Before the

United States Nuclear Regulatory Commission

Docket Nos. STN 50-498, STN 50-499

Houston Lighting & Power Company, et al.

South Texas Project Units 1 & 2

Amendment 6

Houston Lighting & Power Company, an applicant in the above captioned proceeding, for itself and for the City of San Antonio, Central Power & Light Company and the City of Austin, hereby files Amendment 6 to the Environmental Report - Operating License Stage.

Amendment 6 provides information regarding the High Voltage Direct Current (HVDC) facility to be located on the STP site.

Respectfully submitted,

HOUSTON LIGHTING & POWER COMPANY

J. H. Goldberg

J. H. Goldberg
Vice President
Nuclear Engineering and Construction

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter	§	
	§	
Houston Lighting & Power	§	Docket Nos. 50-498
Company, et al.,	§	50-499
	§	
South Texas Project	§	
Units 1 and 2	§	

AFFIDAVIT

J. H. Goldberg being duly sworn, hereby deposes and says that he is Vice President of Houston Lighting & Power Company; that he is duly authorized to sign and file with the Nuclear Regulatory Commission the attached Amendment 6 to the Environmental Report, Operating License Stage; that he is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge and belief.

J. H. Goldberg
Vice President
Nuclear Engineering and Construction

STATE OF TEXAS §
§
COUNTY OF HARRIS §

Subscribed and sworn to before me, a Notary Public in and for Harris County, Texas this 10th day of December, 1982.

NOTARY PUBLIC STATE OF TEXAS

Beverly J Fite
Notary Public in and for the
State of Texas

My commission expires:

BEVERLY J. FITE
Notary Public, State of Texas
My Commission Expires 10/1/84

Instructions for incorporating Amendment 6:

In general, amendment pages will replace existing pages that have the same page numbers. In some instances, a differenct number of pages will be added than are deleted. Pages having editorial changes will show Amendment 6 at the bottom of the page, but there will be no Amendment 6 change bar.

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Chapter 2	2.1-1, 2.1-2	2.1-1, 2.1-2
	2.2-1, 2.2-2	2.2-1, 2.2-2
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	---	2.2-4a
	Figure 2.1-4	Figure 2.1-4
	Figure 2.1-5	Figure 2.1-5
	Figure 2.1-7	Figure 2.1-7
Chapter 4	4.2-1, 4.2-2	4.2-1, 4.2-2
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	4.3-1, 4.3-2	4.3-1, 4.3-2

CHAPTER 2

THE SITE

2.1 SITE LOCATION AND LAYOUT

The South Texas Project (STP) is located in southwest Matagorda County, approximately 12 miles south-southwest of Bay City and 10 miles north of Matagorda Bay. The location of Unit 1 will be 96°02'53" west longitude, 28°47'42" north latitude (3,188,669 m north--788,157 m east; Zone 14R); Unit 2 will be located at 96°03'00" west longitude, 28°47'42" north latitude (3,188,699 m north--787,974 m east; Zone 14R). The site consists nominally of 12,300 acres, of which 7,000 acres make up the cooling reservoir, 65 acres are modified or occupied by the plant and plant facilities, and approximately 1,700 remain as a natural lowland habitat.

Figure 2.1-1 shows the general area within 50 miles of the site. Figure 2.1-2 shows the one- through five- and ten-mile perimeters of the site. An aerial photograph of the STP site and environs before construction is shown on Figure 2.1-3. Superimposed on this photograph is the site boundary (utility owned). Figure 2.1-4 is a diagram of the site layout and surrounding area. The exclusion area and railroad spur are also shown.

The exclusion area is an oval shaped area, having a minimum boundary distance from the center of each containment building of 1430 meters. The center of the exclusion area "oval" is a point 93 meters directly west of the center of the Unit 2 reactor containment building. This point is also the center of the Low Population Zone, which is a circle with a radius of three miles. The closest approach of FM 521 to the exclusion area boundary is approximately 76 meters. Table 2.1-1 presents exclusion area boundary distances for Unit 1 and Unit 2 in each of the 16 cardinal compass directions. The participants in the STP own the land comprising the site, shown on Figure 2.1-4, except for the right-of-way of FM 521 and the right-of-way for a county road extending south from FM 521 and adjacent to the western boundary of the site. 5

A High Voltage Direct Current (HVDC) terminal will be operated by Central Power and Light Company on a 17 acre tract in the exclusion area which will be leased to the HVDC project by the STP. The HVDC terminal is shown in Figure 2.1-4. 6

The abutting and adjacent properties as well as developments near the site are shown on Figure 2.1-6.

