |
| 2D-12            | -       | -      | -                       | -      | -       | -      | 0.02         |
| 2D-13            | -       | -      | -                       | -      | -       | -      | **           |
| 2D-14            | -       | -      | 0.15                    | -      | -       | -      | -            |
| 2D-15            | -       | -      | -                       | -      | -       | -      | 0.02         |
| 2D-16            | 0.27    | -      | -                       | -      | -       | -      | -            |
| 2D-17            | -       | -      | -                       | -      | -       | -      | 0.03         |
| 2D-18            | -       | -      | -                       | -      | -       | -      | 0.02         |
| 2D-19            | -       | -      | -                       | -      | -       | -      | 0.02         |
| 2D-20            | -       | -      | -                       | -      | -       | 0.31   | -            |
| 2D-21            | -       | -      | -                       | -      | -       | **     | -            |
| 2D-22            | -       | -      | -                       | -      | -       | 0.38   | -            |
| 2D-23            | -       | -      | -                       | -      | -       | -      | 0.03         |
| 2D-24            | -       | -      | -                       | -      | -       | **     | -            |
| SUB-TOTAL        | 2.59    | 0      | 0.26                    | 0      | 0       | 0.69   | 0.21         |

\*\* No Clearing or Filling Required

\*\*\* Isolated Wetlands (Non-DER jurisdictional)

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       |
| 2C-25            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-26            | -       | -      | 0.13                    | -      | -       | -      | -            |
| 2C-27            | -       | -      | -                       | -      | -       | -      | 0.01         |
| 2C-28            | -       | -      | -                       | -      | -       | -      | 0.01         |
| 2C-29            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-30            | -       | -      | -                       | -      | -       | -      | 0.01         |
| 2C-31            | -       | -      | -                       | -      | -       | -      | 0.01         |
| 2C-32            | -       | -      | -                       | -      | -       | -      | 0.01         |
| 2C-33            | -       | -      | -                       | -      | -       | -      | 0.02         |
| 2C-34            | -       | -      | -                       | -      | -       | -      | 0.03         |
| 2C-35            | -       | -      | 0.10                    | -      | -       | -      | -            |
| 2C-36            | -       | -      | -                       | -      | -       | -      | ?            |
| 2C-37            | -       | -      | -                       | -      | -       | -      | 0.01         |
| 2C-38            | -       | -      | -                       | -      | -       | -      | 0.03         |
| 2C-39            | -       | -      | -                       | -      | -       | -      | 0.01         |
| SUB TOTAL        | 0       | 0      | 0.23                    | 0      | 0       | 0      | 0.15         |

\*\* No Clearing or Filling Required

\*\*\* Isolated Wetland (Non DER Jurisdiction)

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       |
| 2C-40            | -       | 0.48   | -                       | -      | -       | 0.28   | -            |
| 2C-41            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-42            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-43            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-44            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-45            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-46            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-47            | -       | -      | -                       | -      | -       | -      | 0.01         |
| 2C-48            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-49            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-50            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-51            | -       | -      | -                       | -      | -       | -      | 0.05         |
| 2C-52            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-53            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-54            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-55            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-56            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-57            | -       | -      | -                       | -      | -       | **     | -            |
| 2C-58            | -       | -      | -                       | -      | -       | **     | -            |
| SUB TOTAL        | 0       | 0.48   | 0                       | 0      | 0       | 0.28   | 0.06         |
| SWFWMD TOTAL     | 2.59    | 0.48   | 0.72                    | 0      | 0       | 0.97   | 0.42         |

\*\* Hydric hardwoods/wet prairie - sparse canopy of slash pine to be cleared

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

FORESTED WETLAND | DISTURBED SHRUB WETLAND | MARSH | CHANNELIZED STREAM

| WETLAND    | CLEARED | FILLED | CLEARED | FILLED | CORD.Rd | FILLED | FILLED |
|------------|---------|--------|---------|--------|---------|--------|--------|
| 2L-59      | -       | -      | -       | -      | -       | **     | -      |
| 2L-60      | -       | -      | -       | -      | -       | **     | -      |
| 2L-61      | -       | -      | -       | -      | -       | **     | -      |
| 2L-62      | -       | -      | -       | -      | -       | **     | -      |
| 2L-63      | -       | -      | -       | -      | -       | **     | -      |
| 2L-64      | -       | -      | -       | -      | -       | **     | -      |
| 2L-65      | -       | -      | -       | -      | -       | **     | -      |
| 2L-66      | -       | -      | -       | -      | -       | **     | -      |
| 2L-67      | -       | -      | -       | -      | -       | **     | -      |
| 2L-68      | -       | -      | -       | -      | -       | **     | -      |
| 2L-69      | -       | -      | -       | -      | -       | -      | 0.02   |
| 2L-70      | -       | -      | -       | -      | -       | **     | -      |
| 2L-71      | -       | -      | -       | -      | -       | **     | -      |
| 2L-72      | -       | -      | -       | -      | -       | **     | -      |
| 2L-73      | -       | -      | -       | -      | -       | **     | -      |
| 2L-74      | -       | -      | -       | -      | -       | **     | -      |
| 2L-75      | -       | -      | -       | -      | -       | **     | -      |
| 2L-76      | -       | -      | -       | -      | -       | **     | -      |
| 2L-77      | -       | -      | -       | -      | -       | **     | -      |
| 2L-78      | -       | -      | -       | -      | -       | **     | -      |
| 2L-79      | -       | -      | -       | -      | -       | -      | 0.02   |
| 2L-80      | 0.67    | -      | -       | -      | -       | -      | -      |
| SUBTTL.    | 0.67    | 0      | 0       | 0      | 0       | 0      | 0.04   |
| SFWMD      | 0.67    | 0      | 0       | 0      | 0       | 0      | 0.04   |
| FDER TOTAL | 3.26    | 0.48   | 0.72    | 0.00   | 0.00    | 0.97   | 0.46   |

## QUALITATIVE WETLAND DESCRIPTIONS

### ARCADIA TO LEE SUBSTATION

#### WETLAND "2D-1" Joshua Creek

Community Type : Disturbed shrub wetland, channelized stream.  
Agency Jurisdiction : DER/SWFWMD/COE  
Predominant Species Present:\* Salix carolina, Saggitaria lancifolia  
Canopy Cover : <50 %  
Hydrology : Flow to east.  
Proposed Impacts - Limited Clearing.

-----

#### WETLAND "2D-2"

Community Type : Disturbed shrub wetland, channelized stream.  
Agency Jurisdiction : DER/SWFWMD/COE  
Predominant Species Present:\* Typha latifolia, Ludwigia peruviana, Myrica  
cyrifera  
Canopy Cover : <10%  
Hydrology : Flow at high water.  
Proposed Impacts - Limited Clearing.

-----

WETLAND "2D-3"

Community Type : Forested wetland.  
Agency Jurisdiction : DER/SWFWMDCOE  
Predominant Species Present:\* Acer rubrum, Gordonia lasianthus, Persia borbonia, Magnolia virginiana, Quercus nigra.  
Ground cover - Blechnum spp., Osmunda spp., Woodwardia spp.  
Canopy Cover : 90%  
Hydrology : Seepage area.  
Proposed Impacts - Hand Clearing.

-----

WETLAND "2D-4"

Community Type : Disturbed marsh.  
Agency Jurisdiction : DER/SWFWMDCOE  
Predominant Species Present:\* Sestemia spp.  
Canopy Cover : <10%  
Hydrology : Seasonally flooded.  
Proposed Impacts - Hand Clearing of 2 trees.

-----

WETLAND "2D-5"

Community Type : Roadside Ditch.  
Agency Jurisdiction : DER/COE  
Predominant Species Present:\* Ludwigia peruviana  
Hydrology : Seasonally flooded.  
Proposed Impacts - Culvert

-----

WETLAND "2D-6"

Community Type : Citrus grove Ditch.  
Agency Jurisdiction : DER/COE  
Predominant Species Present:\* Ludwigia peruviana  
Hydrology : Seasonally flooded.  
Proposed Impacts - No impact

-----

WETLAND "2D-7"

Community Type : Isolated forested wetland.  
Agency Jurisdiction : SWFWMD/COE  
Predominant Species Present:\* Acer rubrum, Gordonia lasianthus, Persia borbonia, Magnolia virginiana, Quercus nigra.  
Ground cover - Blechnum spp., Osmunda spp., Woodwardia spp.  
Canopy Cover : 90%  
Hydrology : Seepage area.  
Proposed Impacts - Hand Clearing.

WETLAND "2D-8"

Community Type : Borrow Pit.  
Agency Jurisdiction : DER/COE  
Predominant Species Present:\* None  
Hydrology : Inundated.  
Proposed Impacts - None

---

WETLAND "2D-9"

Community Type : Channelized forested tributary.  
Agency Jurisdiction : DER/SWFWMD/COE  
Predominant Species Present:\* Quercus laurifolia.  
Ground cover - Panicum hemitomon  
Canopy Cover : 90%  
Hydrology : Intermittent  
Proposed Impacts - Hand Clearing.

---

WETLAND "2D-10"

Community Type : Citrus grove ditch.  
Agency Jurisdiction : DER/COE  
Predominant Species Present:\* None  
Hydrology : Intermittent  
Proposed Impacts - Corduroy road.

---

WETLAND "2D-11"

Community Type : Citrus grove ditch.  
Agency Jurisdiction : DER/COE  
Predominant Species Present:\* Ludwigia peruviana  
Hydrology : Intermittent  
Proposed Impacts - Corduroy road.

---

WETLAND "2D-12"

Community Type : Citrus grove ditch.  
Agency Jurisdiction : DER/COE  
Predominant Species Present:\* Oak palmetto fringe.  
Hydrology : Intermittent  
Proposed Impacts - Corduroy road.

WETLAND "2D-13"

Community Type : Channelized forested tributary.  
Agency Jurisdiction : DER/SWFWMD/COE  
Predominant Species Present:\* Oak / palmetto fringe  
Canopy Cover : 90%  
Hydrology : Intermittent  
Proposed Impacts - Corduroy road.

-----

WETLAND "2D-14"

Community Type : Disturbed shrub/marsh wetland.  
Agency Jurisdiction : DER/SWFWMD/COE  
Predominant Species Present:\* Salix caroliniana, Acer rubrum  
Ground cover - Crinum spp., Saururus spp., Sagittaria spp.,  
Hydrocotyle spp., Pontedaria spp.  
Canopy Cover : 30%  
Hydrology : ditch connection, intermittent flow.  
Proposed Impacts - Hand Clearing.

-----

WETLAND "2D-15"

Community Type : Citrus grove ditch.  
Agency Jurisdiction : DER/COE  
Predominant Species Present:\* Ceraeopteris spp., Typha latifolia, Salix  
caroliniana  
Hydrology : Intermittent  
Proposed Impacts - Corduroy road.

-----

WETLAND "2D-16"

Community Type : Channelized forested tributary/ Tailing water ponds.  
Agency Jurisdiction : DER/SWFWMD/COE  
Predominant Species Present:\* Ulmus americana, Acer rubrum, Salix caroliniana,  
Sabal palmetto.  
Groundcover : Pontedaria cordata, Eleocharis spp.  
Canopy Cover : 90%  
Hydrology : Tributary is 6 inches deep with near constant flow.  
Proposed Impacts - Corduroy road.

-----

WETLAND "2D-17"

Community Type : Citrus grove ditch.  
Agency Jurisdiction : DER/COE  
Predominant Species Present:\* None  
Hydrology : Intermittent  
Proposed Impacts - Corduroy road.

WETLAND "2D-18"

Community Type : Channelized forested tributary

Agency Jurisdiction : DER/SWFWMD/COE

Predominant Species Present:\* Quercus laurifolia

Groundcover : Polygonum spp.

Canopy Cover : 60%

Hydrology : Tributary is < 12 inches deep with near constant flow.

Proposed Impacts - Corduroy road.

-----

WETLAND "2D-19"

Community Type : Citrus grove ditch.

Agency Jurisdiction : DER/SWFWMD/COE

Predominant Species Present:\* Typha latifolia, Salix caroliniana.

Canopy Cover : 30%

Hydrology : Intermittent flow

Proposed Impacts - Corduroy road.

-----

WETLAND "2D-20"

Community Type : Shrub/marsh wetland.

Agency Jurisdiction : DER/SWFWMD/COE

Predominant Species Present:\* Myrica cerifera

Ground cover - Panicum hemitomon, Dichromena spp.

Hydrology : Seasonally flooded.

Proposed Impacts - Access road fill/ culvert.

-----

WETLAND "2D-21"

Community Type : Wet prairie.

Agency Jurisdiction : DER/SWFWMD/COE

Predominant Species Present:\* Panicum hemitomon, Andropogon spp., Cyperus spp.,  
Eleocharis spp.

Hydrology : Seasonally flooded.

Proposed Impacts - No impact

-----

WETLAND "2D-22"

Community Type : Disturbed marsh wetland.

Agency Jurisdiction : DER/SWFWMD/COE

Predominant Species Present:\* Panicum hemitomon, Cyperus spp., Pontedaria  
cordata

Hydrology : Seasonally flooded, 3 ft. deep ditch in central area.

Proposed Impacts - Construction pads in outer zone.

WETLAND "2D-23"

Community Type : Disturbed tributary, agricultural ditch.

Agency Jurisdiction : DER/SWFWMD/COE

Predominant Species Present:\* Cephalanthus occidentalis, Ludwigia peruviana, Typha latifolia, Myrica cerifera, Cyperus spp., Panicum hemitomon, Salix caroliniana

Hydrology : Seasonally flooded, 4 ft. deep ditch in central area.

Proposed Impacts - Hand clearing, corduroy road.

-----

WETLAND "2C-24"

Prairie Creek

Community Type : Incised tributary

Agency Jurisdiction : DER/SWFWMD/COE

Predominant Species Present:\* Live Oak/ palmetto fringe. No wetland vegetation.

Canopy Cover : 0%

Hydrology : Flow to west

Proposed Impacts - No impact.

-----

WETLAND "2C-25"

Community Type : Disturbed shrub/marsh

Agency Jurisdiction : DER/SWFWMD/COE

Predominant Species Present:\* Pontedaria cordata, Panicum hemitomon, Hypericum spp., Myrica cerifera.

Canopy Cover : <10%

Hydrology : Rim ditches have limited to seasonal flooding.

Proposed Impacts - No impact.

-----

WETLAND "2C-26"

Community Type : Disturbed shrub/marsh

Agency Jurisdiction : DER/SWFWMD/COE

Predominant Species Present:\* Ludwigia peruviana, Pontedaria cordata, Panicum hemitomon, Hypericum spp., Myrica cerifera.

Canopy Cover : <10%

Hydrology : Rim ditches have limited to seasonal flooding.

Proposed Impacts - No impact.

-----

WETLAND "2C-27"

Community Type : Citrus grove ditch.

Agency Jurisdiction : DER/COE

Predominant Species Present:\* Typha latifolia, Polygonum spp.

Hydrology : Intermittent flow

Proposed Impacts - Corduroy road.

WETLAND "2C-28/29"

Community Type : Disturbed shrub/marsh  
Agency Jurisdiction : DER/SWFWMDCOE  
Predominant Species Present:\* Pontedaria cordata, Sagittaria spp., Cyperus spp., Rhynchospora spp., Xyris spp., Hydrocotyle spp., Bacopa spp.  
Hydrology : Rim ditches have limited to seasonal flooding.  
Proposed Impacts - No impact.

-----

WETLAND "2C-30"

Community Type : Agricultural ditches  
Agency Jurisdiction : DER/COE  
Predominant Species Present:\* Bacopa spp., Pistia spp., Panicum spp., Polygonum spp., Ludwigia peruviana, Typha latifolia.  
Hydrology : Intermittent flow  
Proposed Impacts - Corduroy road.

-----

WETLAND "2C-31"

Community Type : Upland cut ditch  
Agency Jurisdiction : DER/COE  
Predominant Species Present:\* Panicum hemitomon  
Hydrology : Intermittent flow  
Proposed Impacts - Corduroy road

-----

Shell Creek

Community Type : Incised tributary  
Agency Jurisdiction : DER/SWFWMDCOE  
Predominant Species Present:\* Live Oak/ palmetto fringe. No wetland vegetation.  
Canopy Cover : 0%  
Hydrology : Flow to west  
Proposed Impacts - No impact.

-----

WETLAND "2C-32"

Community Type : Channelized tributary  
Agency Jurisdiction : DER/SWFWMDCOE  
Predominant Species Present:\* Salix caroliniana  
Canopy Cover : 95%  
Hydrology : Excavated areas permanently inundated  
Proposed Impacts - Corduroy road

WETLAND "2C-33"

Community Type : Upland cut ditch  
Agency Jurisdiction : DER/COE  
Predominant Species Present:\* None  
Hydrology : Intermittent flow  
Proposed Impacts - Clearing of upland trees.

---

WETLAND "2C-34"

Community Type : Channelized tributary  
Agency Jurisdiction : DER/SWFWMD/COE  
Predominant Species Present:\* Myrica cerifera  
Hydrology : Excavated areas are permanently inundated.  
Proposed Impacts - Corduroy road.

---

WETLAND "2C-35"

Community Type : Disturbed Shrub wetland  
Agency Jurisdiction : DER/SWFWMD/COE  
Predominant Species Present:\* Ludwigia peruviana, Myrica cerifera  
Hydrology : Flow to north  
Proposed Impacts - Utilization of existing low water crossing.

---

WETLAND "2C-36"  
Myrtle Slough

Community Type : Channelized tributary  
Agency Jurisdiction : DER/SWFWMD/COE  
Predominant Species Present:\* Live Oak/palmetto fringe  
Hydrology : 12 ft. deep, permanent flow to north  
Proposed Impacts - Utilization of existing low water crossing

---

WETLANDS between "2C-36 and 2C-37"

Community Type : Wet Prairies  
Agency Jurisdiction : DER/SWFWMD/COE  
Predominant Species Present:\* Pinus elliotti, Hypericum spp., Juncus spp., spp., Xyris spp.  
Hydrology : Seasonally maximum of 2 ft. deep  
Proposed Impacts - No impacts except clearing of pines and utilization of existing roads.

WETLAND "2C-37"

Community Type : Upland cut ditch  
Agency Jurisdiction : DER/COE  
Predominant Species Present:\* None  
Hydrology : Intermittent flow  
Proposed Impacts - Corduroy road.

---

WETLAND "2C-38"

Community Type : Upland cut ditch  
Agency Jurisdiction : DER/SWFWMD/COE  
Predominant Species Present:\* None  
Hydrology : Intermittent flow  
Proposed Impacts - Corduroy road.

---

WETLAND "2C-39"

Community Type : Channelized tributary  
Agency Jurisdiction : DER/SWFWMD/COE  
Predominant Species Present:\* None  
Hydrology : Intermittent flow  
Proposed Impacts - Corduroy road

---

WETLAND "2C-40"

South Prong Alligator Slough

Community Type : Channelized tributary  
Agency Jurisdiction : DER/SWFWMD/COE  
Predominant Species Present:\* Pinus elliotti, Sabal palmetto, Quercus laurifolia  
Hydrology : Permanent flow to west, maximum 6 foot deep  
Proposed Impacts - Access road / culvert

---

WETLAND "2C-41"

Community Type : Channelized tributary  
Agency Jurisdiction : DER/SWFWMD/COE  
Predominant Species Present:\* None  
Hydrology : Intermittent flow  
Proposed Impacts - No impact - utilization of existing low water crossing.

WETLAND "2C- 42 through 2C-46"

Community Type : Wet Prairie

Agency Jurisdiction : DER/SWFWMD/COE

Predominant Species Present:\* Pinus elliotti, Hypericum spp., Juncus spp., spp., Xyris spp.

Hydrology : Maximum depth 2.0 ft.

Proposed Impacts - Impact limited to clearing of pines, utilization of existing roads, and pole emplacement.

-----

WETLAND "2C-47"

Community Type : Upland cut ditch

Agency Jurisdiction : DER/COE

Predominant Species Present:\* None

Hydrology : Intermittent flow

Proposed Impacts - Corduroy Road

-----

WETLAND "2C- 48 through 2C-50"

Community Type : Wet Prairie

Agency Jurisdiction : DER/SWFWMD/COE

Predominant Species Present:\* Pinus elliotti, Hypericum spp., Juncus spp., spp., Xyris spp.

Hydrology : Maximum depth 2.0 ft.

Proposed Impacts - Impact limited to clearing of pines, utilization of existing roads, and pole emplacement.

-----

WETLAND "2C-51"

Gator Canal

Community Type : Man - made channel

Agency Jurisdiction : DER/SWFWMD/COE

Predominant Species Present:\* None

Hydrology : Permanent flow to west, maximum 6 foot deep

Proposed Impacts - Corduroy Road

-----

WETLAND "2C- 52 through 2C-67"

Community Type : Wet Prairie

Agency Jurisdiction : DER/SWFWMD/COE

Predominant Species Present:\* Pinus elliotti, Hypericum spp., Juncus spp., spp., Xyris spp.

Hydrology : Maximum depth 2.0 ft.

Proposed Impacts - Impact limited to clearing of pines, utilization of existing roads, and pole emplacement.

WETLAND "2L - 69"

Community Type : Upland cut ditch  
Agency Jurisdiction : DER/SFWMD/COE  
Predominant Species Present:\* None (Ditch dug 1/92)  
Hydrology : Intermittent flow  
Proposed Impacts - Corduroy Road

-----

WETLAND "2L- 70 through 2L-71

Community Type : Wet Prairie  
Agency Jurisdiction : DER/SFWMD/COE  
Predominant Species Present:\* Pinus elliotti, Hypericum spp., Juncus spp., Rhyncospora spp., Xyris spp., Scleria spp.  
Hydrology : Maximum depth 1.0 ft.  
Proposed Impacts - Impact limited to clearing of pines, utilization of existing roads, and pole emplacement.

-----

WETLAND "2L - 72"  
Alligator Creek

Community Type : Channelized Stream system  
Agency Jurisdiction : DER/SFWMD/COE  
Predominant Species Present:\* None  
Hydrology : Permanent flow to west.  
Proposed Impacts - No impact

-----

WETLAND "2L- 73 through 2L-77

Community Type : Wet Prairie  
Agency Jurisdiction : DER/SFWMD/COE  
Predominant Species Present:\* Pinus elliotti, Hypericum spp., Juncus spp., Panicum spp., Xyris spp.  
Hydrology : Maximum depth 2.0 ft.  
Proposed Impacts - Impact limited to clearing of pines, utilization of existing roads, and pole emplacement.

-----

WETLAND "2L - 78"

Community Type : Borrow Pit  
Agency Jurisdiction : DER/SFWMD/COE  
Predominant Species Present:\* None  
Hydrology : Permanently inundated.  
Proposed Impacts - No impact

WETLAND "2L - 79"

Community Type : Channelized Tributary  
Agency Jurisdiction : DER/SWFMD/COE  
Predominant Species Present:\* None  
Hydrology : Intermittent flow.  
Proposed Impacts - Corduroy road.

-----

WETLAND "2L-80"  
Yellow Fever Creek

Community Type : Channelized tributary  
Agency Jurisdiction : DER/SWFMD/COE  
Predominant Species Present:\* Taxodium ascendens, Salix caroliniana, Juncus spp.,  
Rhyncospora spp.  
Hydrology : Permanent flow to Caloosahatchee River, artificial levees contain  
flow.  
Proposed Impacts - Hand clearing.

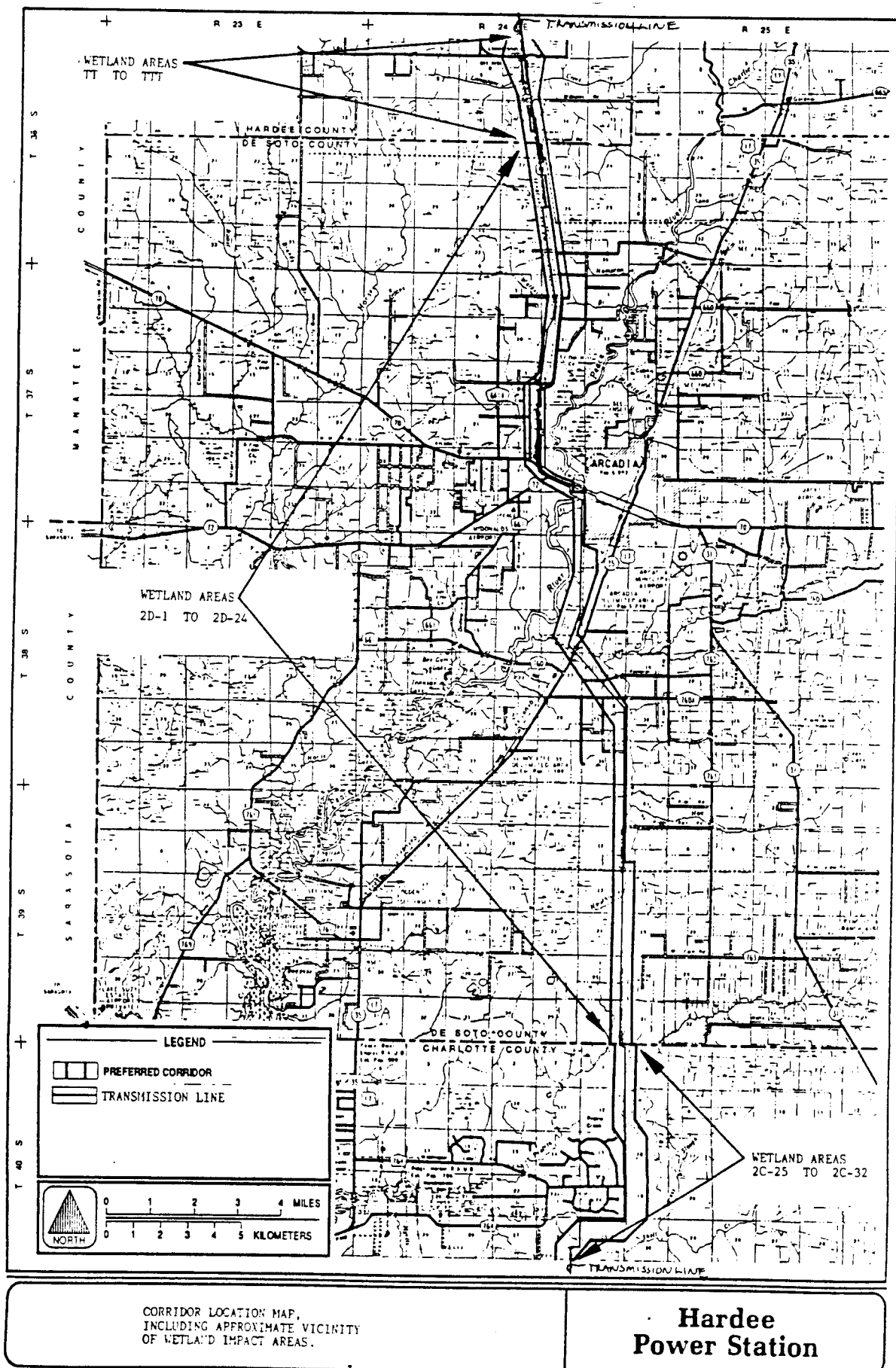
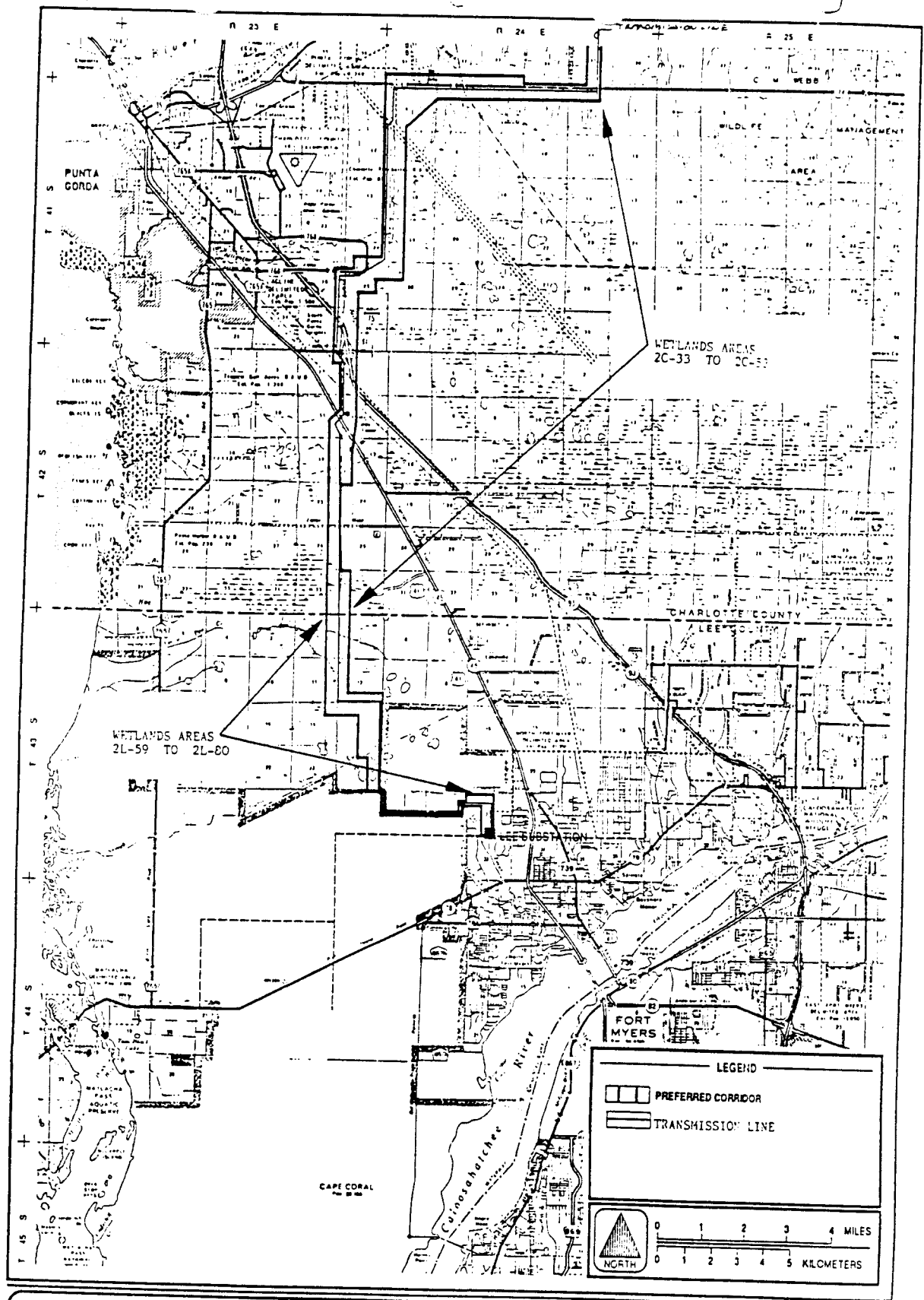


FIGURE 2



CORRIDOR LOCATION MAP,  
INCLUDING APPROXIMATE VICINITY  
OF WETLAND IMPACT AREAS.

**Hardee  
Power Station**

FIGURE 3

Rev. 3 03/00/95

SWFWMD/FDER  
JURISDICTION  
DISTURBED SHRUB WETLAND

JOSHUA CREEK

APPROX. 3000' TO  
FLOOD BOUNDARY

PROPOSED  
ROW CENTERLINE

TRANSMISSION  
STRUCTURE

APPROX. 1100' TO  
FLOOD BOUNDARY

1810+00

1815+00

1820+00

DISTURBED SHRUB  
WETLAND

**LEGEND**

WETLAND  
0.04 ACRES CLEARED  
(DISTURBED SHRUB)

WETLAND JURISD.  
BOUNDARY

ROW BOUNDARY

NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS

TRANSMISSION STRUCTURE  
HEIGHT NOT TO SCALE

40

30

20

0

40

30

20

0

1810+30

1810+00

1815+00

1820+00

N

# WETLAND "2D1"

## PLAN/PROFILE

SCALE: 1"=200'

LEGEND for PROFILE  
— ROW C/L



FIGURE 4

FDER/SWFWMID  
JURISDICTION

DISTURBED SHRUB WETLAND

DISTURBED SHRUB  
WETLAND

TRANSMISSION  
STRUCTURE

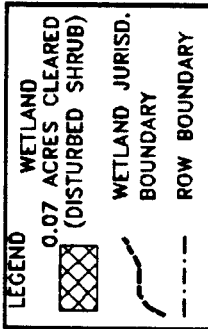
APPROX. 3800' TO  
FLOOD BOUNDARY

PROPOSED  
ROW CENTERLINE

1835+00

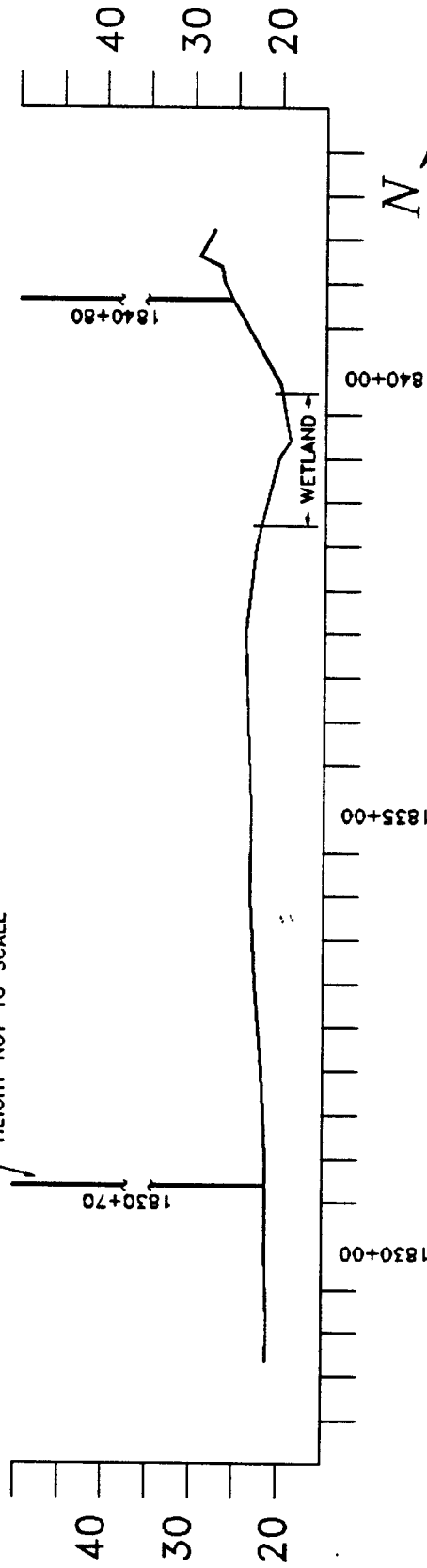
1840+00

APPROX. 1500' TO  
FLOOD BOUNDARY



NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS

TRANSMISSION STRUCTURE  
HEIGHT NOT TO SCALE



# WETLAND "2D2" PLAN/PROFILE

SCALE: 1"=200'

LEGEND for PROFILE  
— ROW C/L

N

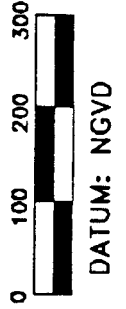


FIGURE 5

FDER/SWFWMD  
JURISDICTION  
FORESTED WETLAND

FORESTED  
WETLAND

APPROX. 5000' TO  
FLOOD BOUNDARY

PROPOSED  
ROW CENTERLINE

TRANSMISSION  
STRUCTURE

APPROX. 2000' TO  
FLOOD BOUNDARY

1860+00

1855+00

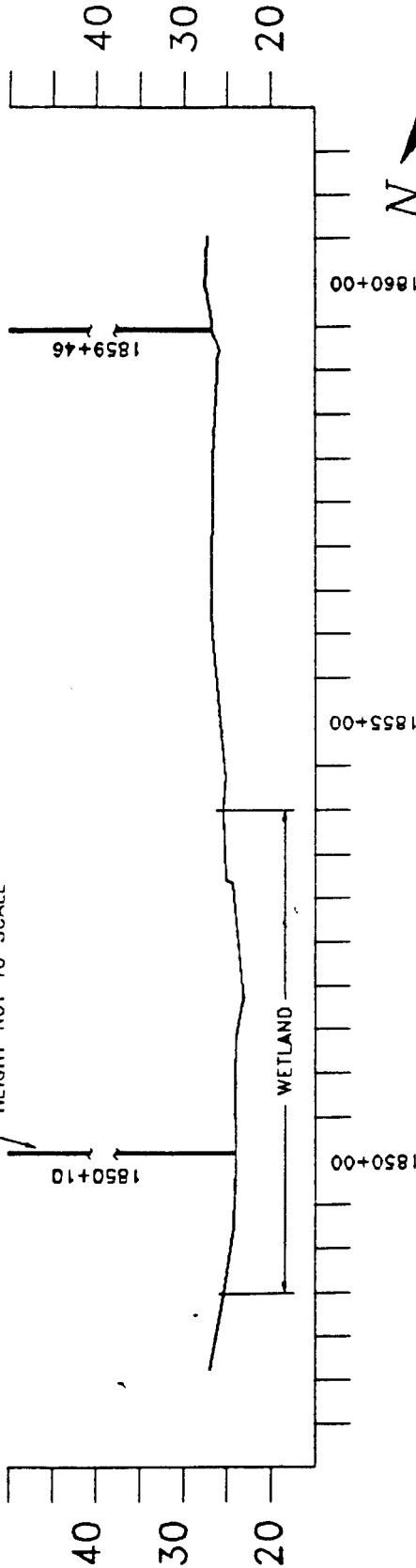
1850+00

**LEGEND**

|  |                                  |
|--|----------------------------------|
|  | 1.25 ACRES CLEARED<br>(FORESTED) |
|  | 100 YEAR FLOOD<br>BOUNDARY       |
|  | WETLAND JURISD.<br>BOUNDARY      |
|  | ROW BOUNDARY                     |

NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS

TRANSMISSION STRUCTURE  
HEIGHT NOT TO SCALE



DATUM: NGVD

# WETLAND "2D3" PLAN/PROFILE SCALE: 1"=200'

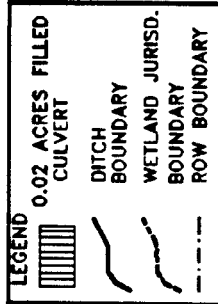
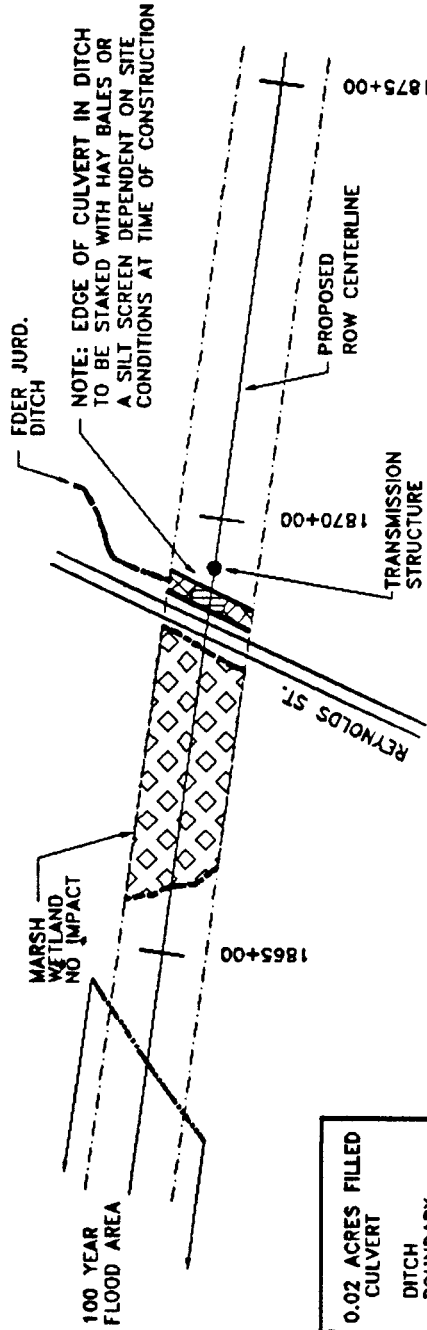
LEGEND for PROFILE

— ROW C/L

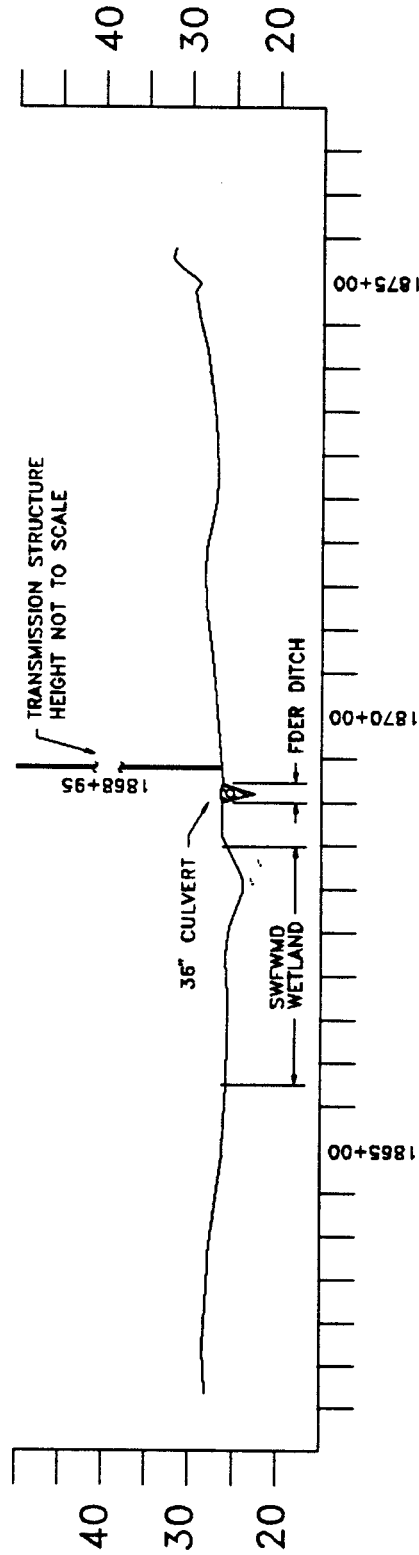


FIGURE 6

SWFWMD  
JURISDICTION  
MARSH WETLAND



NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS



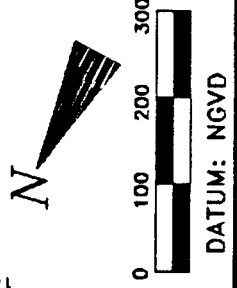
SHW ± 25  
NWL ± 24  
SLW ± 23

WETLAND "2D4/5"  
PLAN/PROFILE

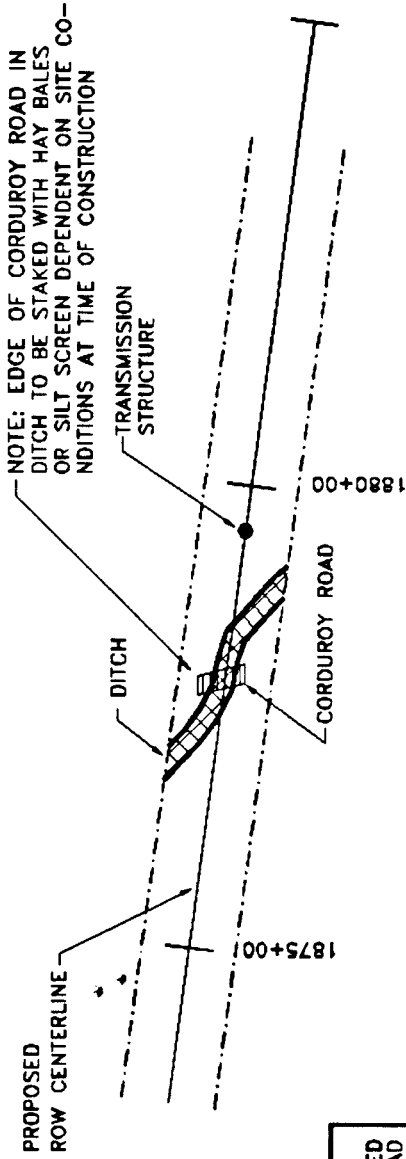
SCALE: 1"=200'

LEGEND for PROFILE

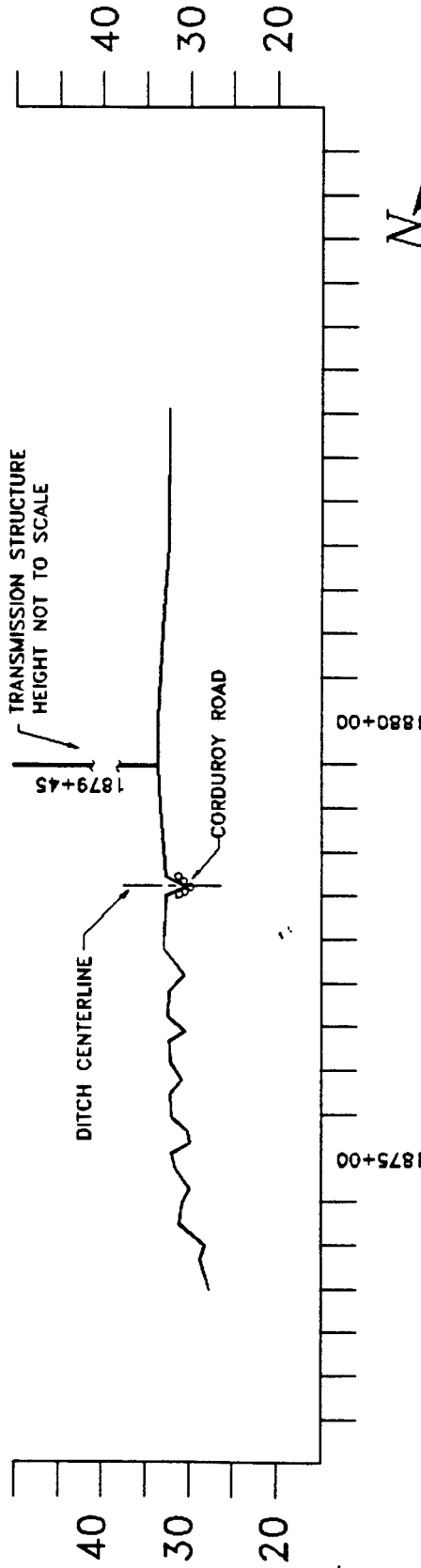
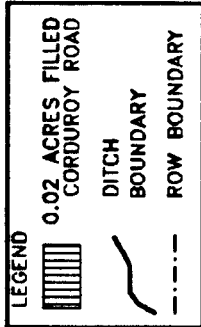
- CORDUROY ROAD
- ROW C/L