The local relief of the area is characterized by fairly flat land, approximately 23 feet above mean sea level. Through the site boundary flows the west branch of the Colorado River as well as several sloughs, one of which feeds Kelly Lake, a 34.4-acre water body in the northeast corner of the site. The site and its immediate environs fall within the Coastal Prairie which extends as a broad band parallel to the Texas Gulf Coast. Of the

approximately 50,240 acres within a 5-mile radius of the site, bottomland comprises 19 percent; the remaining 81 percent is upland. The bottomland includes 52 percent cleared land and 48 percent wooded area, most of which, with the exception of two small islands, is classified as agricultural. The upland consists of 91 percent cleared agricultural land, 8 percent woodlands, and 1 percent industrial.

Major road access to the site will be from farm-to-market road (FM) 521. The site development plan, shown on Figure 2.1-7, reflects the major features of plant development. The main element of the plan is the nuclear power plant and its support facilities. The plant was sited to enable functional and safe operation of a nuclear power plant compatible with the natural environment of the surrounding site and community.

Currently no developed public recreation facilities exist along the Colorado River between Bay City and Matagorda. Neither are there any state or federal wildlife reserves along the river, but, since duck and geese are prevalent near the Gulf, some hunting is done along the lower reaches of the river.

Recreational potential in the immediate vicinity of the project site is in the form of a group of vacation homes directly across (to the east of) the Colorado River from the site. The area between the cooling reservoir and the Colorado River contains a wide variety of plant material dominated by mature live oak trees. Wildlife is abundant within the area of riparian influence. With the natural vegetation, water habitat, and lack of development within the area of riparian influence, that area is a natural lowland habitat and will be allowed to remain such. A visitor's center is located east of the site near the intersection of FM 521 and the permanent plant access road. 2 6

Parking, restrooms, and an interpretive exhibit to describe the plant's development and operation will be provided at the visitors' center. 6

2.2 REGIONAL DEMOGRAPHY, LAND, AND WATER USE

2.2.1 POPULATION AND POPULATION DISTRIBUTION

Towns and cities within 50 miles of the STP site are shown on Figure 2.1-1. They are also listed in Table 2.2-1, along with their 1970 and 1980 (to the extent available in 1980 U.S. census listings) resident populations and their distances and directions from the plant. Figure 2.1-2 shows the locations of the municipalities and other features within a 10-mile radius of the plant. 5

Within 10 miles of the plant the estimated 1980 population was 4,122 persons; within 5 miles it was 488 persons. The closest incorporated communities are Bay City and Palacios. Both, however, are outside the 10-mile radius. Matagorda, an unincorporated community, is about 8 miles southeast of the plant. Q311.2

All full-time and part-time residences within 4 miles of the plant site are shown on Figure 2.2-0. The nearest full-time residence is in the west-southwest sector approximately 15,000 feet from the reactors. Resident populations allocated to sectors within 10 miles of the STP, but beyond the site boundary, were developed from areal proportioning of 1980 census tract data. Projections were developed on the same basis. Q311.1b

Figure 2.2-1 shows the estimated 1980 population distribution within 50 miles of the STP. These population data reflect information from the most recent (1980) census. Figures 2.2-2 through 2.2-6 show corresponding projected populations for the years 1990, 2000, 2010, 2020 and 2030. The population projections were developed using 1970 and 1980 final Census Data with Rice Center's Rural Growth Allocation Model developed for this work by Rice Center/Dames & Moore in 1980/1981 (Ref. 2.2-7), and updated for the STP project in 1982 (Ref. 2.2-8). The 1970 and 1980 final Census Data were obtained for the eight counties located within 50 miles of the STP: Brazoria, Calhoun, Colorado, Fort Bend, Jackson, Matagorda, Victoria and Wharton. Census tract (or minor census division) data were compiled. Land use data, growth conditions and study area control totals were updated to reflect recent changes. The Growth Allocation model (Ref. 2.2-7) was then "calibrated" on the 1970-1980 base period by adjusting attractiveness factors in each of the census tracts to match each tract's share of growth during the base period. Forecasts were then made for the eight-county region. Q311.2

The areal proportion of each tract within each sector was measured. For tracts without significant urban population, it was assumed the population was evenly distributed. Urban populations located in more than one sector were allocated in proportion to the 1980 Census population to the tracts containing the urban area. The proportion was considered a constant for projections to 2030.

2.2.1.1 Residential Developments

Two developments, Selkirk Island and Exotic Isle, are within approximately 4 miles southeast of the reactor containment buildings. Selkirk Island is a 1,100-acre island development operated as a community. The project includes 384 homesites. 5

The other development, Exotic Isle, is a much smaller area and is a resort/retirement complex. The island is divided into 25 lots. Together the developments represent 409 home or retirement sites (Ref. 2.2-5). In projecting the population for the developments, which are planned almost entirely for retirement use, the figure of 2.5 persons per housing unit was used as a conservative number and the population was assumed to remain constant throughout the life of the project. The resort/home/retirement nature of the development makes them primarily recreational facilities. Selkirk Island provides, for its residents, boating, fishing, and hunting capabilities along with a swimming pool. During the warmer months, approximately 35 people per day use the swimming facilities (Ref. 2.2-5). There are three piers, 45, 40, and 30 feet in length, maintained for the use of residents of Selkirk Island. It is expected that approximately eight boats can dock at the facility at any one time. Approximately 25 boats per day during weekends are launched from the boat ramp at Selkirk (Ref. 2.2-5). Seven duck blinds are maintained for hunting activities, and fishing is done from individual properties. Approximately 75 hunters use the facilities during the 3-month season. Selkirk Island provides a 5-acre marina for the use of property owners.

The subdivision development of Citrus Grove, 4 miles southwest of the site, has four dwellings; no more building is planned by the developer. The remaining land is being offered for sale in 400-acre lots. Robbins Ranch, 4.5 miles south of the site, was planned to be developed as small irrigated farms; however, these plans have not materialized. There are no seasonal or permanent dwelling in the area. There are twelve seasonal dwellings on the Exotic Isle development. The remaining seasonal dwellings are on Selkirk Island. Population data for these developments are included in the population wheels on Figures 2.2-1 through 2.2-6.

Since most people purchasing homesites in the developments are doing so as retirement investments, a number of people may reside in these homes seasonally until their retirement. See Figure 2.1-6 for location of the Selkirk Island and Exotic Isle developments with respect to the plant site.

2.2.1.2 Transient Population

There are no schools, hospitals, prisons, wildlife preserves, sanctuaries, or recreational and sports facilities within 5 miles of the plant site. With respect to these land and water uses, the recreational development and public use areas discussed in Section 2.1 are the only areas of projected use. There are presently 148 residences within 5 miles of the plant site. 5

2.2.1.2.1 Visitors' Center. As previously discussed in Section 2.1, a visitor's information center will be constructed on the STP site. (Figure 2.1-5.) Attendance figures at the visitors' center are expected to approximate 30,000 annually. 6

2.2.1.2.2 Migrant Labor Force. A recent inquiry of the Matagorda County agricultural extension agent revealed that there are no migrant workers within 10 miles of the plant. The mechanized nature of agriculture of the county has minimized hand labor (Ref. 2.2-5).

2.2.1.2.3 Seasonal Homes. According to the 1970 census of housing there were five vacant seasonal and migratory homes in Matagorda County (Ref. 2.2-1). The resort/retirement communities of Selkirk Island and Exotic Isle located 3.5 miles southwest of the plant area provide the only seasonal dwelling within 5 miles of the site. These two developments represent a total of about 23 seasonal dwellings and 96 permanent dwellings (Ref. 2.2-5. 5

2.2.1.3 Population Center

The nearest "population center," as defined in 10CFR100, is the city of Victoria, Texas, which had a 1980 population of 50,695. Its nearest corporate boundary is 59 miles west of the plant. Projections indicate, however, that the population of Bay City will exceed 25,000 by the year 2010. For this reason Bay City has been designated as the population center. The distance to Bay City, approximately 12 miles, is considerably greater than the distance required by 10CFR100, i.e., 1-1/3 times the low population zone distance. 5

2.2.1.4 Public Facilities and Institutions

Two surveys, one in July 1973 and a second in October 1977, were conducted to determine existing and planned public facilities and institutions such as schools, hospitals, prisons, and parks within 10 miles of the plant. An assessment of socioeconomic conditions, completed in 1980, updated some of the information provided in the 1973 and 1977 surveys. The results of the surveys and assessment are reflected in the subsections below. 5

2.2.1.4.1 Schools. There are no schools within 5 miles of the site. Schools within 10 miles of the plant are listed in Table 2.2-2 and indicated on Figure 2.2-7. Only three schools are within 10 miles of the plant: Tidehaven High School (8 miles NNW) and Tidehaven Intermediate School (8.5 miles NNW), both located in El Maton, Texas, and the Matagorda Elementary School in Matagorda, Texas (8 miles SE). These schools have a combined enrollment of 584 students (Ref. 2.2-9). Four schools in Palacios are just over 10 miles from the plant; Palacios High School, Palacios Junior High School, Eastside Elementary School, and Central Elementary School (Ref. 2.2-1). The institution of higher education closest to the plant is Wharton County Junior College, 37 miles to the north. The 1977-78 enrollment is 2,047 students (Ref. 2.2-5). 5

2.2.1.4.2 Hospitals. There are no hospitals within 10 miles of the plant. The only hospital facilities within the county are Matagorda General Hospital located in Bay City and Wagner General Hospital in Palacios. The Matagorda General Hospital has three surgical rooms and 116 beds (Ref. 2.2-9). Included in the facility is a 28-bed convalescent center. Also located in Bay City is the Bay Villa Convalescent home. This facility, with a 106-bed capacity, provides convalescent nursing facilities to area residents. The Matagorda County Health Department is located in the county courthouse and maintains a staff which includes one registered nurse and one health inspector (Ref. 2.2-1 and 2.2-2). 5

Wagner General Hospital in Palacios provides general medical and surgical facilities for persons in the southwestern end of the county. The hospital has a 43-bed capacity and a staff of 59 (Ref. 2.2-5 and 2.2-9).