# FDR JURISDICTION DITCH

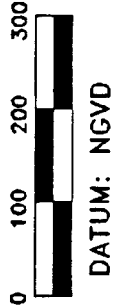


NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS



## DITCH "2D6" PLAN/PROFILE

SHW ± 31  
 NWL ± 30  
 SLW ± 29



LEGEND for PROFILE

- CORDUROY ROAD
- ROW C/L



FIGURE 9

SWFWMD  
JURISDICTION  
FORESTED WETLAND

TRANSMISSION  
STRUCTURE

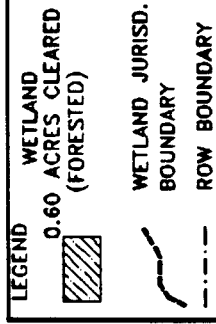
PROPOSED  
ROW CENTERLINE

1880+00

1885+00

1890+00

FORESTED  
WETLAND



NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS

TRANSMISSION STRUCTURE  
HEIGHT NOT TO SCALE

1879+40

1890+00

1880+00

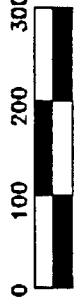
1885+00

1890+00

WETLAND

LEGEND for PROFILE

— ROW C/L



DATUM: NGVD

# WETLAND "2D7" PLAN/PROFILE

SCALE: 1"=200'



FIGURE 10

SWFWMD/FDER  
JURISDICTION  
FORESTED WETLAND

FLOOD LINE

TRANSMISSION  
STRUCTURE

PROPOSED  
ROW CENTERLINE

APPROX. 800' TO  
FLOOD BOUNDARY

DITCH

CHANNEL

1920+00

1915+00

FORESTED  
WETLAND

1910+00

| LEGEND |                                             |
|--------|---------------------------------------------|
|        | WETLAND<br>0.47 ACRES CLEARED<br>(FORESTED) |
|        | 0.01 ACRES FILLED<br>CORDUROY ROAD          |
|        | DITCH                                       |
|        | BOUNDARY                                    |
|        | WETLAND JURISD.<br>BOUNDARY                 |
|        | ROW BOUNDARY                                |

NOTE: EDGE OF CORDUROY ROAD IN  
DITCH 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

40  
30  
20

1909+10

1917+63

WETLAND

CORDUROY  
ROAD

1910+00

1915+00

1920+00

40  
30  
20



# WETLAND "2D9/10" PLAN/PROFILE

SCALE: 1"=200'

LEGEND for PROFILE  
— ROW C/L  
o o o o o o CORDUROY ROAD



FIGURE 11/12

FDER JURISDICTION DITCH

TRANSMISSION STRUCTURE

1930+00

1935+00

1940+00

PROPOSED ROW CENTERLINE

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

LEGEND

0.02 ACRES FILLED CORDUROY ROAD

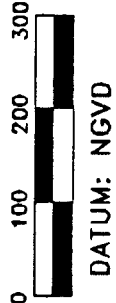
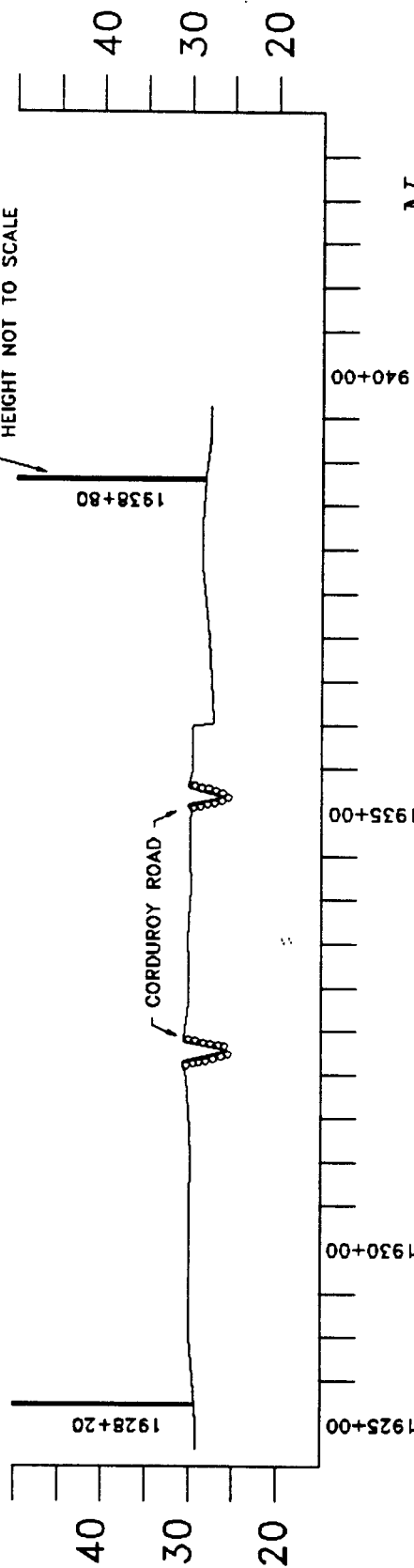
100 YEAR FLOOD BOUNDARY

DITCH BOUNDARY

ROW BOUNDARY

NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS

TRANSMISSION STRUCTURE HEIGHT NOT TO SCALE



# DITCH "2D11/12" PLAN/PROFILE

SCALE: 1"=200'

LEGEND for PROFILE

CORDUROY ROAD

ROW C/L

SHW ± 28  
NWL ± 27  
SLW ± 26



FIGURE 13/14

FDER/SWFWMD  
JURISDICTION

DISTURBED SHRUB WETLAND

PROPOSED  
ROW CENTERLINE

| LEGEND                                                                              |                                                    |
|-------------------------------------------------------------------------------------|----------------------------------------------------|
|  | WETLAND<br>0.13 ACRES CLEARED<br>(DISTURBED SHRUB) |
|  | 100 YEAR FLOOD<br>BOUNDARY                         |
|  | WETLAND JURISD.<br>BOUNDARY                        |
|  | ROW BOUNDARY                                       |

NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS

TRANSMISSION  
STRUCTURE

DISTURBED SHRUB  
WETLAND

1980+00

1975+00

1970+00

TRANSMISSION STRUCTURE  
HEIGHT NOT TO SCALE

1981+20

1970+60

WETLAND

1980+00

1975+00

1970+00

# WETLAND "2D14" PLAN/PROFILE

SCALE: 1"=200'

LEGEND for PROFILE

ROW C/L



DATUM: NGVD

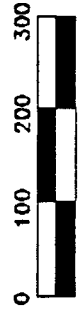
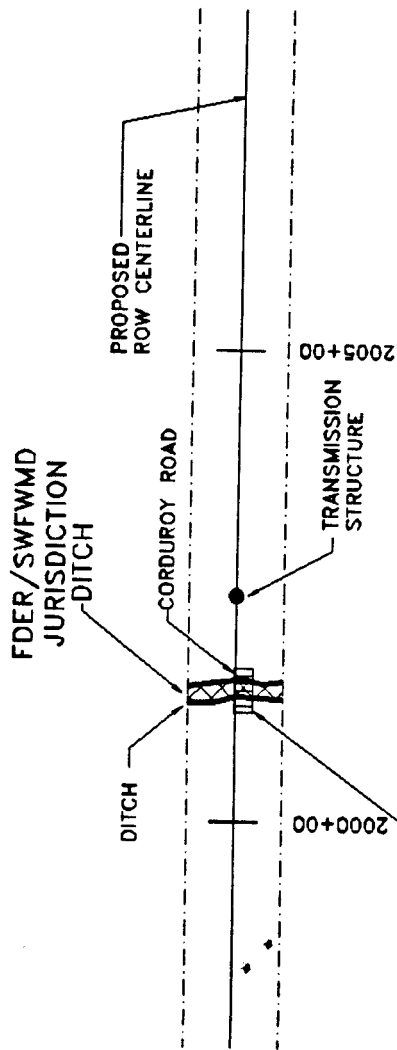
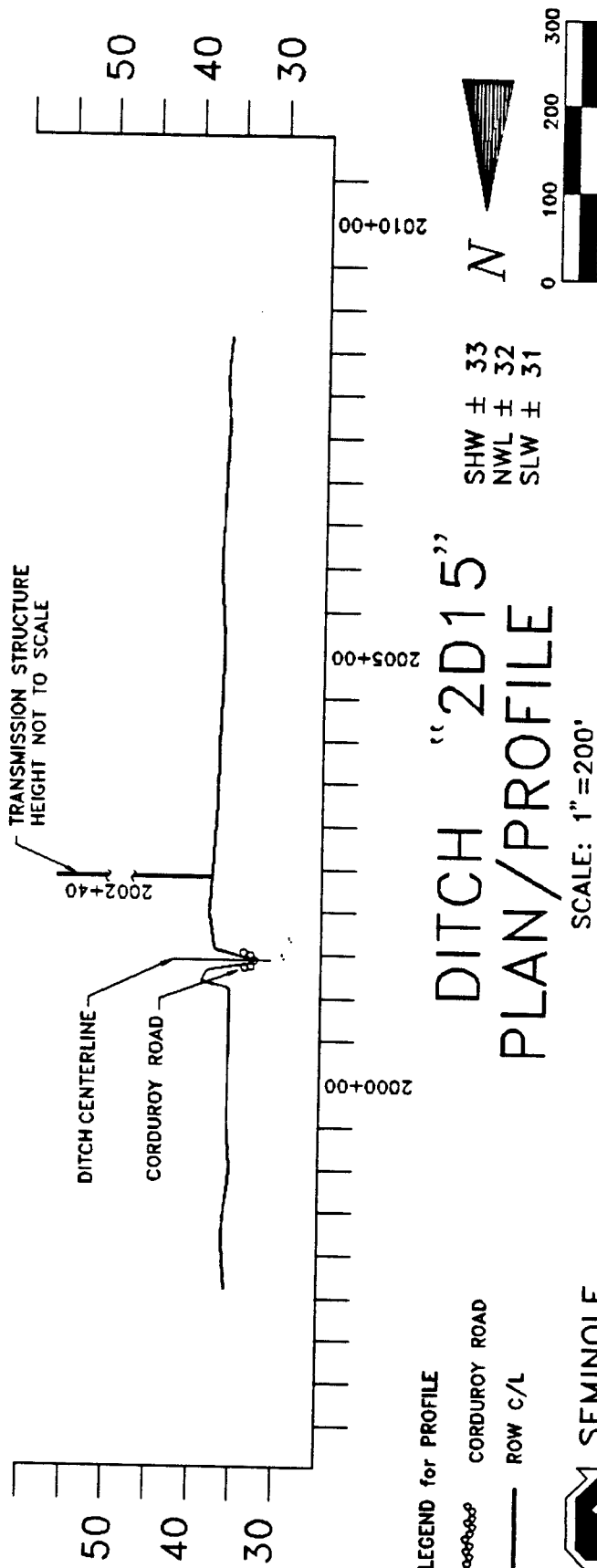
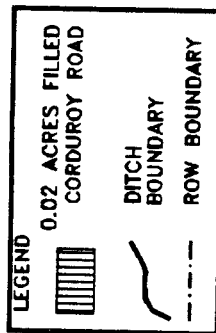


FIGURE 15

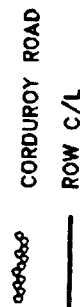


NOTE: EDGE OF CORDUROY ROAD IN DITCH TO BE STAKED WITH HAY BALES OR A SILT SCREEN DEPENDANT ON SITE CONDITIONS AT TIME OF CONSTRUCTION

NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS



LEGEND for PROFILE



SHW ± 33  
NWL ± 32  
SLW ± 31



DATUM: NGVD

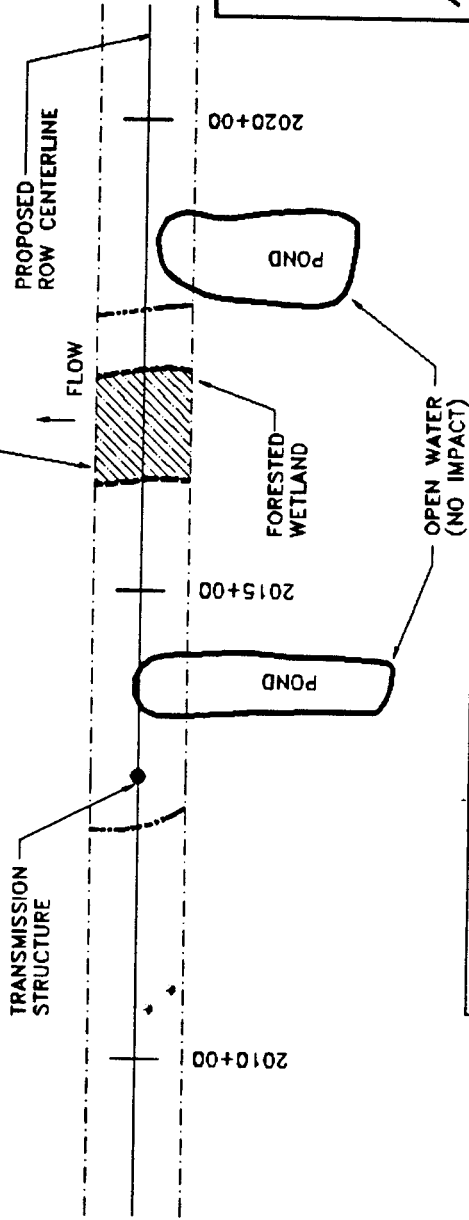
# DITCH "2D15" PLAN/PROFILE

SCALE: 1"=200'

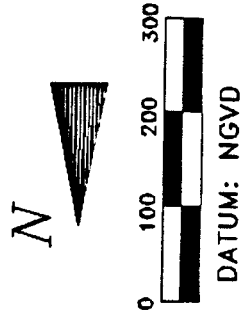
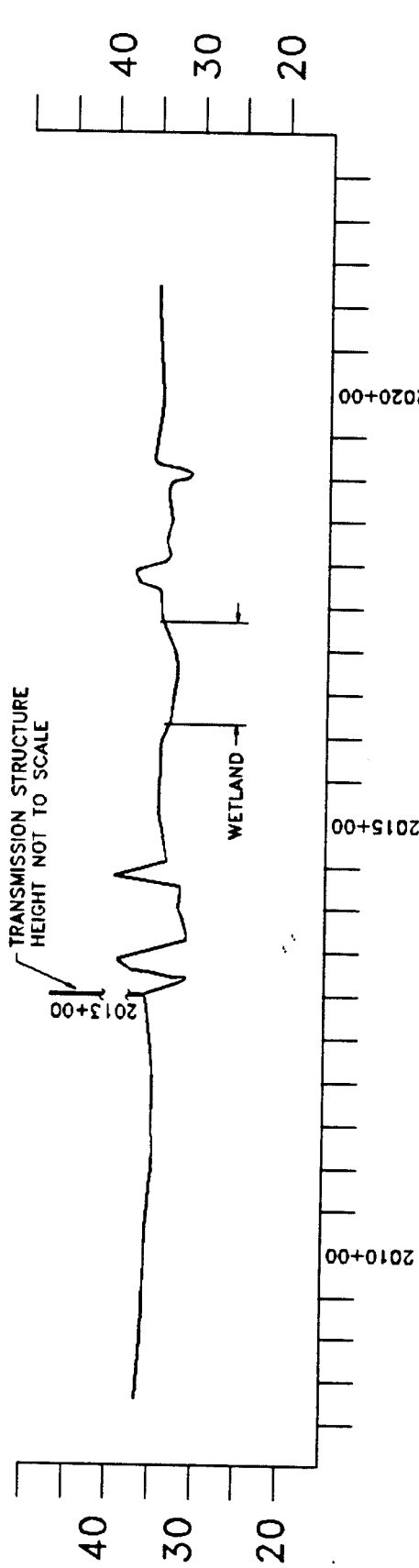
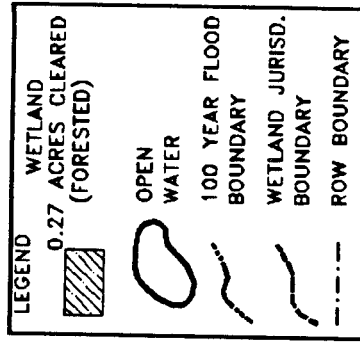


FIGURE 16

FDER\SWFWMD  
JURISDICTION  
FORESTED WETLAND



NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS



# WETLAND "2D16"

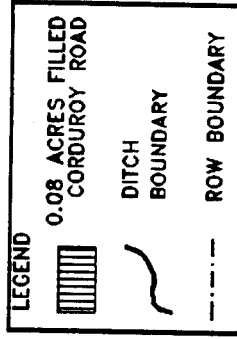
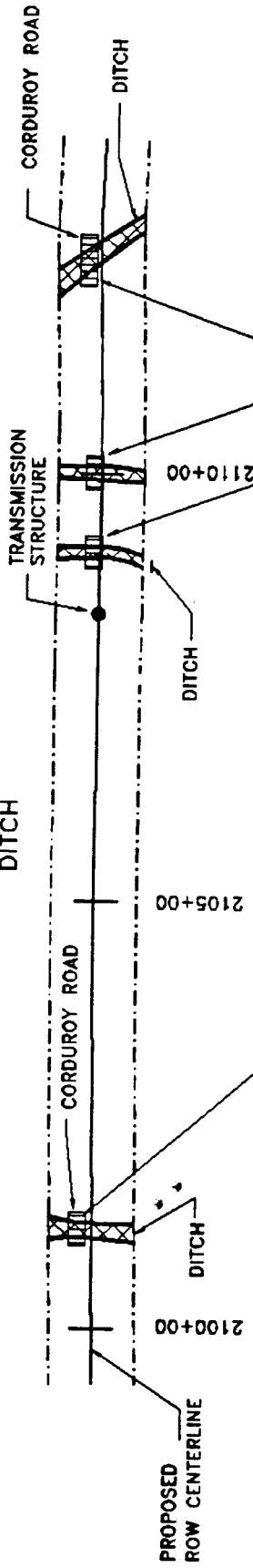
## PLAN/PROFILE

SCALE: 1"=200'  
UNNAMED TRIBUTARY TO HAWTHORNE CREEK



FIGURE 17

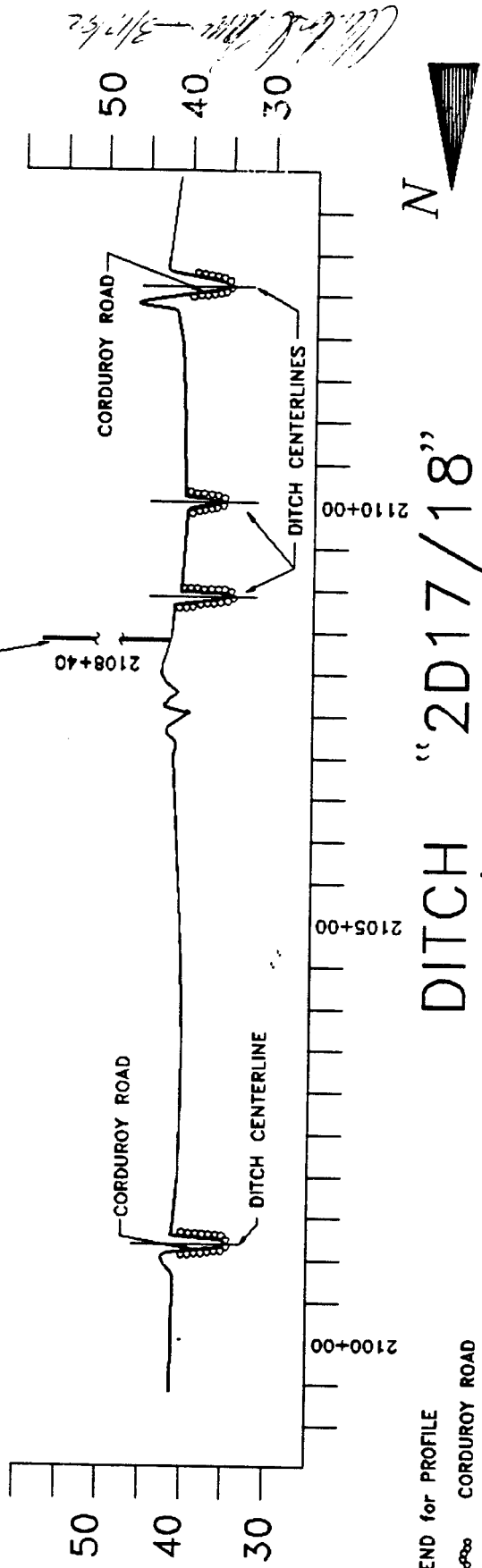
# FDER JURISDICTION DITCH



NOTE: EDGE OF CORDUROY ROAD IN DITCH 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

TRANSMISSION STRUCTURE HEIGHT NOT TO SCALE



LEGEND for PROFILE



## DITCH "2D17/18" PLAN/PROFILE

SCALE: 1"=200'



DATUM: NGVD



FIGURE 18/19

FDER/SWFWMD  
JURISDICTION  
MARSH WETLAND

FDER JURISD.  
DITCH

MARSH WETLAND

TRANSMISSION  
STRUCTURE

PROPOSED  
ROW CENTERLINE  
CONSTRUCTION PAD  
WITH ACCESS ROAD

2165+00

2160+00

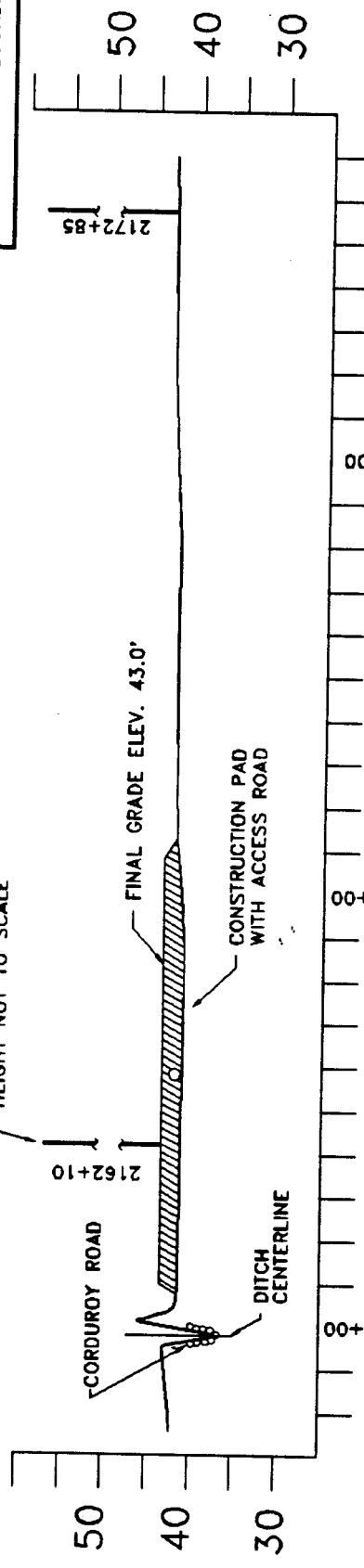
2170+00

NOTE: EDGE OF CORDUROY ROAD  
AND CONSTRUCTION PAD 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

| LEGEND |                                    |
|--------|------------------------------------|
|        | WETLAND                            |
|        | 0.02 ACRES CLEARED CORDUROY ROAD   |
|        | 0.31 ACRES FILLED CONSTRUCTION PAD |
|        | DITCH                              |
|        | BOUNDARY                           |
|        | WETLAND JURISD. BOUNDARY           |
|        | ROW BOUNDARY                       |

TRANSMISSION STRUCTURE  
HEIGHT NOT TO SCALE



LEGEND for PROFILE

|  |                    |
|--|--------------------|
|  | CORDUROY ROAD      |
|  | ROW C/L            |
|  | FILL (CNSTRCT PAD) |

# WETLAND "2D19/20" PLAN/PROFILE

SCALE: 1"=200'

SHW ± 39  
NWL ± 38  
SLW ± 37

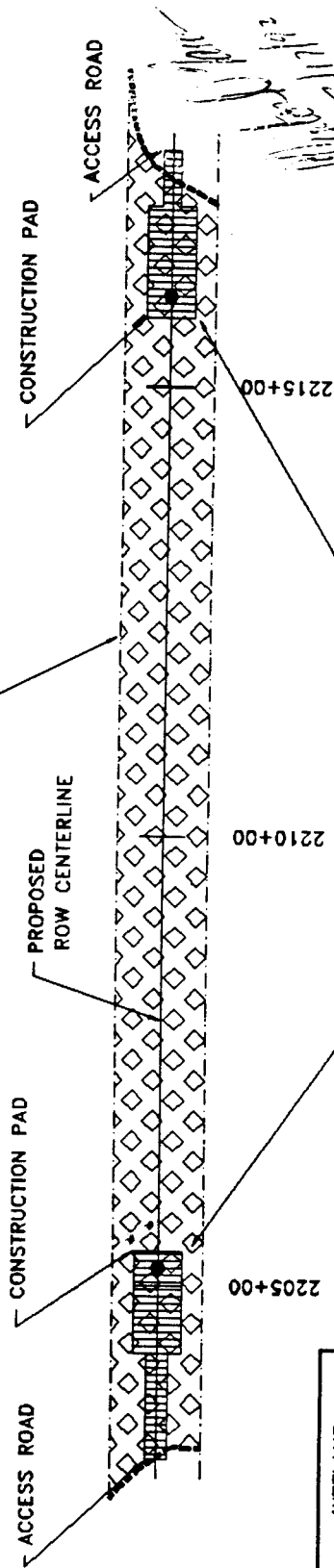


DATUM: NGVD

SEMINOLE  
ELECTRIC  
COOPERATIVE  
INCORPORATED

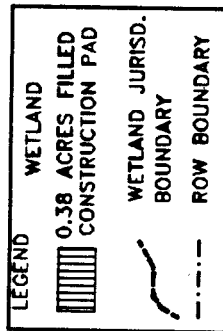
FIGURE 20/21

FDER/SWFWMD  
JURISDICTION  
MARSH WETLAND

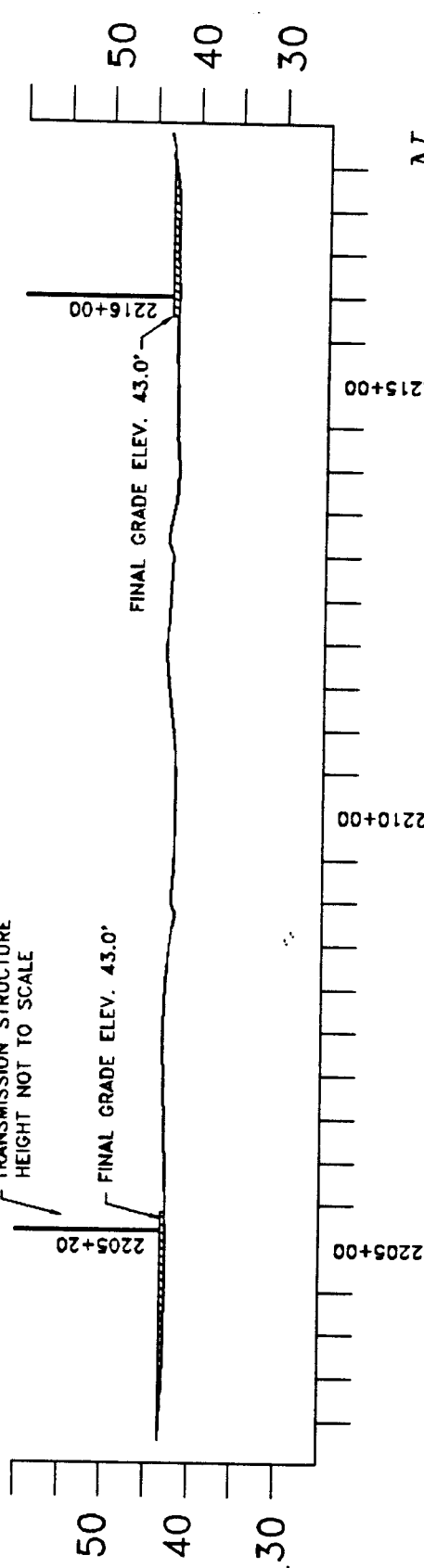


NOTE: EDGE OF CONSTRUCTION PAD  
WITH ACCESS ROAD IN WETLAND TO  
BE STAKED WITH HAY BALES OR  
SILT SCREEN DEPENDENT ON SITE  
CONDITIONS AT TIME OF CON-  
STRUCTION

NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS



TRANSMISSION STRUCTURE  
HEIGHT NOT TO SCALE



LEGEND for PROFILE  
— ROW C/L  
FILL (CNSTRCT. PAD)

# WETLAND "2D22" PLAN/PROFILE

SCALE: 1"=200'

SHW ± 42  
NWL ± 41  
SLW ± 40

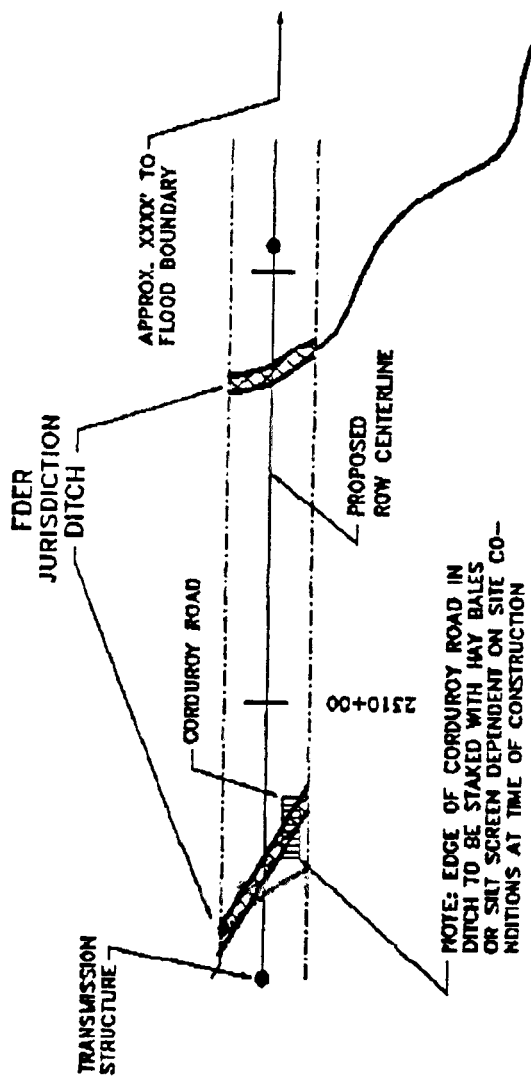
SEMINOLE  
ELECTRIC  
COOPERATIVE  
INCORPORATED

DATUM: NGVD

*Charles D. Allen*  
3/20/92

**LEGEND**

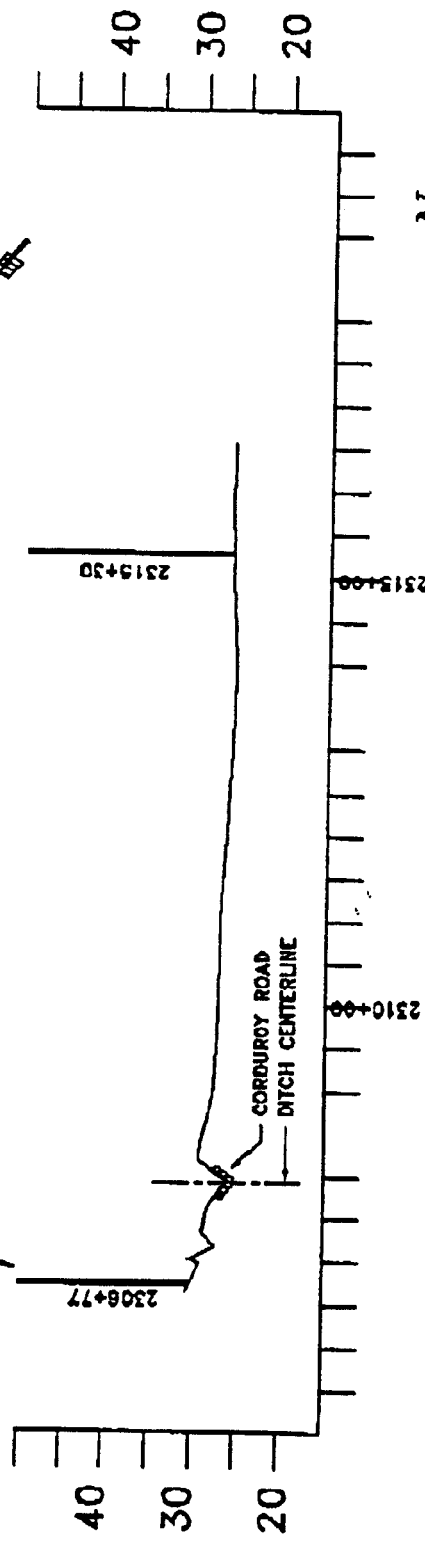
|  |                                 |
|--|---------------------------------|
|  | 0.03 ACRES FILLED CORDUROY ROAD |
|  | DITCH BOUNDARY                  |
|  | 100 YEAR FLOOD BOUNDARY         |
|  | WETLAND JURISD. BOUNDARY        |
|  | ROW BOUNDARY                    |



NOTE: EDGE OF CORDUROY ROAD IN DITCH 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

TRANSMISSION STRUCTURE HEIGHT NOT TO SCALE



SHW ± 27  
NWL ± 26  
SLW ± 25

# DITCH "2D23" PLAN/PROFILE SCALE: 1"=200'

**LEGEND for PROFILE**

|  |               |
|--|---------------|
|  | CORDUROY ROAD |
|  | ROW C/L       |



**SEMINOLE ELECTRIC COOPERATIVE INCORPORATED**

**N**

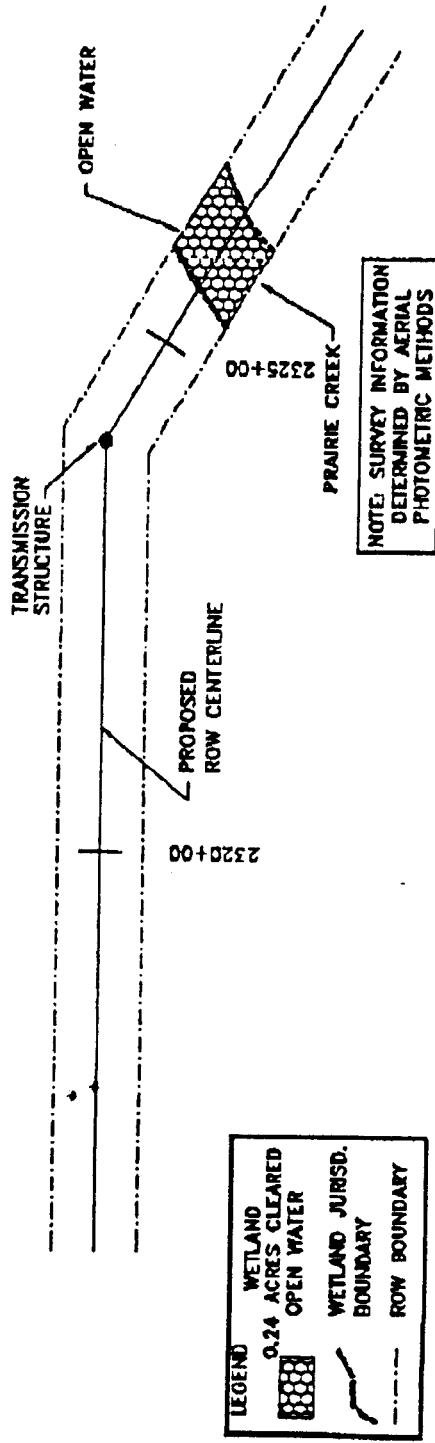
0 100 200 300

**DATUM: NGVD**

**FIGURE 23**

FDER/SWFWMO  
JURISDICTION  
OPEN WATER

*Antony D. Allen*  
3/20/92



—NO PROFILE NECESSARY—

# PRAIRIE CREEK WETLAND "2D24" PLAN/PROFILE

SCALE: 1"=200'

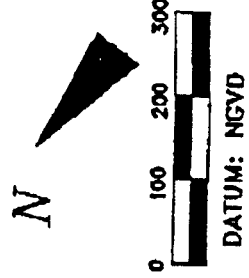
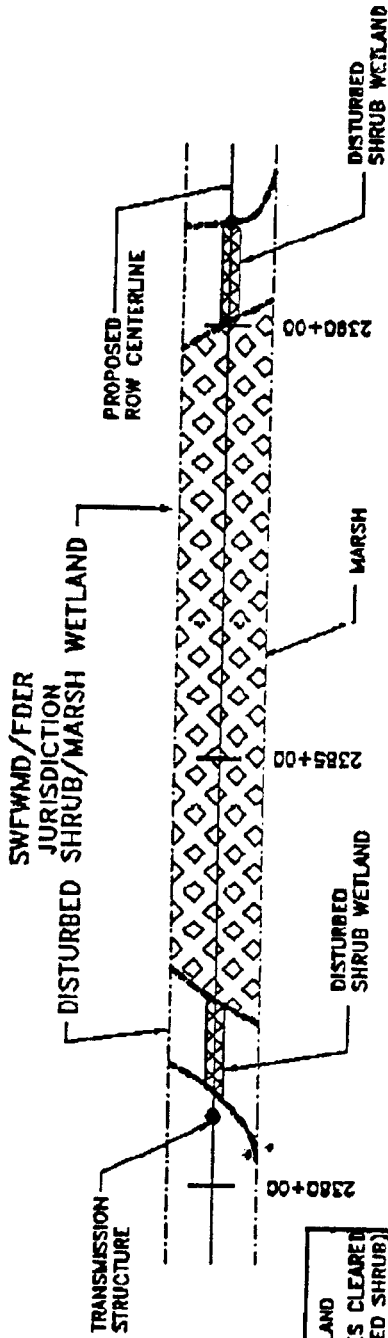
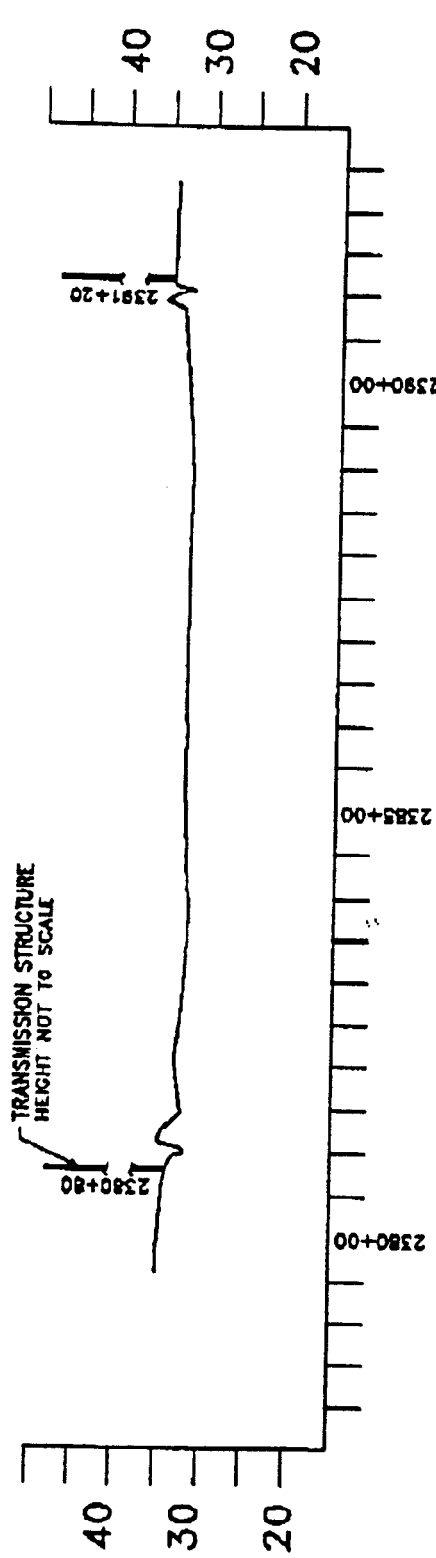
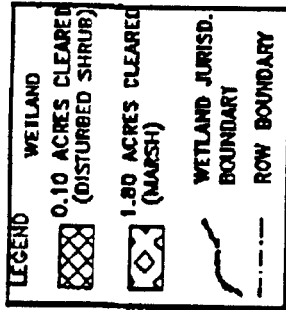


FIGURE 24



*Clinton D. Miller*  
3/20/92

NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS



# WETLAND "2C25" PLAN/PROFILE

SCALE: 1"=200'

LEGEND for PROFILE

— ROW C/L



SEMINOLE  
ELECTRIC  
COOPERATIVE  
INCORPORATED

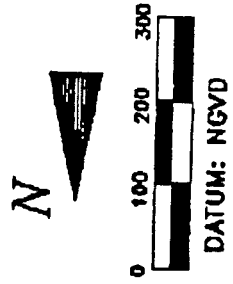


FIGURE 26

SWFWMD/FDER  
JURISDICTION

MARSH/DISTURBED SHRUB WETLAND

TRANSMISSION  
STRUCTURE

PROPOSED  
ROW CENTERLINE

2400+00

DISTURBED SHRUB  
WETLAND

2405+00

MARSH  
WETLAND

2410+00

LEGEND WETLAND  
1.43 ACRES  
(MARSH)

0.13 ACRES CLEARED  
(DISTURBED SHRUB)

WETLAND JURISD.  
BOUNDARY  
ROW BOUNDARY

NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS

TRANSMISSION STRUCTURE  
HEIGHT NOT TO SCALE

2401+30

2411+40

WETLAND

2400+00

2405+00

2410+00

# WETLAND "2C26"

## PLAN/PROFILE

SCALE: 1"=200'

LEGEND for PROFILE

ROW C/L

N

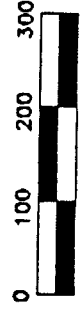
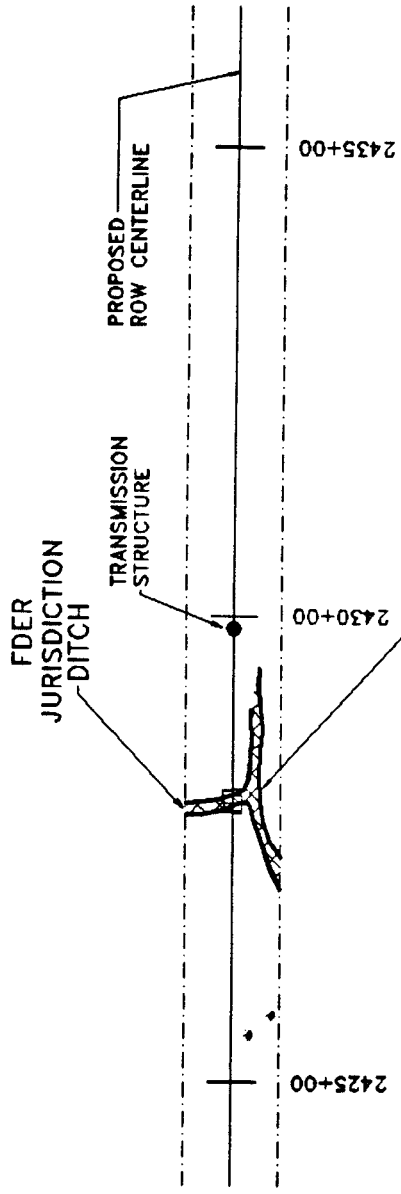
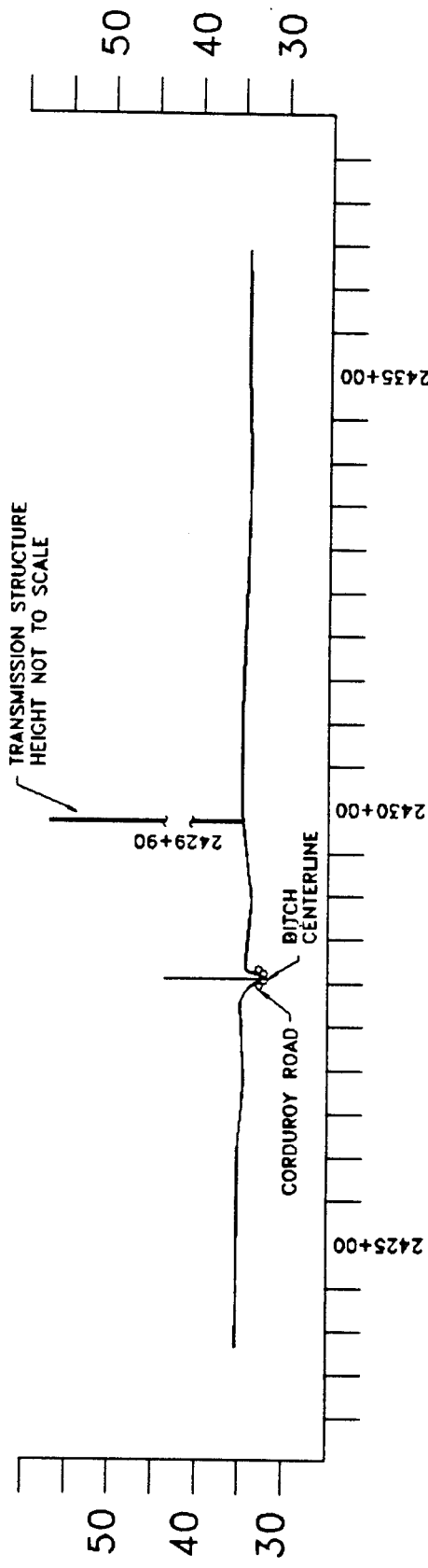
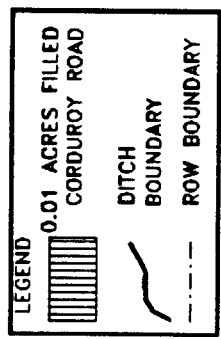


FIGURE 25



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

NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS



LEGEND for PROFILE  
 CORDUROY ROAD  
 ROW C/L

# DITCH "2C27" PLAN/PROFILE

SCALE: 1"=200'