2.2.1.4.3 Prisons. There are no prisons within 10 miles of the plant site (Ref. 2.2-1).

2.2.1.4.4 Parks and Recreational Areas. Parks and other recreational areas within 10 miles of the plant are indicated on Figure 2.2-7. The recreational facilities closest to the site are all privately owned. Oliver's Bait Camp (1) (numbers refer to Figure 2.2-7), 10 miles east-southeast of the plant, has 2 acres of land providing boating and fishing facilities. Old Box Factory (2), 10 miles east-southeast of the plant, also has 2 acres of land and also provides boating facilities. Carlson's Park (3), 10 miles southeast of the plant, has 2 acres of land and has boating and fishing facilities (Ref. 2.2-4). The U. S. Fish and Wildlife Service has plans to purchase or lease the Mad Island Marsh Complex south of the site to preserve it as a prime waterfowl wintering area (Ref. 2.2-6). Q330.2

2.2.1.5 Zoning

Matagorda County and Bay City do not have land use zoning regulations or a planning commission. The only land use regulations within the county are deed restrictions for subdivisions. The county government for Matagorda County is a county commission made up of four precincts, each having a county commissioner. The STP will be located in Precinct 3. No building permit was required for the STP site.

2.2.2 USE OF ADJACENT LANDS AND WATERS

In accordance with the discussion in the Introduction to Regulatory Guide 4.2, Revision 2, pertaining to the applicant's "Environmental Report--Operating License Stage," this section is not addressed since no updating of the corresponding material in the "Environmental Report--Construction Permit Stage" was necessary.

2.2.3 NEARBY INDUSTRIAL, TRANSPORTATION, AND MILITARY FACILITIES

The material presented in the "Environmental Report--Construction Permit Stage" requires updating as discussed below.

2.2.3.1 HIGH VOLTAGE DIRECT CURRENT TERMINAL

A High Voltage Direct Current (HVDC) interconnection (-400 kV) is to be operated between terminals at the Central and South West System Walker County Power Plant and the STP. The southern terminal is to be located on a 17-acre tract of the STP site southeast of the intersection of the FM 521 and the STP construction access road, just inside and adjacent to the Exclusion Area Boundary as shown on Figure 2.1-4. The terminal will consist of an AC switchyard, and AC-DC converter building, and a DC switchyard. A 345 kV line consisting of one circuit will connect the STP switchyard with the terminal.

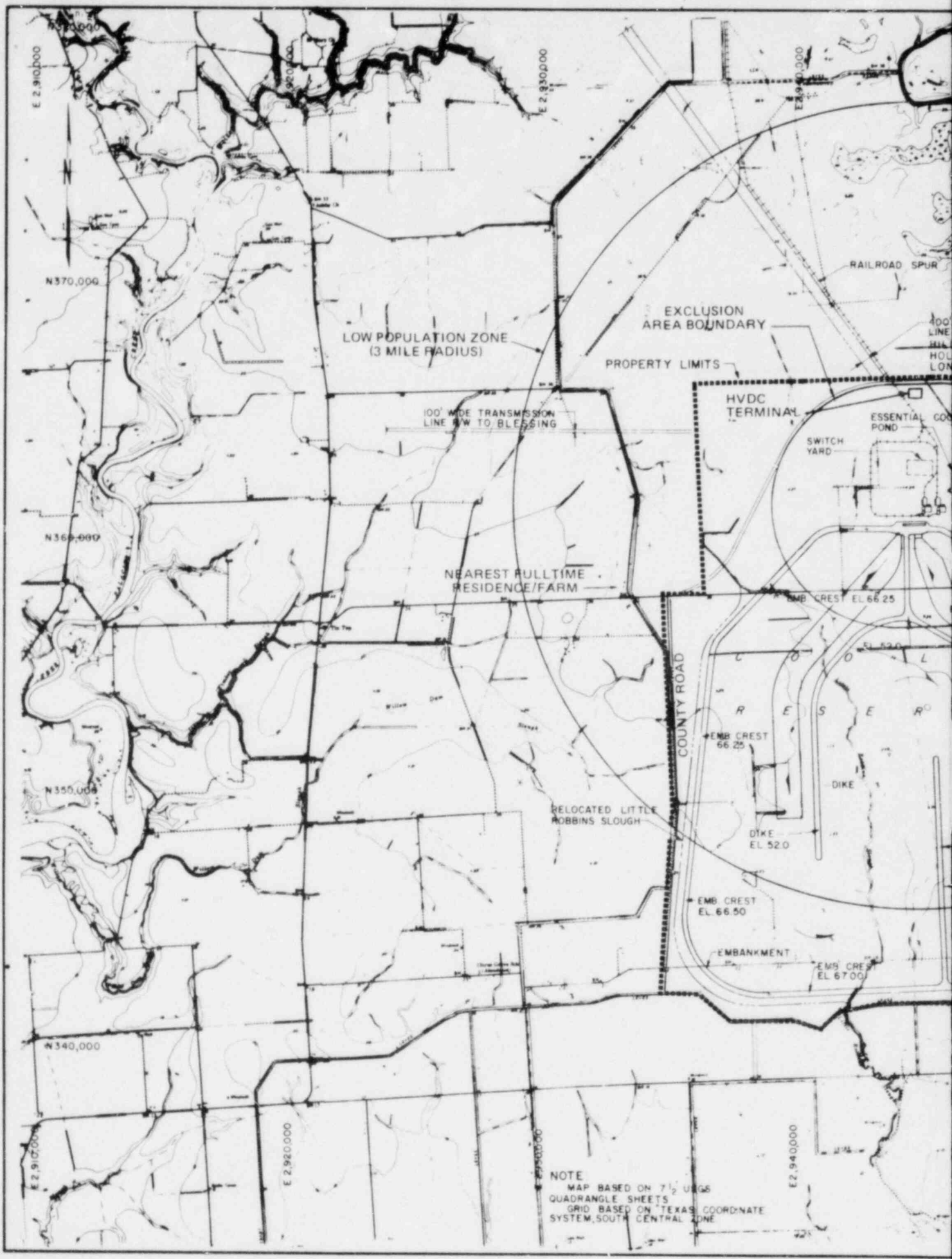
The HVDC terminal will be located close to and will be physically dominated by the existing STP facilities. Therefore, the terminal is not expected to have an adverse visual impact on the environment when viewed from FM 521. 6

Operation of the HVDC terminal is not expected to have adverse effects resulting from radio noise, ozone, induced voltages, or ground currents. Protective equipment will be installed to handle line and ground currents that occur under short circuit conditions.

Audible noise resulting from operation of the HVDC will not exceed 65 dB(A) at the boundary of the terminal and is not expected to be heard by motorists on FM 521. A person standing at the fence of the terminal is expected to hear a "hum" similar to that from a typical AC switchyard. Thus, operation of the HVDC will not have significant noise impact off-site.

Potable water will be supplied by a deep well to be drilled on the terminal site. Sewage effluent will be discharged to a septic tank and leaching field located on the seventeen acre tract. The DC converter will be air cooled, and there will be no gaseous or liquid discharges from the terminal facility. Areas around the terminal will be grassed to prevent erosion.

No significant adverse environmental impacts are anticipated to result from operation of the HVDC terminal.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LOW POPULATION ZONE
(3 MILE RADIUS)
EXCLUSION
AREA BOUNDARY
PROPERTY LIMITS
RAILROAD SPUR
HVDC
TERMINAL
100' WIDE TRANSMISSION
LINE R/W TO BLESSING
SWITCH
YARD
ESSENTIAL
POND
NEAREST FULLTIME
RESIDENCE/FARM
COUNTY ROAD
EMB CREST EL 66.25
EMB CREST
66.25
DIKE
DIKE
EL 52.0
RELOCATED LITTLE
ROBBINS SLOUGH
EMB CREST
EL 66.50
EMBANKMENT
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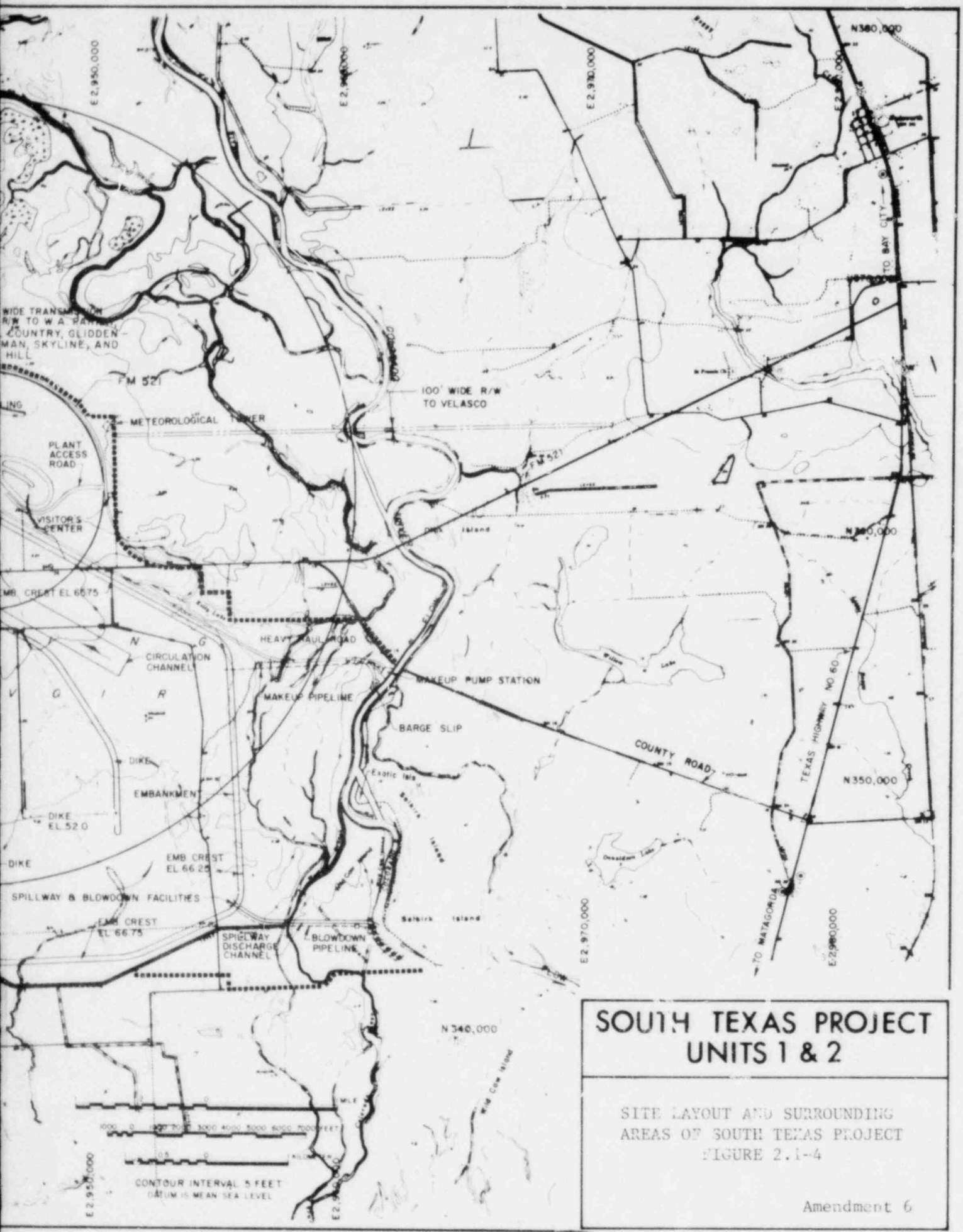
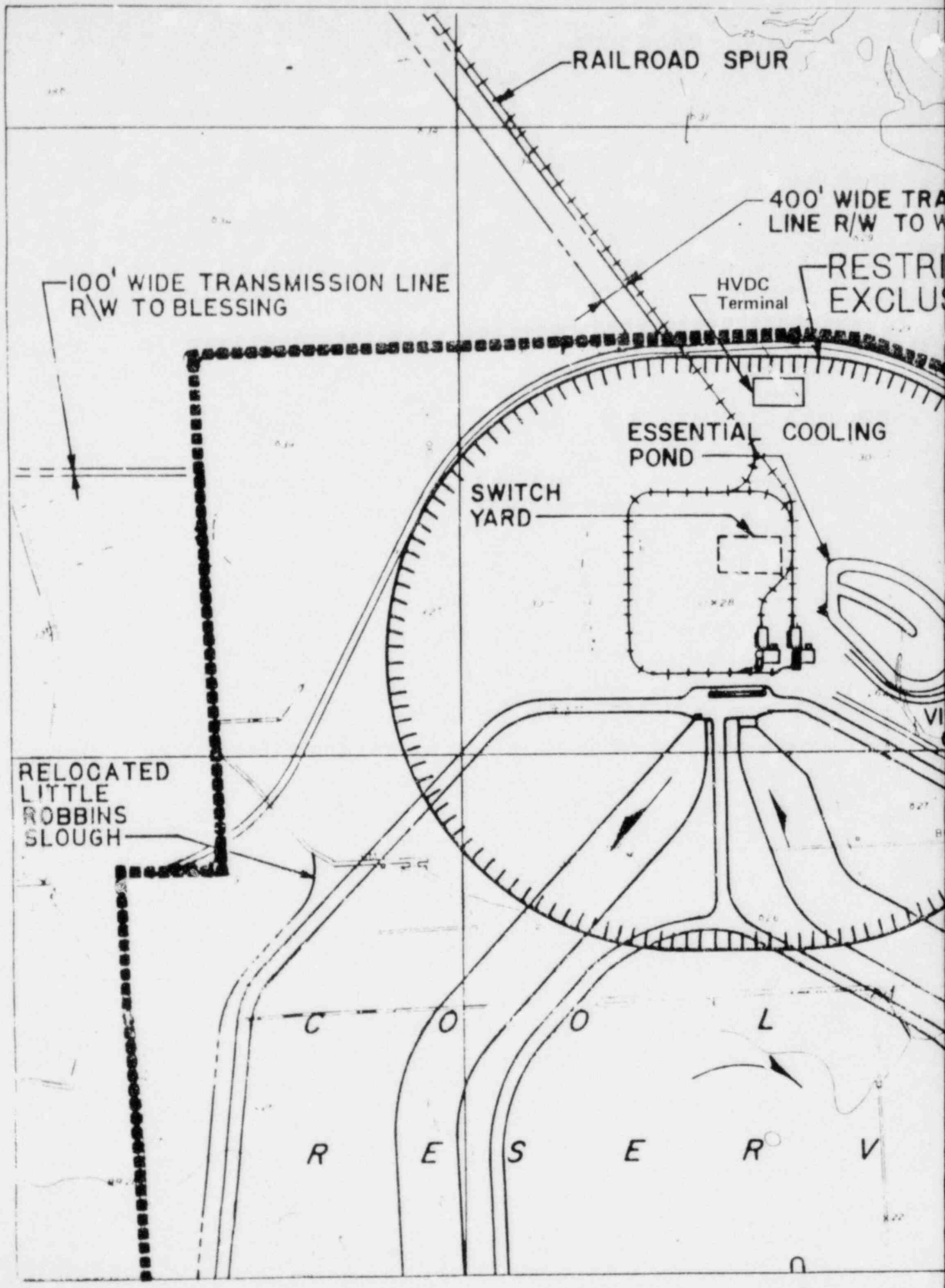
NOTE
MAP BASED ON 7½ USGS
QUADRANGLE SHEETS
GRID BASED ON TEXAS COORDINATE
SYSTEM, SOUTH CENTRAL ZONE