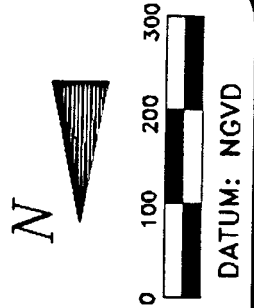
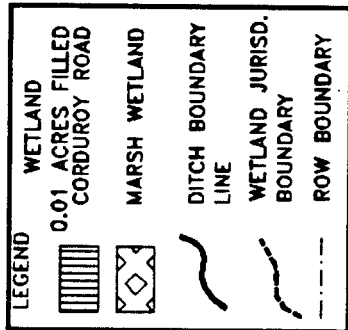
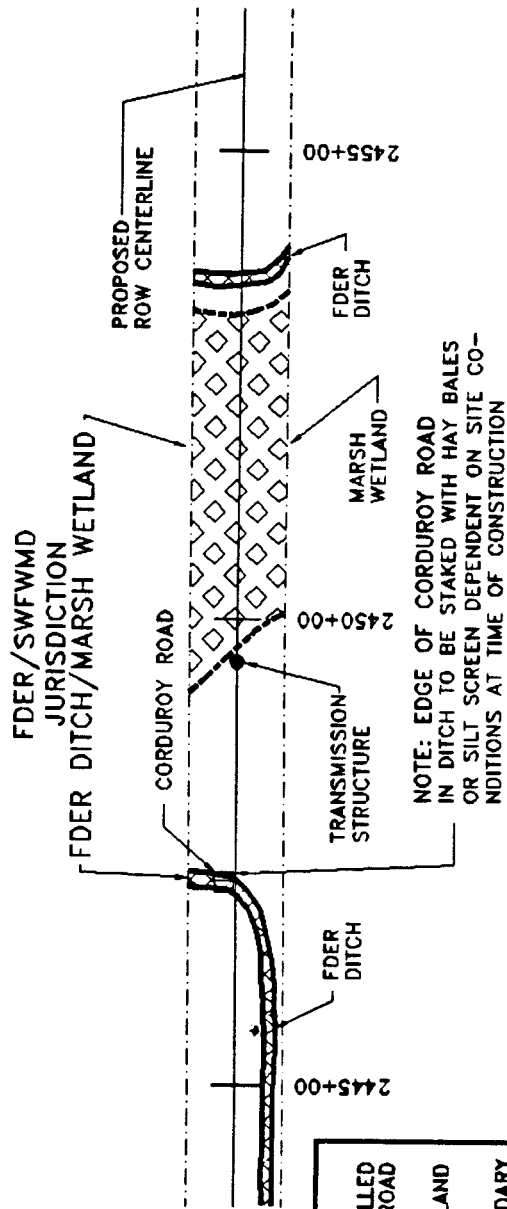
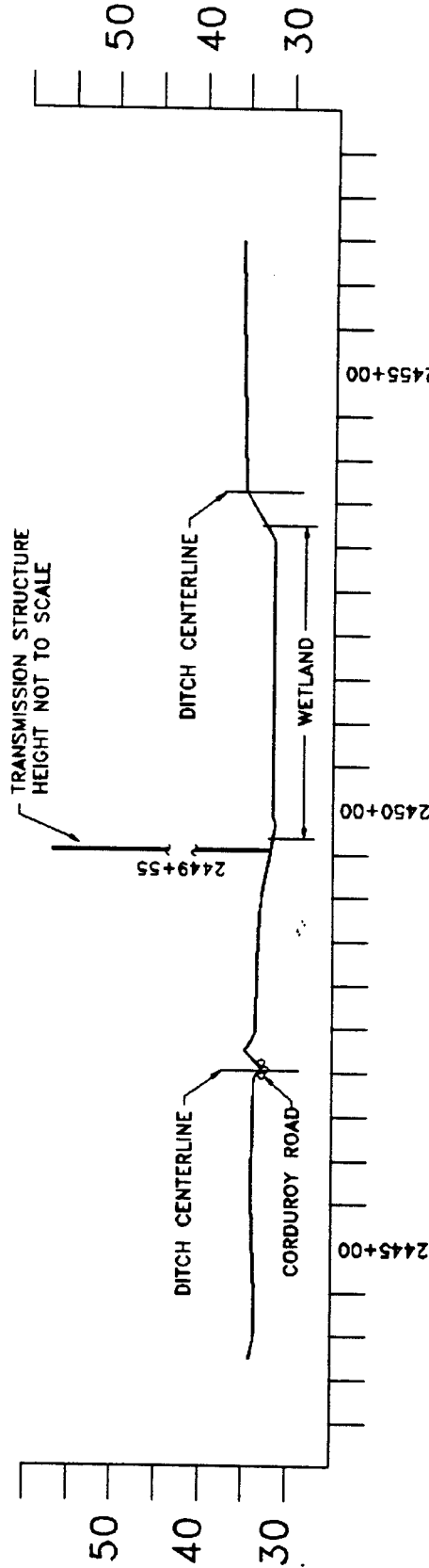


FIGURE 26



NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS



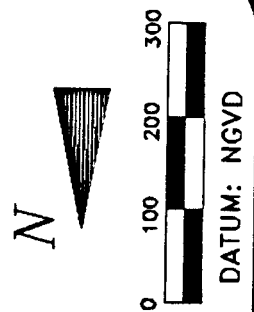
LEGEND for PROFILE

CORDUROY ROAD

ROW C/L

# WETLAND "2C28/29" PLAN/PROFILE

SCALE: 1"=200'



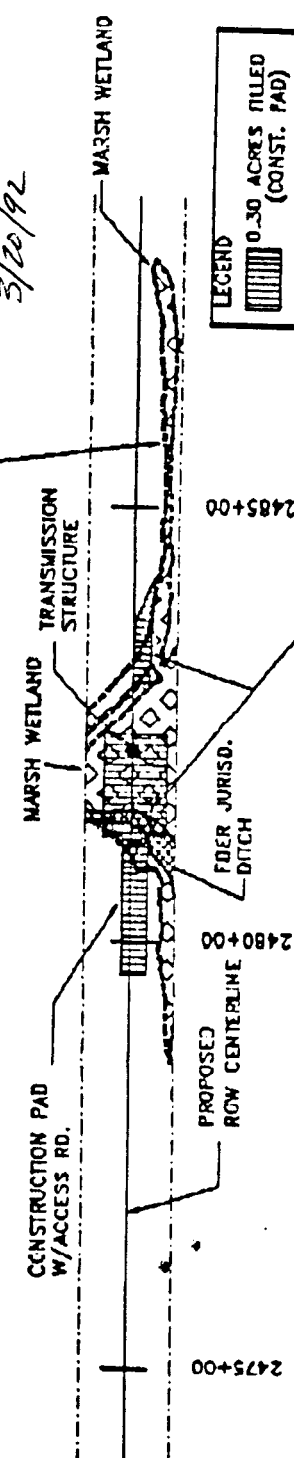
SHW ± 33  
 NWL ± 32  
 SLW ± 31



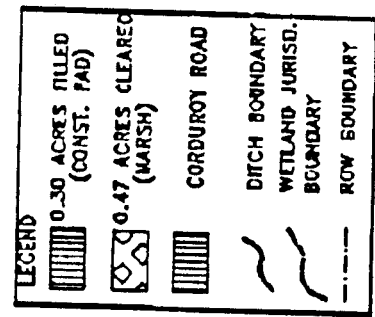
FIGURE 27/28

*Clinton L. Allen*  
3/20/92

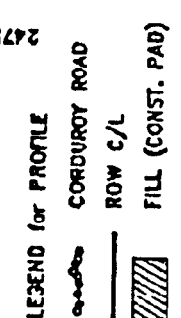
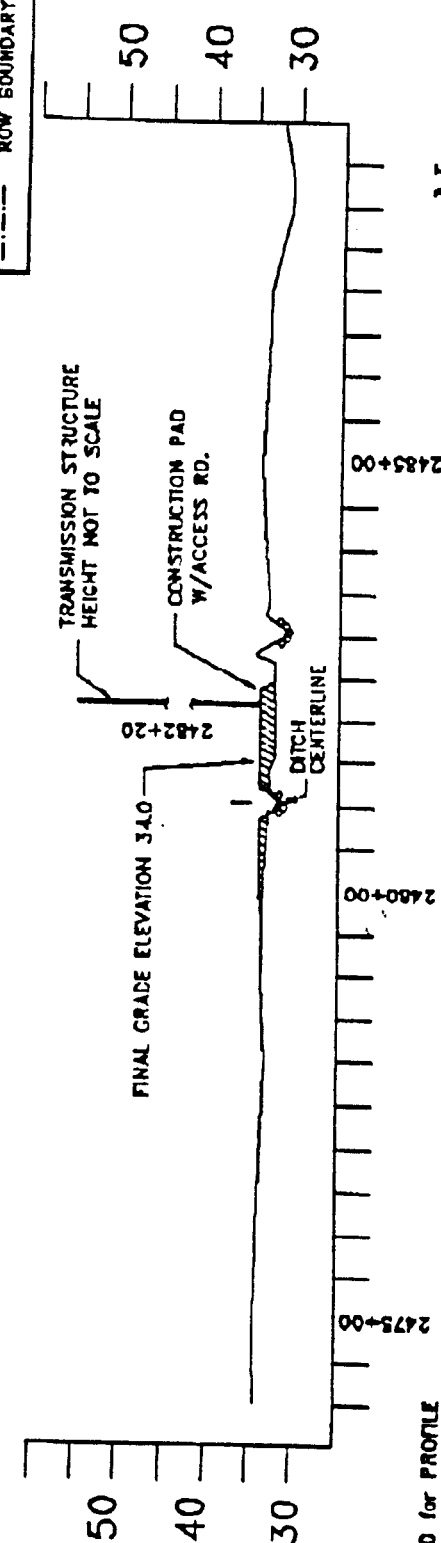
FDER\SWFWMD  
JURISDICTION  
MARSH WETLAND



NOTE: EDGE OF CORDUROY ROAD  
AND CONSTRUCTION PAD 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



# WETLAND "2C30/31" PLAN/PROFILE

SCALE: 1"=200'

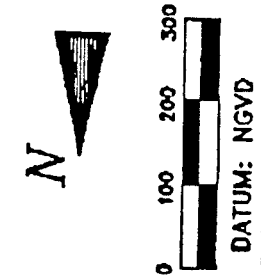


FIGURE 29/30

FOER/SWFWD  
JURISDICTION  
TRIBUTARY TO SHELL CREEK

PROPOSED  
ROW CENTERLINE

TRANSMISSION  
STRUCTURE

2655+00

2650+00

DISTURBED SHRUB  
WETLAND

2645+00

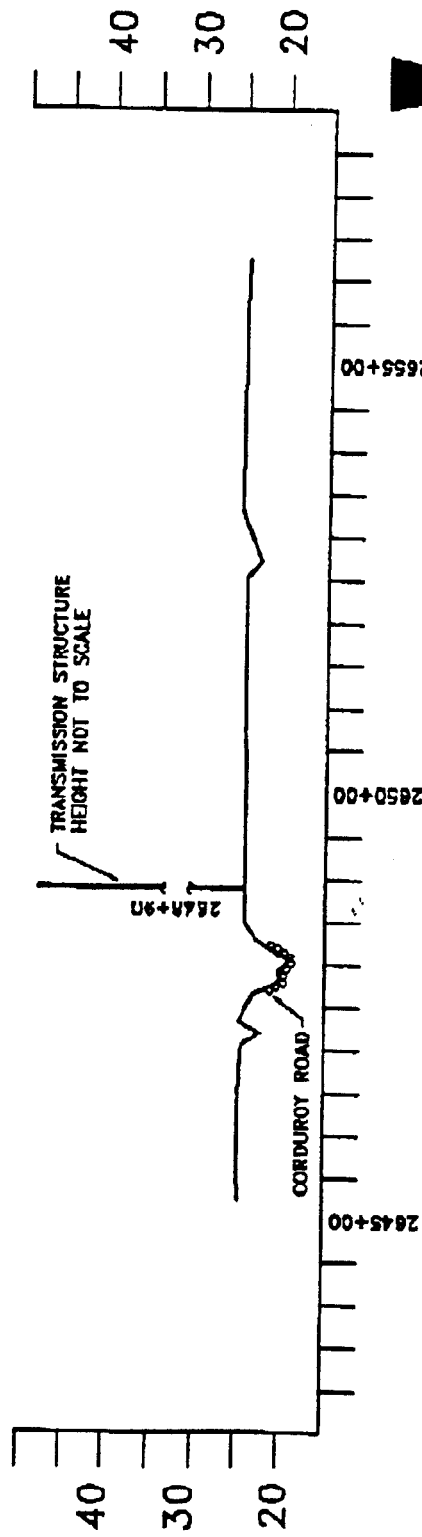
NOTE: EDGE OF CORDUROY ROAD IN  
WETLAND TO BE STAKED WITH HAY BALES  
OR SILT SCREEN DEPENDENT ON SITE CO-  
NDITIONS AT TIME OF CONSTRUCTION

*Clinton D. Allen*  
3/20/92

NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS

**LEGEND**

|                                                                                     |                                                    |
|-------------------------------------------------------------------------------------|----------------------------------------------------|
|  | WETLAND<br>0.13 ACRES CLEARED<br>(DISTURBED SHRUB) |
|  | CORDUROY ROAD                                      |
|  | WETLAND JURISD.                                    |
|  | BOUNDARY                                           |
|  | ROW BOUNDARY                                       |



# WETLAND "2C32B" PLAN/PROFILE

SCALE: 1"=200'

**LEGEND for PROFILE**

|                                                                                       |               |
|---------------------------------------------------------------------------------------|---------------|
|  | CORDUROY ROAD |
|  | ROW C/L       |



SEMINOLE  
ELECTRIC  
COOPERATIVE  
INCORPORATED

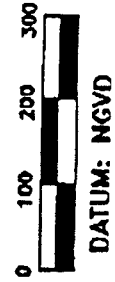
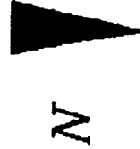
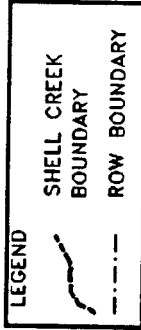
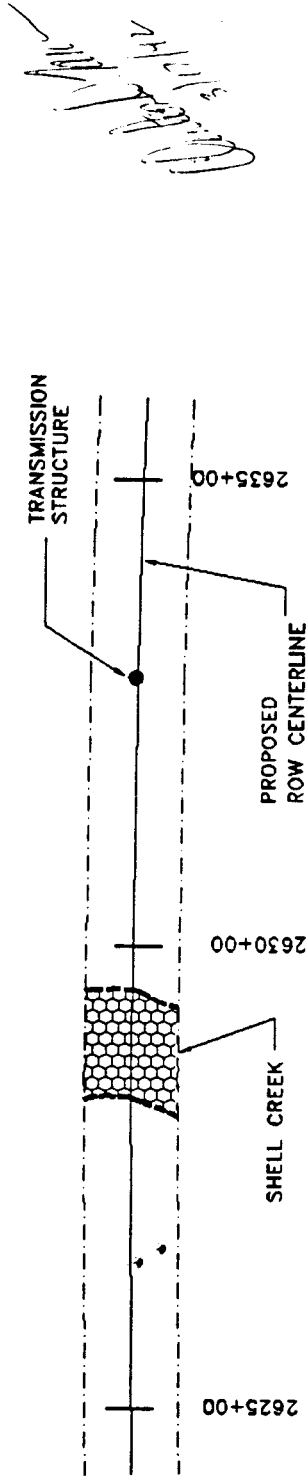


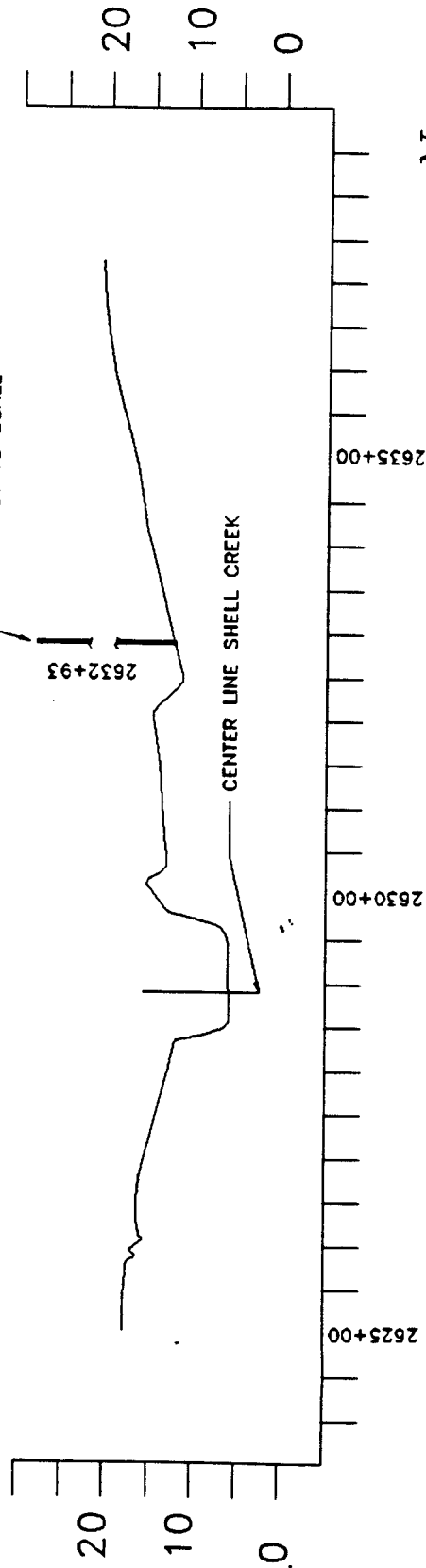
FIGURE 32

NO IMPACTS



NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS

TRANSMISSION STRUCTURE HEIGHT NOT TO SCALE



DATUM: NGVD

# SHELL CREEK PLAN/PROFILE

SCALE: 1"=200'



FIGURE 33

FDER JURISDICTION DITCH

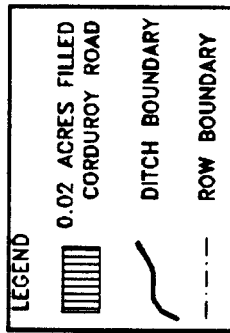
TRANSMISSION STRUCTURE

CORDUROY ROAD

PROPOSED ROW CENTERLINE

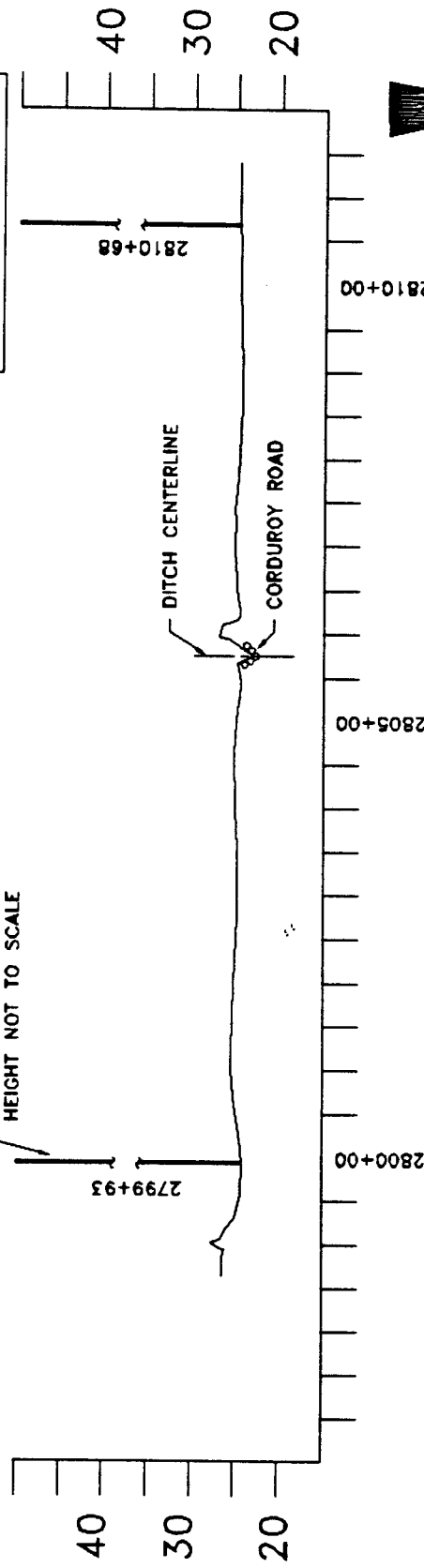
DITCH

NOTE: EDGE OF CORDUROY ROAD IN DITCH 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

TRANSMISSION STRUCTURE HEIGHT NOT TO SCALE



# DITCH "2C33" PLAN/PROFILE

SCALE: 1"=200'

SHW ± 23  
NWL ± 22  
SLW ± 21

**LEGEND for PROFILE**

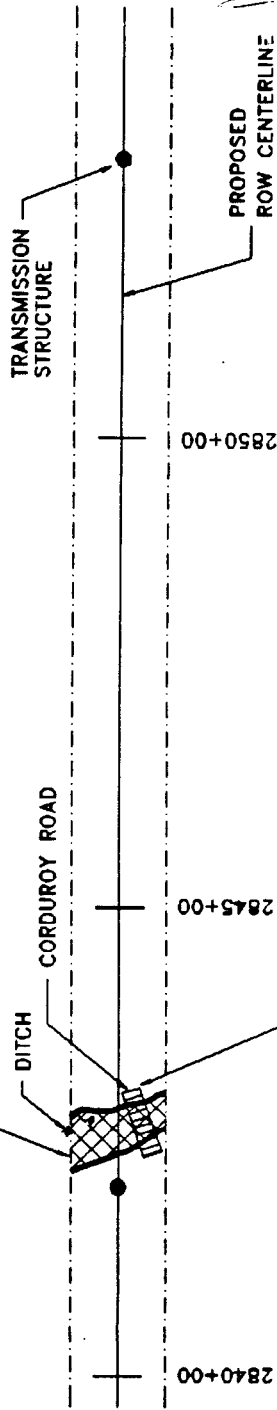
|  |               |
|--|---------------|
|  | CORDUROY ROAD |
|  | ROW C/L       |



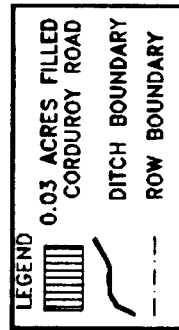
DATUM: NGVD

FIGURE 33

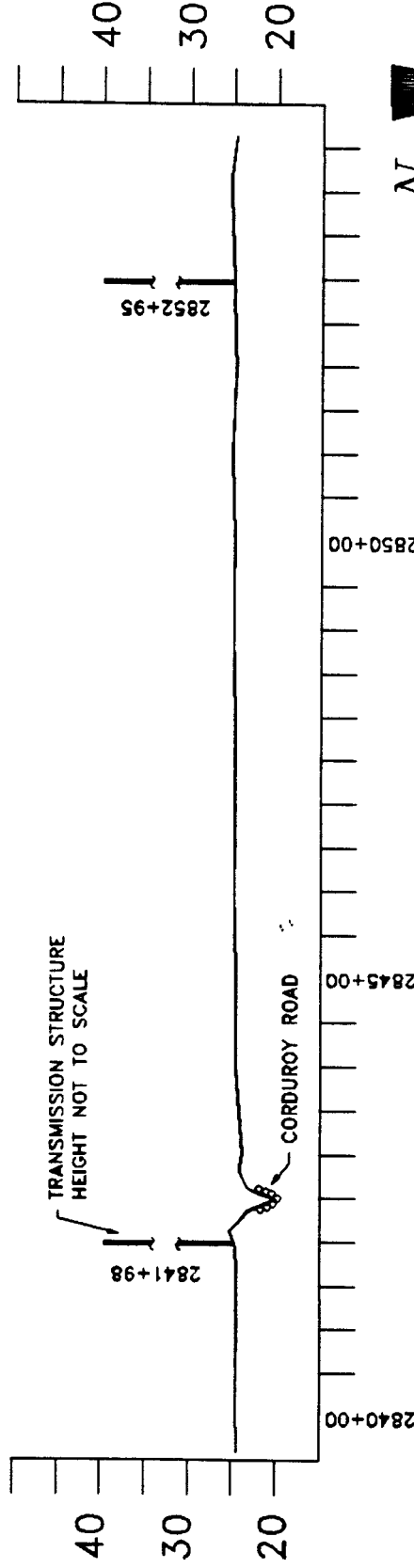
FDER  
JURISDICTION  
DITCH



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



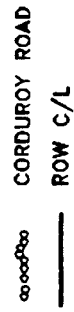
NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS



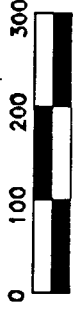
# DITCH "2C34" PLAN/PROFILE

SCALE: 1"=200'

LEGEND for PROFILE



SHW ± 22  
NWL ± 21  
SLW ± 20



DATUM: NGVD



FIGURE 34

FDER/SWFWMD  
JURISDICTION  
DISTURBED SHRUB WETLAND

TRANSMISSION  
STRUCTURE

EXISTING LOW  
WATER CROSSING

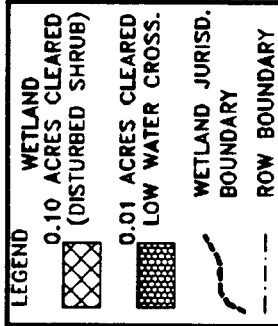
2865+00

2870+00

2875+00

PROPOSED  
ROW CENTERLINE

DISTURBED SHRUB  
WETLAND



NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS

TRANSMISSION STRUCTURE  
HEIGHT NOT TO SCALE

2863+95

2874+95

2865+00

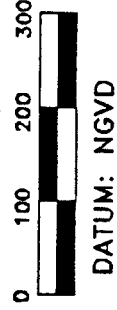
2870+00

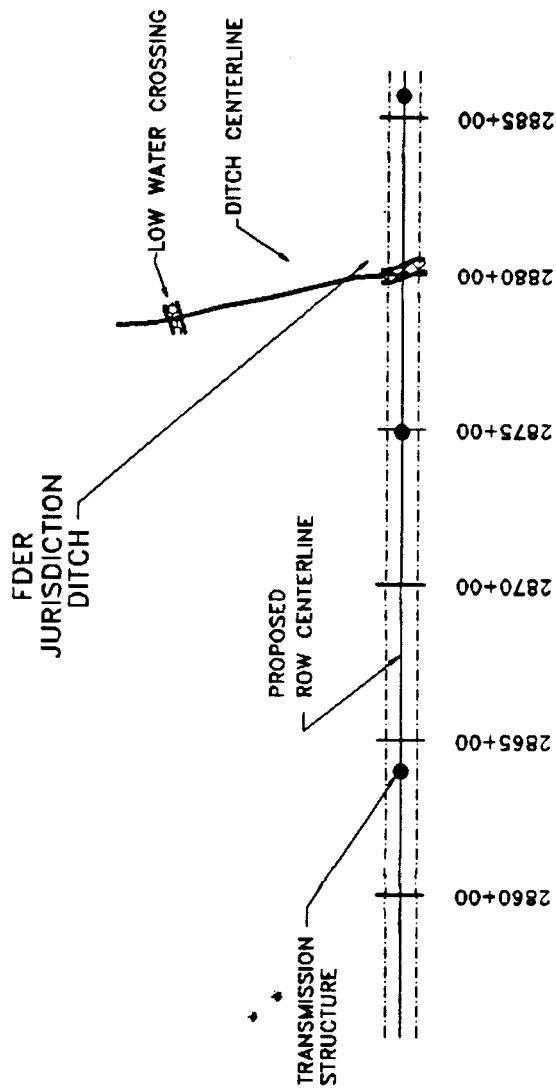
2875+00

# WETLAND "2C35" PLAN/PROFILE

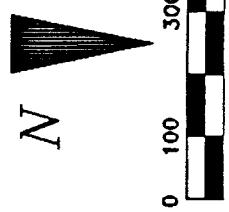
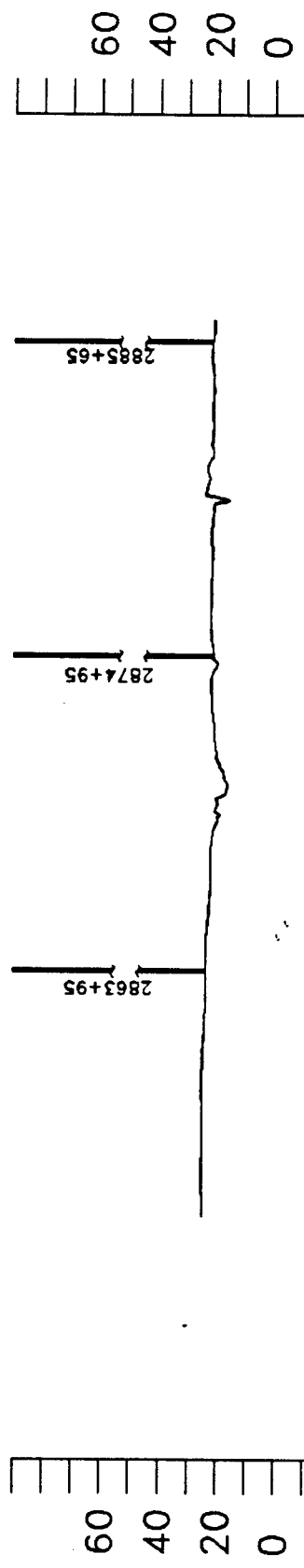
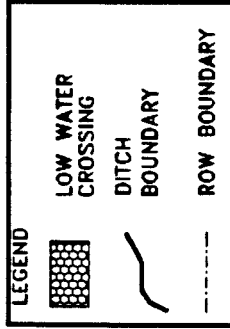
SCALE: 1"=200'

LEGEND for PROFILE  
— ROW C/L





NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS



# DITCH "2C36" PLAN/PROFILE

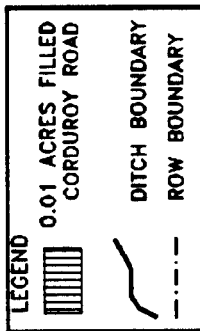
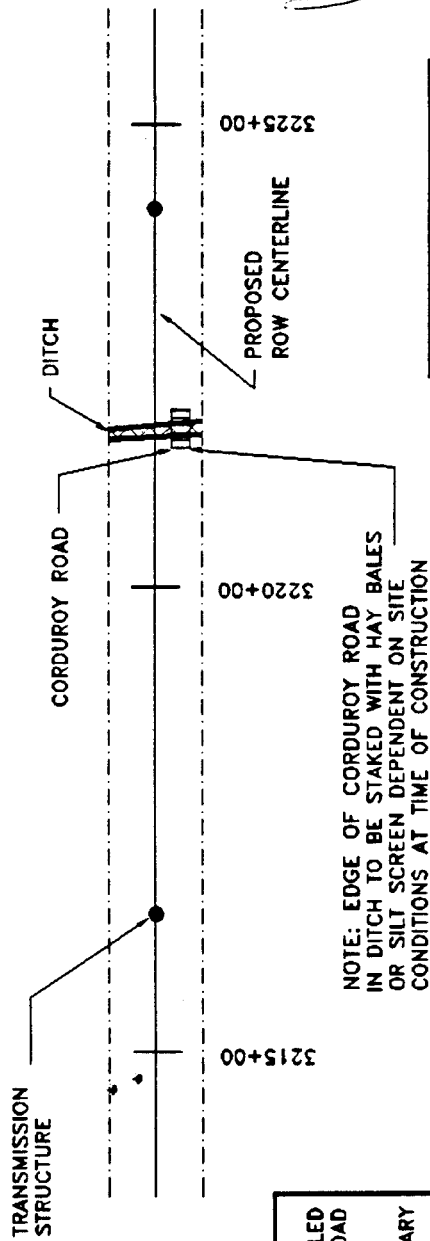
SCALE: 1"=300'

LEGEND for PROFILE  
— ROW C/L



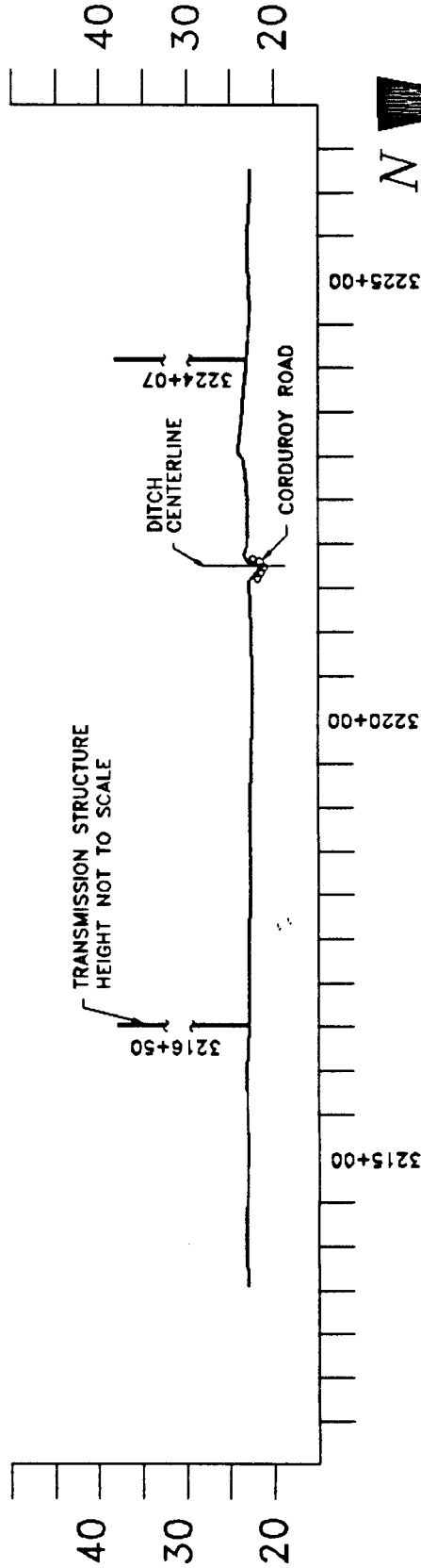
FIGURE 36

# FDER JURISDICTION DITCH



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

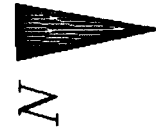
NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS



## DITCH "2C37" PLAN/PROFILE

SCALE: 1"=200'

LEGEND for PROFILE



DATUM: NGVD



FIGURE 37

FDER JURISDICTION DITCH

TRANSMISSION STRUCTURE

CORDUROY ROAD DITCH

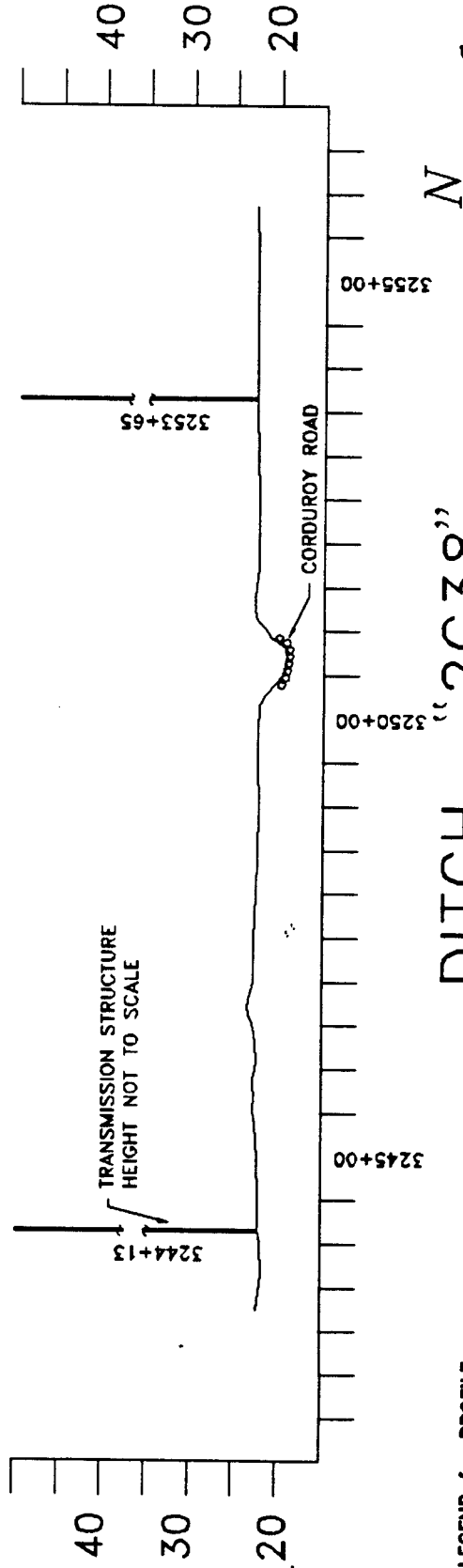
PROPOSED ROW CENTERLINE

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

NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS

LEGEND

|                                                                                     |                                 |
|-------------------------------------------------------------------------------------|---------------------------------|
|  | 0.03 ACRES FILLED CORDUROY ROAD |
|  | DITCH BOUNDARY                  |
|  | ROW BOUNDARY                    |



SHW ± 19  
NWL ± 18  
SLW ± 17

# DITCH "2C38" PLAN/PROFILE

SCALE: 1"=200'

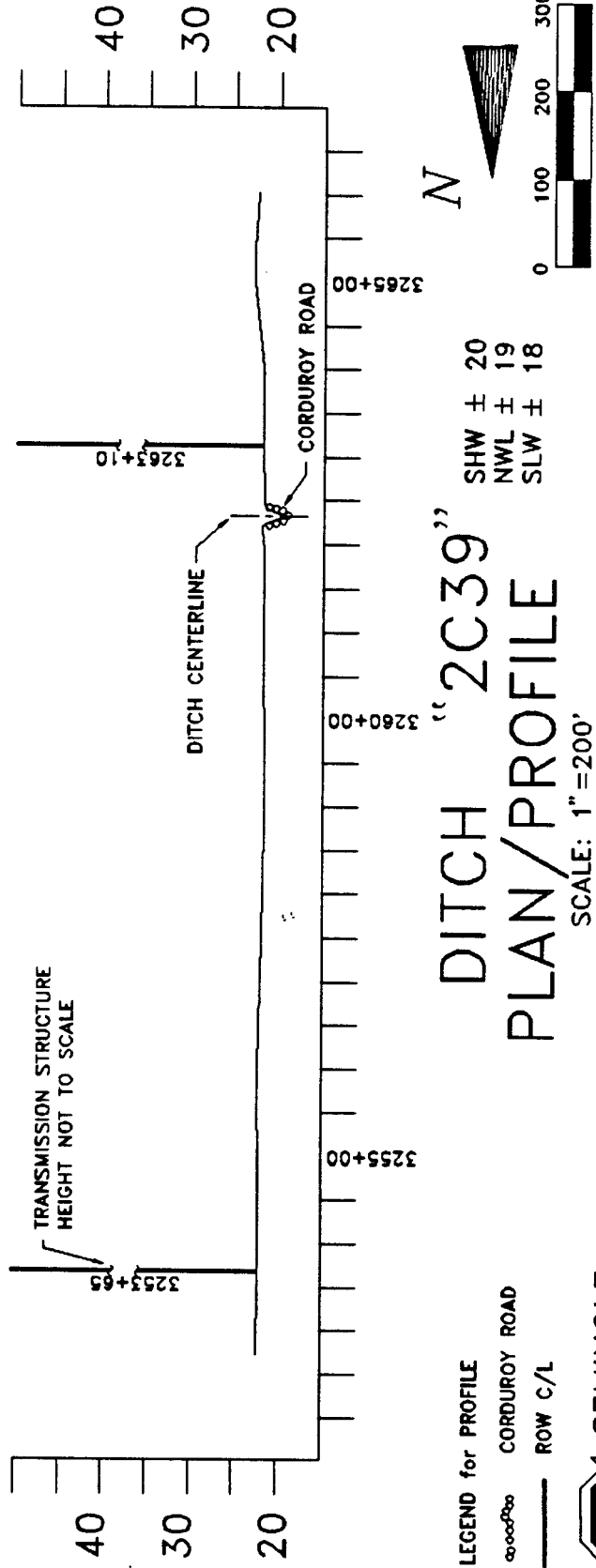
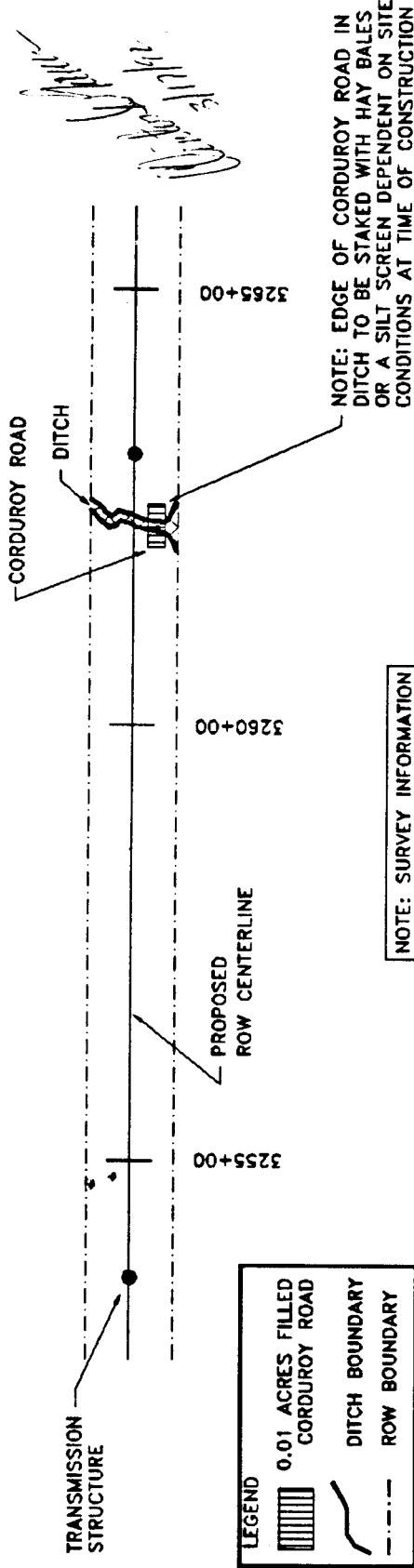
LEGEND for PROFILE

 CORDUROY ROAD  
 ROW C/L



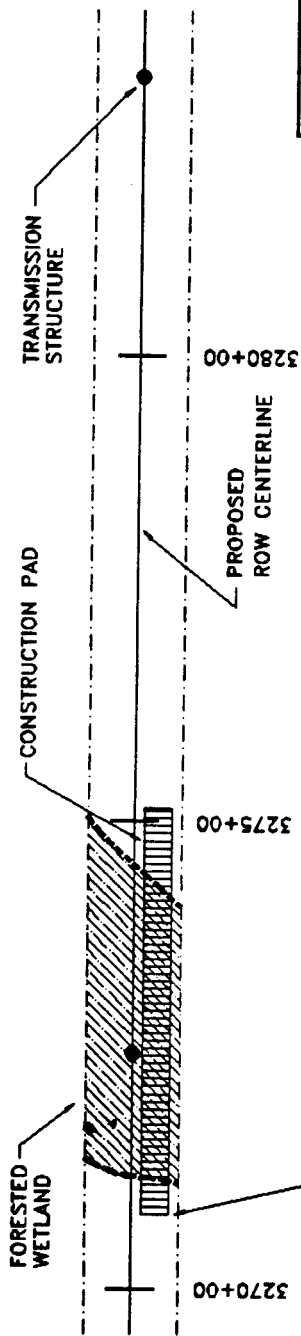
FIGURE 38

# FDER JURISDICTION DITCH

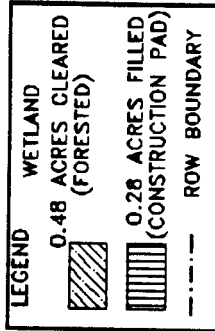


FDER/SWFWMD  
JURISDICTION  
CULVERT/FORESTED WETLAND

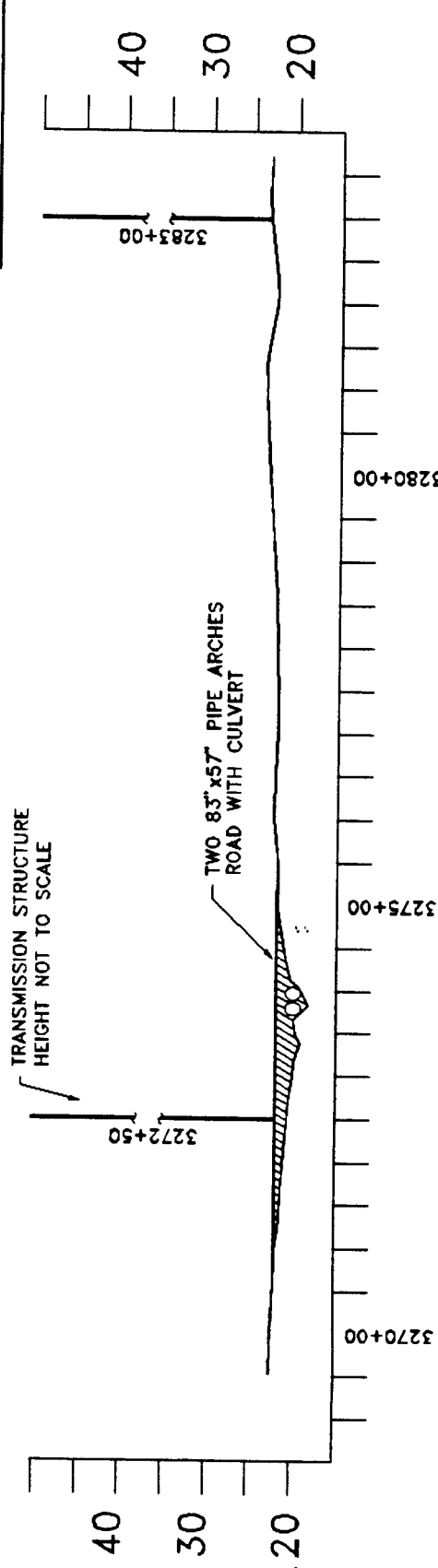
*Wetland*



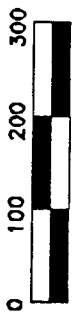
NOTE: EDGE OF CULVERT IN WETLAND TO BE STAKED WITH HAY BALES OR A SILT SCREEN DEPENDENT ON SITE CONDITIONS AT TIME OF CONSTRUCTION



NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS



SHW ± 22  
NWL ± 21  
SLW ± 20



DATUM: NGVD

WETLAND "2C40"  
PLAN/PROFILE

SCALE: 1"=200'

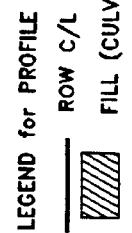


FIGURE 40

FDER  
JURISDICTION  
DITCH

PROPOSED  
ROW CENTERLINE

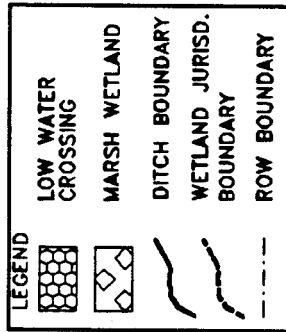
TRANSMISSION  
STRUCTURE

MARSH  
WETLAND

DITCH

LOW WATER  
CROSSING

INTERSTATE 75



NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS

TRANSMISSION STRUCTURE  
HEIGHT NOT TO SCALE

3295+35

3290+00

3295+00

3290+00

DITCH  
CENTERLINE

N

# DITCH "2C41" PLAN/PROFILE

SCALE: 1"=200'

LEGEND for PROFILE  
— ROW C/L

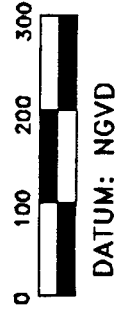
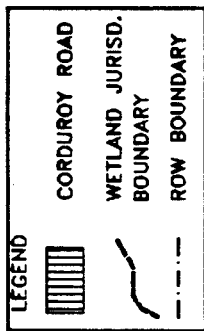
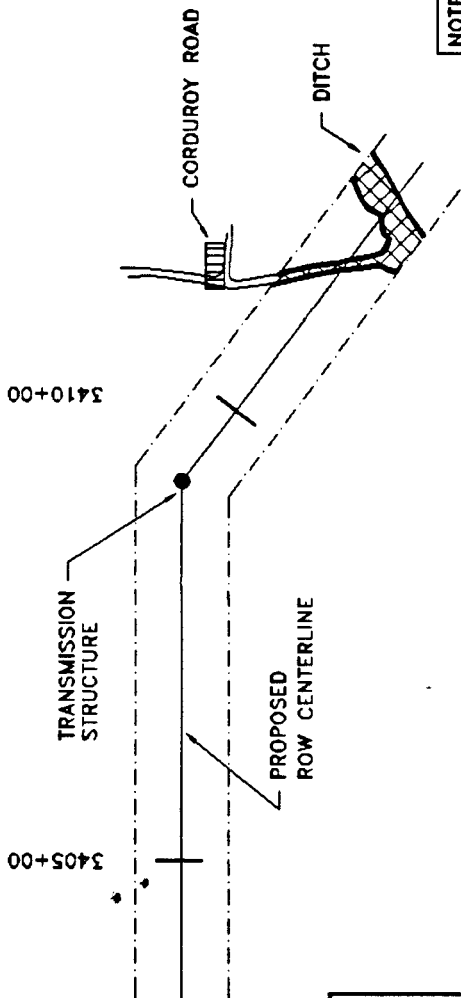
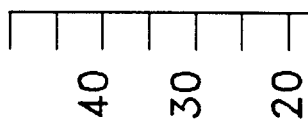


FIGURE 41

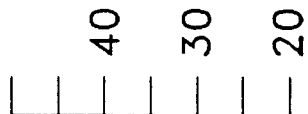
FDER  
JURISDICTION  
DITCH



NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS



— NO PROFILE AVAILABLE —



3405+00

3410+00

3415+00

DITCH "2C47"  
PLAN/PROFILE

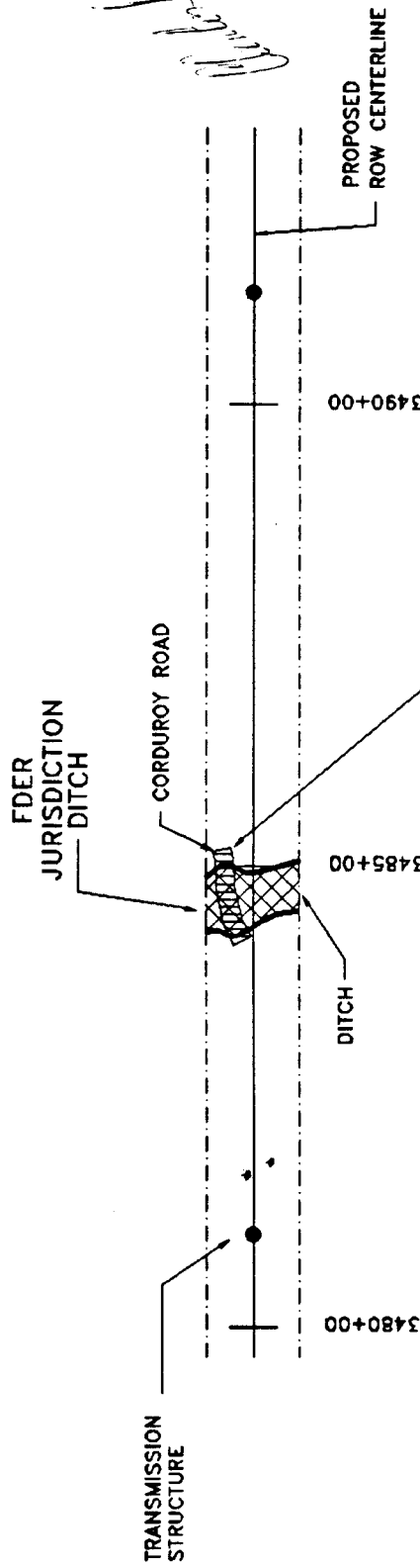
SCALE: 1"=200'



DATUM: NGVD

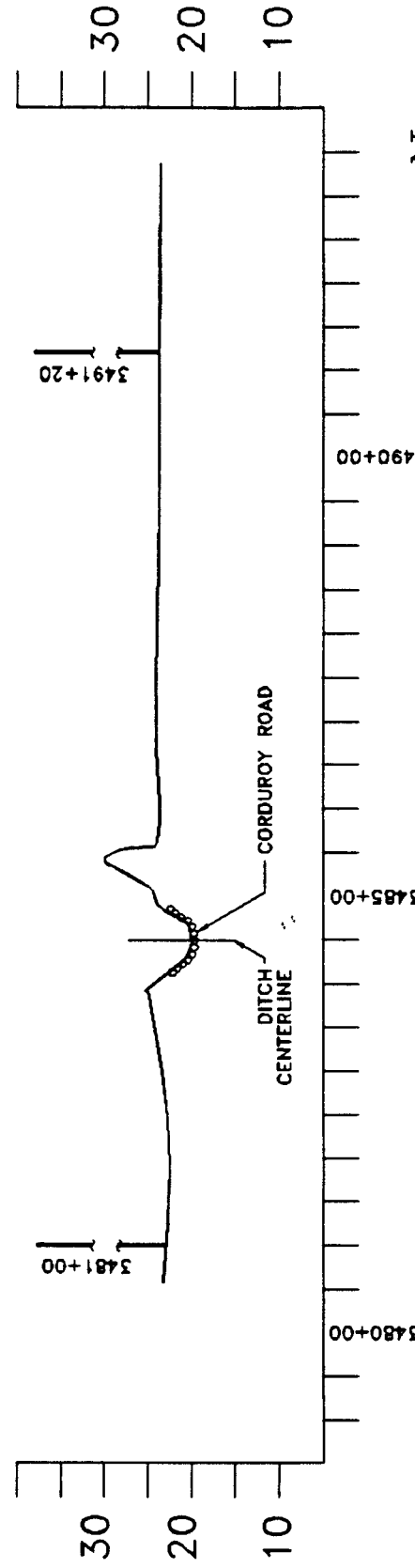
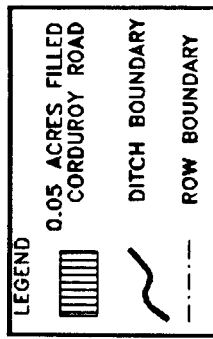


FIGURE 42



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

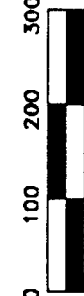
NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS



SHW ± 23  
 NWL ± 22  
 SLW ± 21

# DITCH "2C51" PLAN/PROFILE

SCALE: 1"=200'

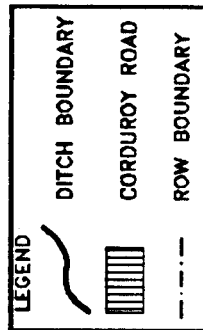
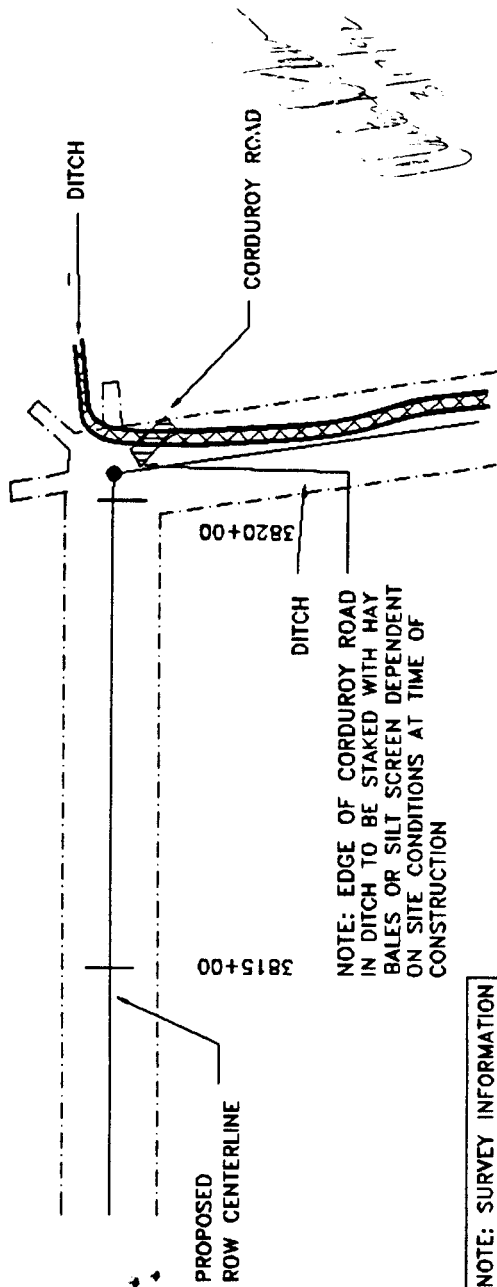


DATUM: NGVD

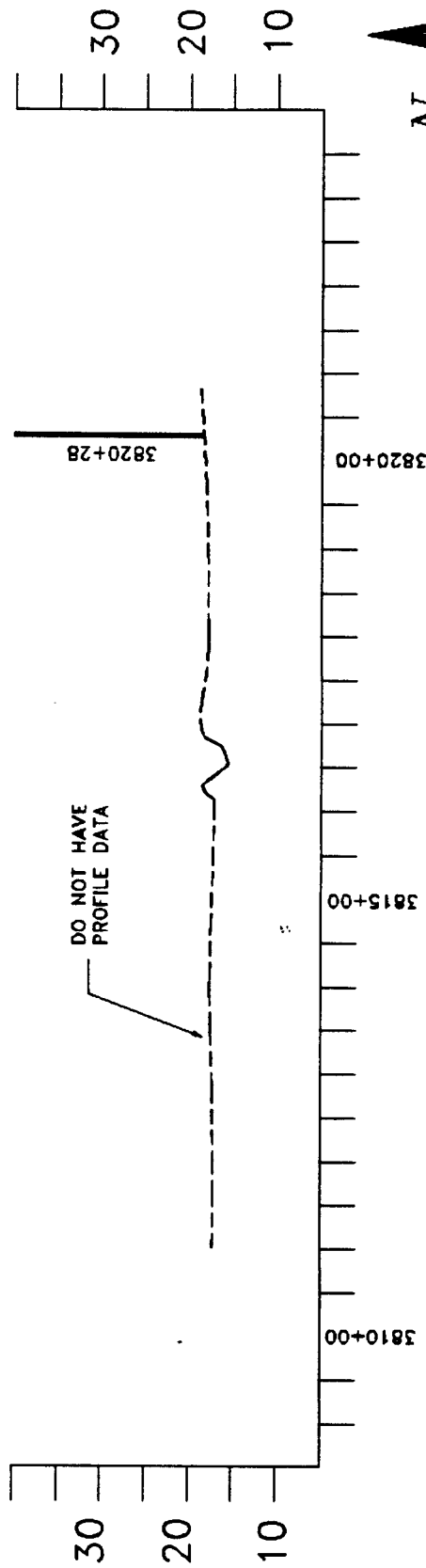


FIGURE 43

# FDER JURISDICTION DITCH



NOTE: SURVEY INFORMATION DETERMINED BY AERIAL PHOTOMETRIC METHODS



LEGEND for PROFILE

— ROW C/L

## DITCH "2L69" PLAN/PROFILE

SCALE: 1"=200'

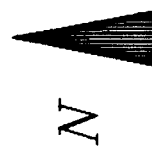
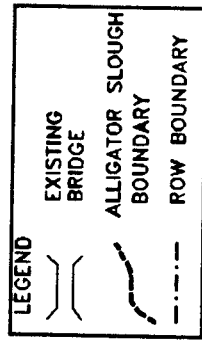
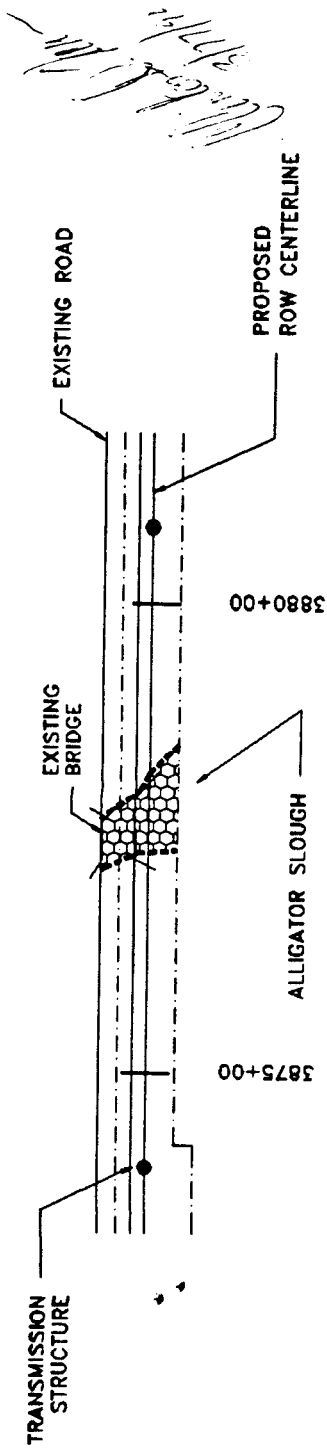
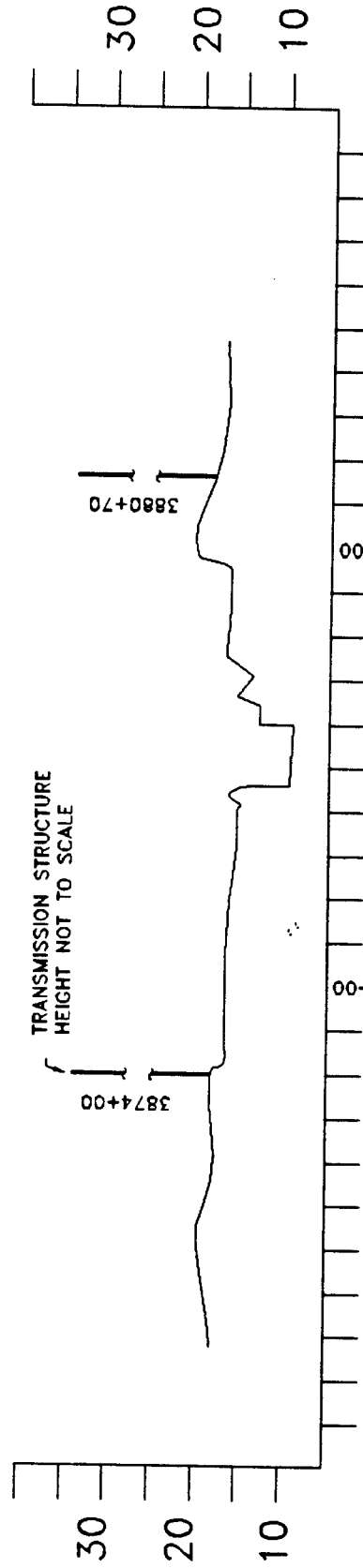


FIGURE 44

ALLIGATOR SLOUGH  
NO IMPACTS

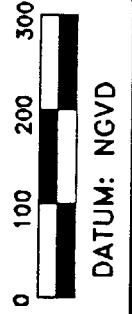


NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS



LEGEND for PROFILE

— ROW C/L

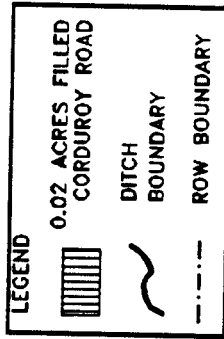
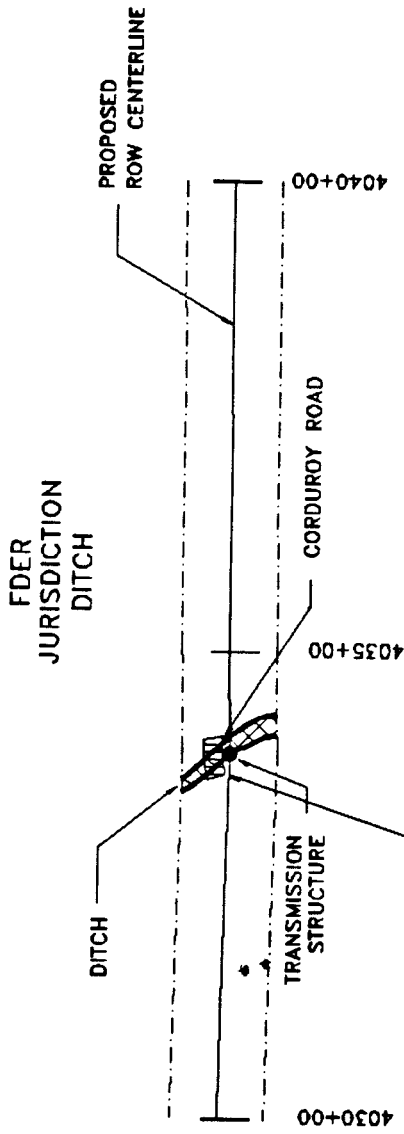


# WETLAND "2L72" PLAN/PROFILE

SCALE: 1"=200'

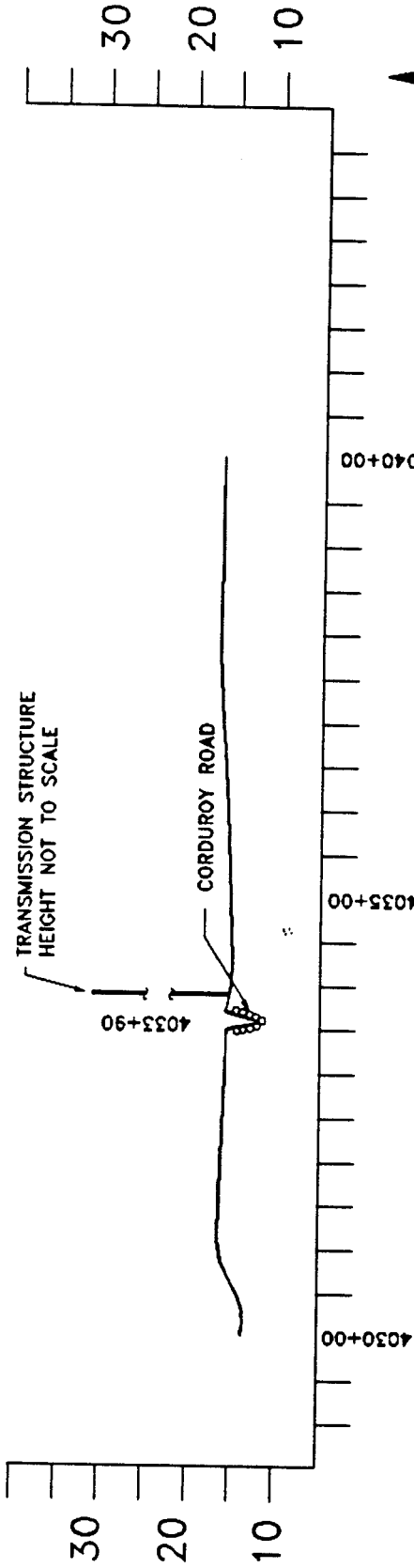


FIGURE 45



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  
TIM OF CONSTRUCTION

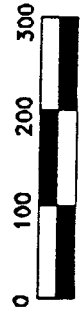


**LEGEND for PROFILE**

|  |               |
|--|---------------|
|  | CORDUROY ROAD |
|  | ROW C/L       |

# DITCH "2L79" PLAN/PROFILE

SCALE: 1"=200'



DATUM: NGVD



FIGURE 46

FDER/SFWMD  
JURISDICTION

FORESTED WETLAND

MARSH  
WETLAND

OPEN  
WATER

FORESTED  
WETLAND

YELLOW FEVER  
CANAL

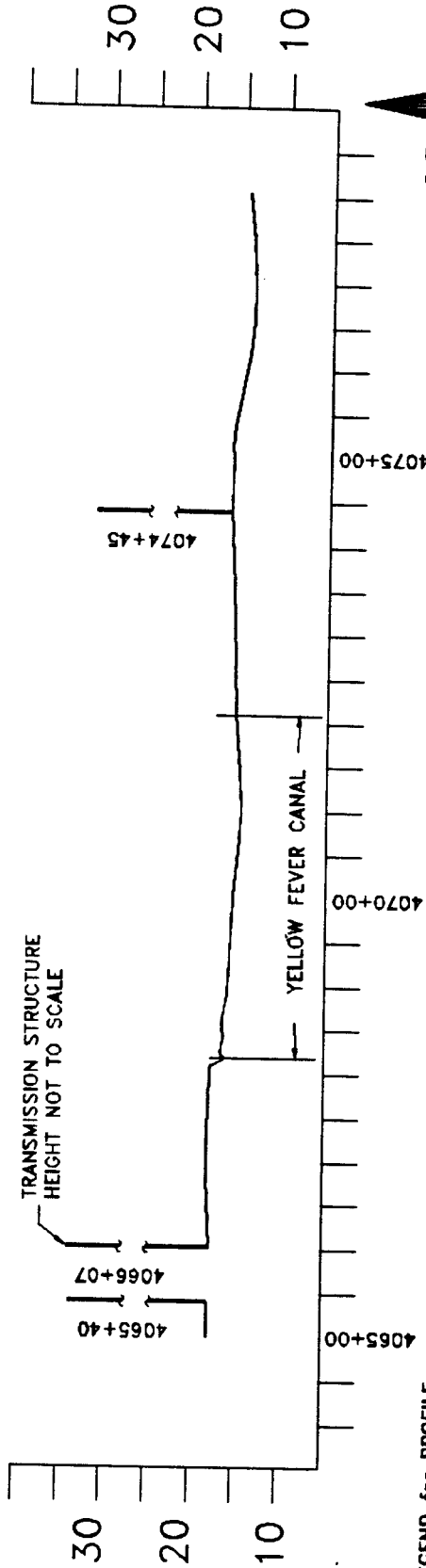
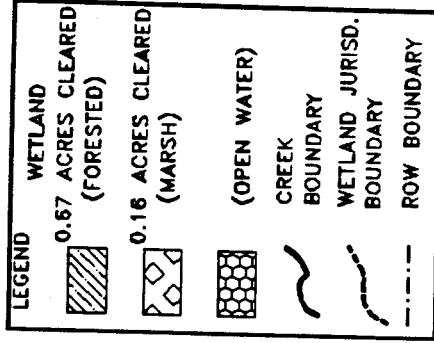
TRANSMISSION  
STRUCTURE

4065+00

4070+00

4075+00

NOTE: SURVEY INFORMATION  
DETERMINED BY AERIAL  
PHOTOMETRIC METHODS



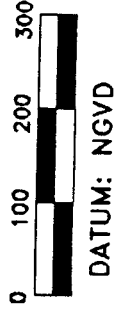
LEGEND for PROFILE

— ROW C/L

# WETLAND "2L80" PLAN/PROFILE

SCALE: 1"=200'

YELLOW FEVER CANAL



**SEMINOLE  
ELECTRIC**  
COOPERATIVE  
INCORPORATED

## REVISED WETLAND COMPENSATION PLAN

### ARCADIA - LEE

Seminole Electric Cooperative, Inc. in conjunction with Dames & Moore have designed a mitigation plan for wetland impacts associated with the Arcadia (PI #37) to Lee transmission line. Impacts include limited clearing of forested wetlands of varying quality, clearing of a 20 ft. wide path through shrub areas, installation of corduroy roads, installation of culvert/road crossings, and installation of structure pads for installation of the transmission line poles. The impacts associated with each wetland are indicated on Table 1 and are summarized below.

#### Wetland Filling

|                | Fill              |                            |
|----------------|-------------------|----------------------------|
| Forested       | 0.48 acres        |                            |
| Shrub          | 0.00 acres        | (including corduroy roads) |
| Marsh          | 0.97 acres        | "                          |
| Upland Ditches | 0.46 acres        | "                          |
| <b>TOTAL</b>   | <b>1.91 acres</b> | <b>"</b>                   |

#### Clearing

|                           |                   |
|---------------------------|-------------------|
| Forested (Hand Clearing)  | 3.26 acres        |
| Shrub Clearing (Bush Hog) | 0.72 acres        |
| <b>TOTAL</b>              | <b>3.98 acres</b> |

Clearing and filling impacts are proposed to be mitigated for by the creation of forested and herbaceous wetlands from uplands in the Myrtle Slough area (see attached Figures 6, 7, and 8 (Figures 2 and 3 of the Construction Plans)).

#### Wetland Creation:

In order to mitigate for filling of 1.91 acres and clearing 3.98 acres of wetlands SECI is proposing to create 4.46 acres of forested area and 1.46 acres of marsh areas for a total of 5.92 acres. These areas are indicated on the attached drawings and construction plans (Figures 6, 7, 8) as Segment 2 mitigation.

The 4.46 acre forested areas are proposed to be constructed at SHW to 0.5 ft. below SHW. Species to be planted will be planted on 6 ft. centers and will include mostly Pond cypress and Pop Ash with limited numbers of Dahoon Holly. Trees will be supplied from nursery stock and will be 75% 1 gallon trees and 25% 3 gallon trees. Groundcover will consist of Itea, Buttonbush, Wax Myrtle, Red Ludwigia, Smartweed, Wild Petunia, Canna, Baker's Cordgrass, rushes and sedges.

The marsh areas will be constructed from approximately 1.5 ft. below SHW to SHW. Species will include Yellowtop, Smartweed, Redroot, Umbrella grass, Maidencane, Bacopa, Red Ludwigia, Soft rush, Pickersweed, Arrowhead, sedges, and rushes. Plants will be planted on 3 ft. centers in the appropriate hydroperiod regime for

that species and all materials will be approximately 9 " tall when planted. Slopes in these areas will be a maximum of 20:1.

#### Monitoring and Maintenance:

The wetland monitoring and maintenance plan has been preliminarily described with the submittals for the Vandolah to Arcadia portion of this project.

The vegetation monitoring will be conducted using a quadrat sampling technique. Line transects will be permanently established through the wetland creation area. The lines will be located perpendicularly to the topography and will be located to ensure sampling of each vegetative community. Sampling points will be established along the line transect and will be permanently marked. The number of sampling points will be determined by the size of the wetland being sampled.

Quadrats will be plotted at each sampling point and permanently marked. Quadrat size will be one meter square for herbaceous species and a 5 meter square for shrub and sapling species. The quadrats will be nested for sampling efficiency. In the one meter quadrat, all herbaceous species will be identified, counted and the basal area per plant measured. In the five meter square quadrat sampling will consist of identifying and counting the individual species, and determining the areal coverage of each plant. From this data the density and dominance values can be determined for each dominant species in each sampled wetland. These values will be plotted graphically to facilitate tracking the success of the wetland vegetation.

The quadrat sampling technique will provide a standardized methodology which will ensure the reproducibility of coherent data over the monitoring period. Monitoring will be conducted until the mitigation success criteria are met continuously for a period of at least one year without intervention in the form of irrigation or the addition or removal of vegetation.

Monitoring will be conducted quarterly until the success criteria have been met continuously for a period of one year. Each monitoring report will include water depths measured at each sample point, color photographs taken of each sample point, the graphically depicted vegetational changes, and a narrative discussion of the methodology and results.

#### Success Criteria:

The created wetland areas will be considered successful when the area can be classified as Palustrine, Emergent, Persistent, Seasonally Flooded according the U.S.F. & W.S. Classification of Wetlands and Deepwater Habitats of the United States. The topography, water depth, and water level fluctuations in the mitigation area are as indicated on the construction plans which are similar to conditions in the permitted wetlands impact areas. The dominant and subdominant species of desirable wetland plants and the overall coverage comprising each vegetation zone and stratum of each compensation area are as shown on the compensation plans. Coverage of nuisance or exotic species shall not exceed 10% of the compensation area. Coverage by uplands vegetation shall not exceed 10% of the compensation area during the wet season.

APPROVED MARSH  
MITIGATION (SEGMENT 1)

MITIGATION CONSTRUCTION AREA  
0.90 ACRES (SEGMENT 2)  
FORESTED MITIGATION PREVIOUSLY  
SUBMITTED (SEGMENT 1A)

FUTURE MITIGATION

MARSH MITIGATION  
PREVIOUSLY  
SUBMITTED  
(SEGMENT 1A)

FUTURE  
MITIGATION

MITIGATION CONSTRUCTION AREA  
0.56 ACRES MARSH (SEGMENT 2)

SEMINOLE ELECTRIC  
WETLAND CREATION  
FIGURE 6

**DAMES & MOORE**

CIVIL ENGINEERING/WATER RESOURCES/WASTE MANAGEMENT/  
ENVIRONMENTAL SERVICES/GEOTECHNICAL ENGINEERING/  
PLANNING/LANDSCAPE ARCHITECTURE  
ONE NORTH DADE AVENUE, SUITE 700 TAMPA, FLORIDA 33609  
TAMPA (813)876-1115 PINELLAS (813)443-6627

*David Lee*  
3-31-92

APPROVED MARSH MITIGATION  
(SEGMENT 1)

MARSH MITIGATION PREVIOUSLY  
SUBMITTED (SEGMENT 1A)

WETLAND  
AREA #3

FUTURE  
MITIGATION

EXISTING  
SAW  
PALMETTO  
PRAIRIE

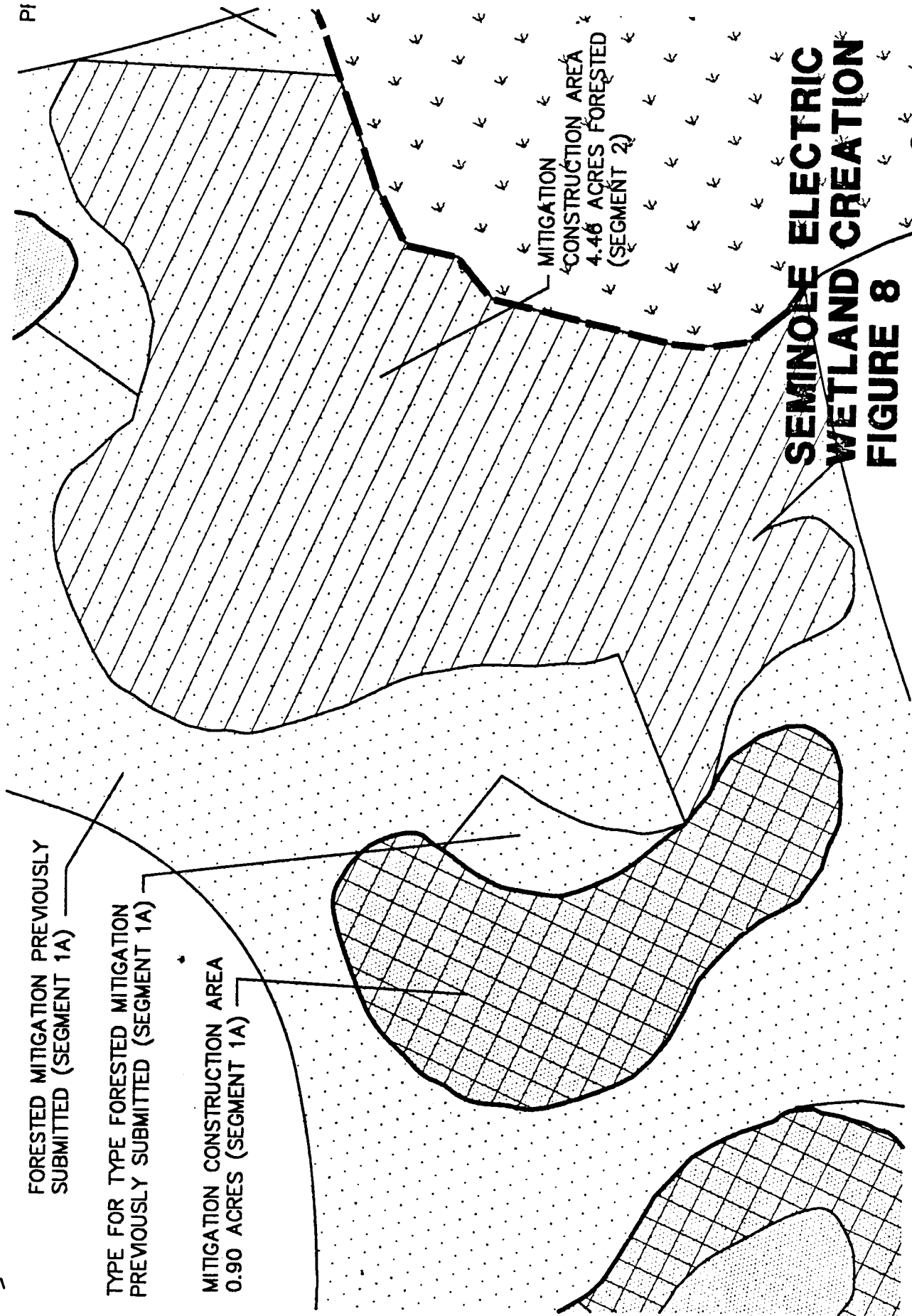
SEMINOLE ELECTRIC  
WETLAND CREATION  
FIGURE 7

*Handwritten:* 2/23/92



**DAMES & MOORE**

CIVIL ENGINEERING/WATER RESOURCES/WASTE MANAGEMENT/  
ENVIRONMENTAL SERVICES/GEOTECHNICAL ENGINEERING/  
PLANNING/LANDSCAPE ARCHITECTURE  
ONE NORTH DALE MAURY, SUITE 700 TAMPA, FLORIDA 33609  
TAMPA (813)876-1115 PINELLAS (813)443-6827



*Dec 1/92*  
3-31-92

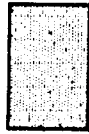
**DAMES & MOORE**



CIVIL ENGINEERING/WATER RESOURCES/WASTE MANAGEMENT/  
ENVIRONMENTAL SERVICES/GEOTECHNICAL ENGINEERING/  
PLANNING/LANDSCAPE ARCHITECTURE  
ONE NORTH DALE MABRY, SUITE 700 TAMPA, FLORIDA 33609  
TAMPA (813)876-1115 PINELLAS (813)443-6927

● PROPOSED WETLAND CREATION AREAS FOR WETLAND  
FILLING FOR SEGMENT 2, ARCADIA P.I. 37 TO  
LEE SUBSTATION

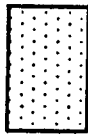
LEGEND



MARSH MITIGATION



MARSH MITIGATION - SEGMENT 2



FORESTED MITIGATION

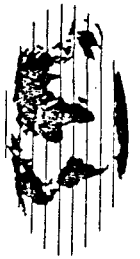


FORESTED MITIGATION - SEGMENT 2

— — — SEDIMENT CONTROL BARRIERS

MITIGATION TOTALS

|          |              |
|----------|--------------|
| FORESTED | = 4.46 ACRES |
| MARSH    | = 1.46 ACRES |
| TOTAL    | = 5.92 ACRES |



**DAMES & MOORE**

CIVIL ENGINEERING/WATER RESOURCES/WASTE MANAGEMENT/  
ENVIRONMENTAL SERVICES/GEOTECHNICAL ENGINEERING/  
PLANNING/LANDSCAPE ARCHITECTURE  
ONE NORTH DALE MABRY, SUITE 700 TAMPA, FLORIDA 33609  
TAMPA (813)876-1110 PINELLAS (813)443-0827

**SEMINOLE ELECTRIC  
WETLAND CREATION  
FIGURE 9**

*Ed J. Jantz*

3-31-92

**SEMINOLE ELECTRIC COOPERATIVE  
WETLAND MITIGATION PLAN  
AT C.M. WEBB WILDLIFE MANAGEMENT AREA  
SOIL INVESTIGATIONS  
EAST PASTURE AREA IN MYRTLE SLOUGH BASIN**

On January 17, 1992, a preliminary soils investigation was conducted in the area of the proposed wetland mitigation site on the C.M. Webb Wildlife Management Area (CMWWMA). This 20 acre site is located between Slough #3 and Slough #2 in the east pasture area. Four shallow soil borings were completed at the four quadrants of the mitigation site. These correspond to northern (Site #1), eastern (Site #2), southern (Site #3) and western (Site #4) pasture areas. The primary concern of the soils investigation was to determine the depth to any clay confining layer encountered in these pasture areas.

At the northern quadrant, Site #1 showed a brownish-yellow clay/silty fine sand at 3.5' below the ground surface. At the eastern quadrant, Site #2 showed a brownish-yellow clay/silty fine sand from 3' to 5' below the ground surface, below which a light gray sand was encountered. At the southern quadrant, Site #3 showed a brown sand from 3' to 4.5' and then a light gray to gray clayey fine sand at 7'. At the western quadrant, Site #4 (furthest from the existing wetland areas) showed no clay to a depth of 6'. These types of clayey sand layers can impede percolation rates of groundwater by several orders of magnitude relative to the clean sands found above the clay layers.

At Site #1 the clay/silty fine sand lies approximately two feet below the SHWT (24.5' MSL) of the adjacent area of Slough #3. In this area the wetland mitigation area will be variously graded between the SHWT and two feet below the SHWT.

At Site #2 the clay/silty fine sand lies approximately 2.5' below the approximate SHWT (25.2' MSL) of the middle pasture area. In this area the wetland mitigation area will be variously graded between the SHWT and one foot below the SHWT.

At Site #3 the light gray to gray clayey fine sand lies approximately 6' below the approximate SHWT (25.4' MSL) of the adjacent Slough #2. In this area the wetland mitigation area will be variously graded between the SHWT and two feet below the SHWT.

At Site #4 there was no clay encountered to a depth of 5.0' below the approximate SHWT (25.2' MSL) of the middle pasture area. In this area the wetland mitigation area will be variously graded between the SHWT and one foot below the SHWT.

## TYPE FOR TYPE WETLAND SAMPLING METHODOLOGY

One wetland area, III, was identified by SWFWMD personnel as requiring type for type mitigation for filling. This wetland was required to be surveyed using botanical surveying techniques. The results of that survey are presented below.

These wetlands were sampled in October, 1991 using vegetation transects located in the areas proposed for structure fill pads. Three sampling points were established along this transect at regular intervals. At each point the canopy shrub layer and two ground cover layers were sampled.

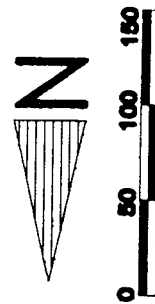
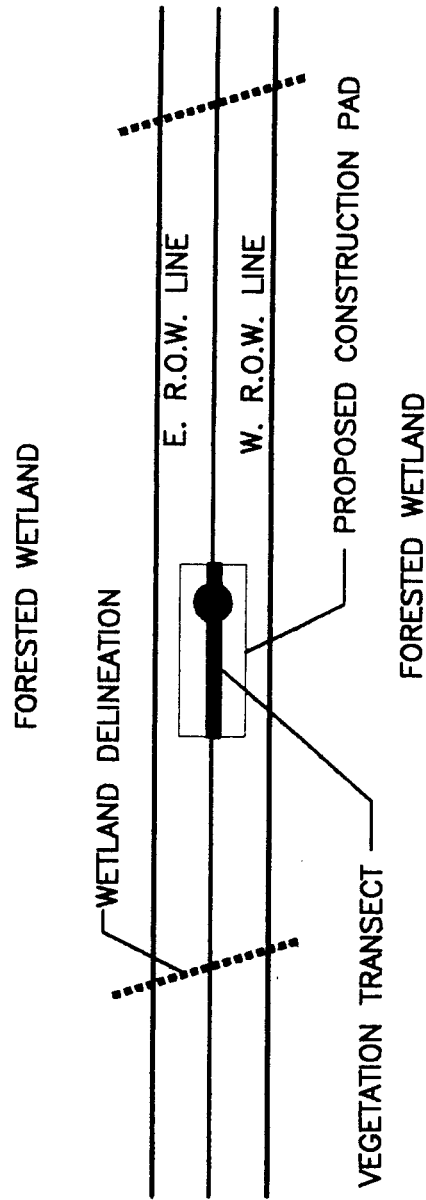
The canopy was sampled using nearest neighbor or point center quarter technique. The tree nearest the point was located and its point to tree distance was determined. Other parameters including species and DBH were determined.

The shrub layer was surveyed by creating a 15 foot square quadrat in the previously established northwest quadrat. An estimate was then made of the areal coverage of each species with a height greater than 3 feet.

The ground cover was determined in a similar manner using a 3 foot square quadrat and sampling separately for those species greater than 3 ft. tall and those less than 3 ft. tall.

The results of this sampling effort is presented in the attached sheets.

# Reference Wetland Vegetation Transect - Wetland III



**WETLAND III**  
**FORESTED REFERENCE WETLAND TRANSECT**

**STATION #** 3 @ 100'  
**WATER DEPTH** 0.0'

**TREES**

| QUADRANT | SPECIES                   | DIST. FROM POINT | DBH  | APPROX. HEIGHT | CANOPY DIAMETER |
|----------|---------------------------|------------------|------|----------------|-----------------|
| SE       | <i>Acer rubrum</i>        | 3'               | 22½" | 60'            | 35'             |
| NE       | <i>Quercus laurifolia</i> | 12'              | 8"   | 50'            | 20'             |
| NW       | <i>Acer rubrum</i>        | 12'              | 12"  | 80'            | 15'             |
| SE       | <i>None</i>               |                  |      |                |                 |

**SHRUBS**

| QUADRAT<br>15 ft. x 15 ft. | SPECIES                   | PERCENT COVER |
|----------------------------|---------------------------|---------------|
|                            | <i>Serenoa repens</i>     | 30            |
|                            | <i>Erythrina herbacea</i> | 20            |
|                            | <i>Myrica cerifera</i>    | 20            |
|                            | TOTAL COVER               | 70%           |

**GROUND COVER** (Greater than 18" tall)

| QUADRAT<br>3 ft. x 3 ft. | SPECIES                   | PERCENT COVER |
|--------------------------|---------------------------|---------------|
|                          | <i>Psychotria nervosa</i> | 15            |
|                          | TOTAL COVER               | 15%           |

**GROUND COVER** (Less than 18" tall)

| QUADRAT<br>3 ft. x 3 ft. | SPECIES                       | PERCENT COVER |
|--------------------------|-------------------------------|---------------|
|                          | <i>Baccharis halimifolia</i>  | 5             |
|                          | <i>Rubus sp.</i>              | 4             |
|                          | <i>Toxicodendrum radicans</i> | 6             |
|                          | <i>Cyperus sp.</i>            | 10            |
|                          | <i>Thelypteris sp.</i>        | 3             |
|                          | <i>Smilax sp.</i>             | 1             |
|                          | <i>Woodwardia virginica</i>   | 1             |
|                          | TOTAL COVER                   | 30%           |

**WETLAND III**  
**FORESTED REFERENCE WETLAND TRANSECT**

**STATION #** 1 @ 0'  
**WATER DEPTH** 0.0'

**TREES**

| QUADRANT | SPECIES                | DIST. FROM POINT | DBH | APPROX. HEIGHT | CANOPY DIAMETER |
|----------|------------------------|------------------|-----|----------------|-----------------|
| NW       | <i>Acer rubrum</i>     | 3'               | 4"  | 32'            | 10'             |
| SW       | <i>Acer rubrum</i>     | 123'             | 6½" | 30'            | 8'              |
| NE       | <i>Ulmus americana</i> | 1'               | 4½" | 28'            | 8'              |
| SE       | None                   |                  |     |                |                 |

**SHRUBS**

| QUADRAT<br>15 ft. x 15 ft. | SPECIES                    | PERCENT COVER |
|----------------------------|----------------------------|---------------|
|                            | <i>Myrica cerifera</i>     | 30            |
|                            | <i>Itea virginica</i>      | 25            |
|                            | <i>Urena lobata</i>        | 75            |
|                            | <i>Salix caroliniana</i>   | 710           |
|                            | <i>Sambucus canadensis</i> | 75            |
|                            | TOTAL COVER                | 75 %          |

**GROUND COVER** (Greater than 18" tall)

| QUADRAT<br>3 ft. x 3 ft. | SPECIES                       | PERCENT COVER |
|--------------------------|-------------------------------|---------------|
|                          | <i>Toxicodendron radicans</i> | <1            |
|                          | <i>Thelypteris sp.</i>        | 20            |
|                          | TOTAL COVER                   | 20%           |

**GROUND COVER** (Less than 18" tall)

| QUADRAT<br>3 ft. x 3 ft. | SPECIES                     | PERCENT COVER |
|--------------------------|-----------------------------|---------------|
|                          | <i>Saururus cernuus</i>     | 10            |
|                          | <i>Hymenocaulis palmeri</i> | 5             |
|                          | TOTAL COVER                 | 15%           |

**WETLAND III**  
**FORESTED REFERENCE WETLAND TRANSECT**

**STATION #** 2 @ 50'  
**WATER DEPTH** 0.0'

**TREES**

| QUADRANT<br>25 ft. x 25 ft. | SPECIES                   | DIST. FROM<br>POINT | DBH | APPROX.<br>HEIGHT | CANOPY<br>DIAMETER |
|-----------------------------|---------------------------|---------------------|-----|-------------------|--------------------|
| NE                          | <i>Taxodium ascendens</i> | on line             | 32" | 85'               | 80'                |
| NW                          | <i>Acer rubrum</i>        | 15'                 | 5"  | 40'               | 15'                |
| SE                          | None                      |                     |     |                   |                    |
| SW                          | None                      |                     |     |                   |                    |

**SHRUBS**

| QUADRAT<br>15 ft. x 15 ft. | SPECIES                  | PERCENT<br>COVER |
|----------------------------|--------------------------|------------------|
|                            | <i>Magnolia virginia</i> | 3                |
|                            | <i>Itea virginica</i>    | 15               |
|                            | <i>Vitis sp.</i>         | 10               |
|                            | <i>Smilax sp.</i>        | 2                |
|                            | TOTAL COVER              | 30%              |

**GROUND COVER** (Greater than 18" tall)

| QUADRAT<br>3 ft. x 3 ft. | SPECIES                      | PERCENT<br>COVER |
|--------------------------|------------------------------|------------------|
|                          | <i>Ulmus americana</i>       | 15               |
|                          | <i>Quercus nigra</i>         | 20               |
|                          | <i>Ruellia caroliniensis</i> | 15               |
|                          | <i>Clematis crispa</i>       | 10               |
|                          | TOTAL COVER                  | 60%              |

**GROUND COVER** (Less than 18" tall)

| QUADRAT<br>3 ft. x 3 ft. | SPECIES                     | PERCENT<br>COVER |
|--------------------------|-----------------------------|------------------|
|                          | <i>Saururus cernuus</i>     | 3                |
|                          | <i>Physcotria nervosa</i>   | 2                |
|                          | <i>Hymenocaulis palmeri</i> | 1                |
|                          | <i>Cyperus sp.</i>          | 11               |
|                          | <i>Thelypteris sp.</i>      | 2                |
|                          | <i>Woodwardia virginica</i> | 1                |
|                          | TOTAL COVER                 | 20%              |