SOUTH TEXAS PROJECT UNITS 1 & 2

SITE LAYOUT AND SURROUNDING AREAS OF SOUTH TEXAS PROJECT
FIGURE 2.1-4

Amendment 6


RAILROAD SPUR
400' WIDE TRA
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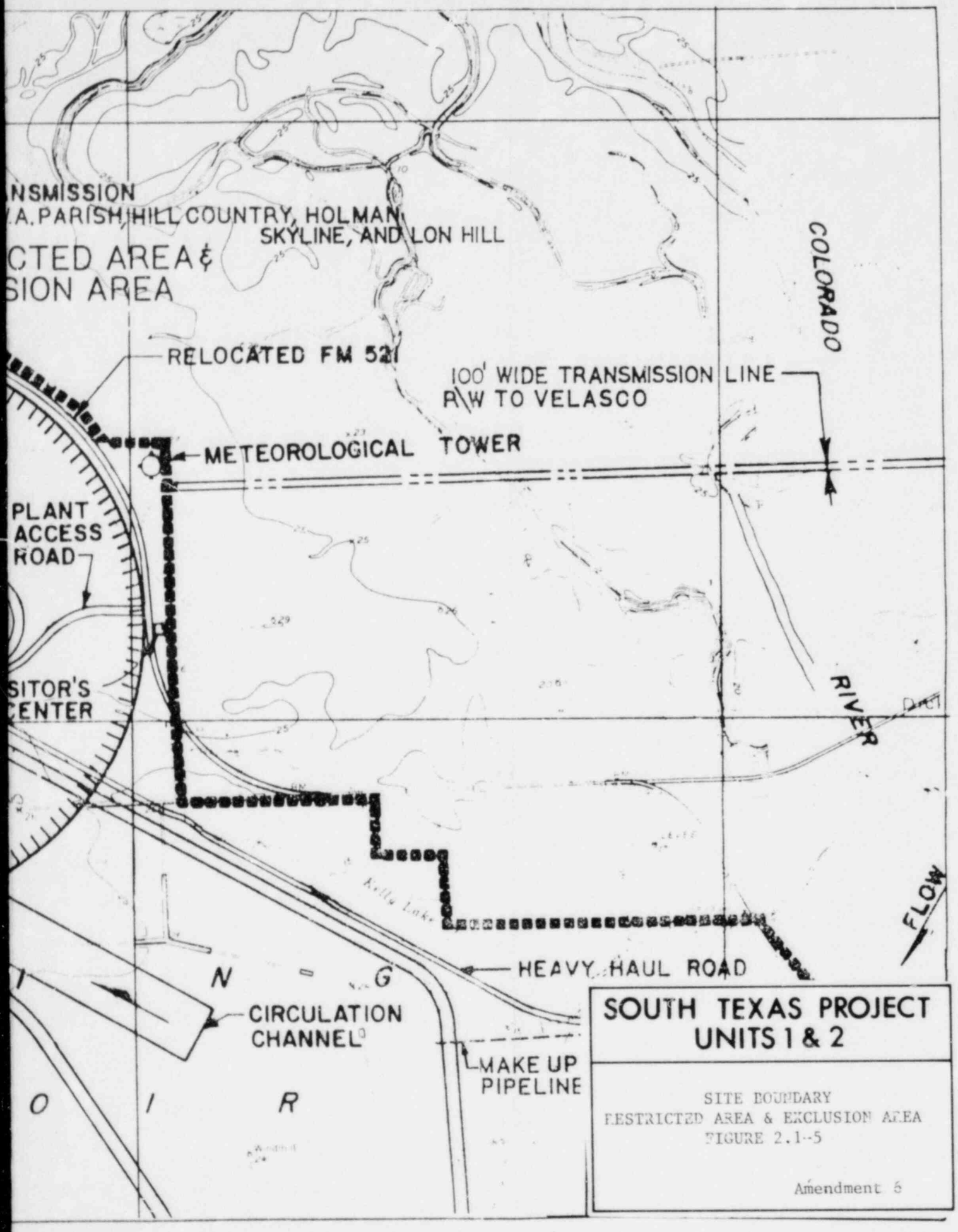
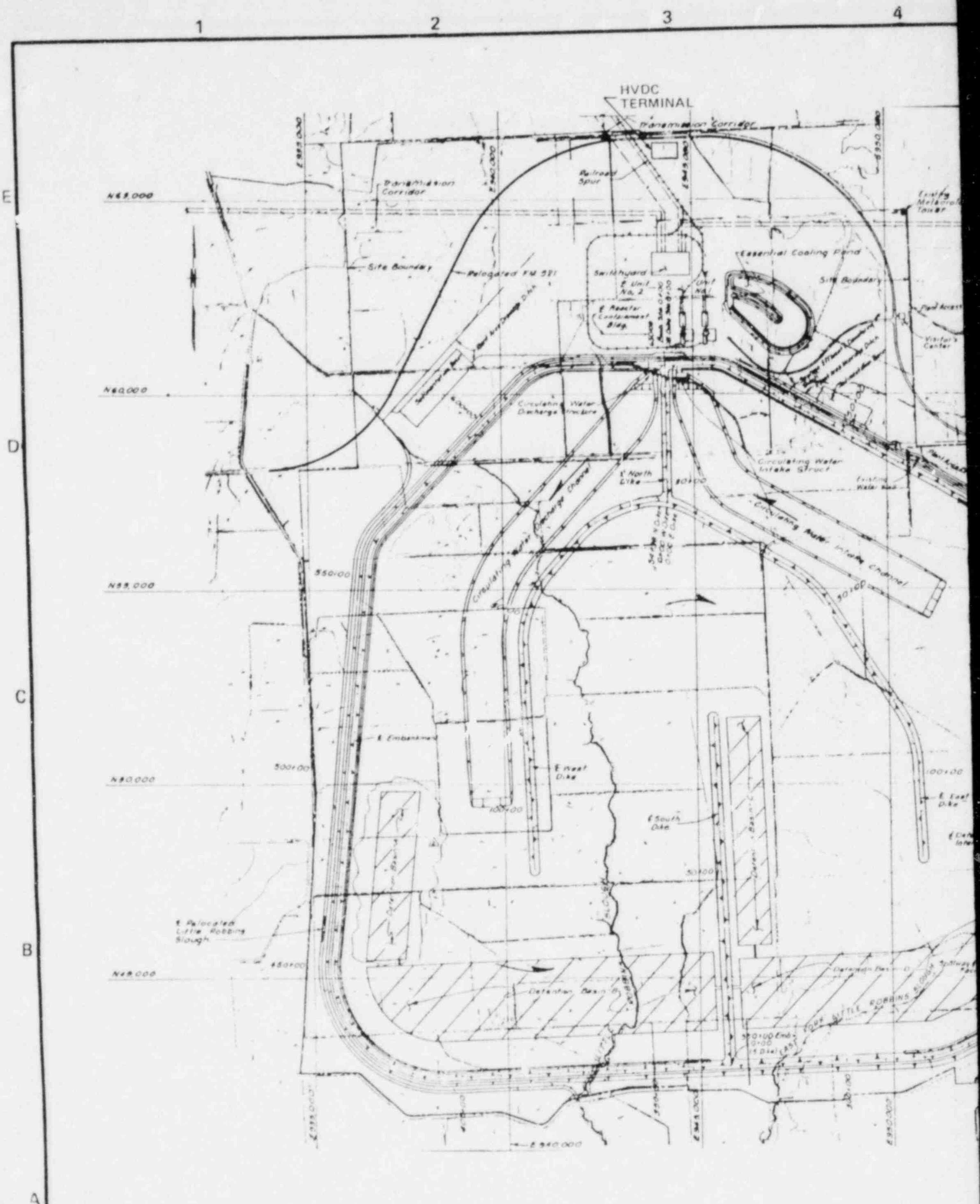


SOUTH TEXAS PROJECT
UNITS 1 & 2

SITE BOUNDARY
RESTRICTED AREA & EXCLUSION AREA
FIGURE 2.1-5

Amendment 6


HVDC
TERMINAL
Transmission Corridor
Railroad Spur
Site Boundary
Relocated FM 521
Switchyard
Essential Cooling Pond
Site Boundary
Visitor's Center
N60,000
N55,000
N50,000
N45,000
Circulating Water Discharge Structure
Circulating Water Intake Struct
Circulating Water Intake Channel
North Dike
West Dike
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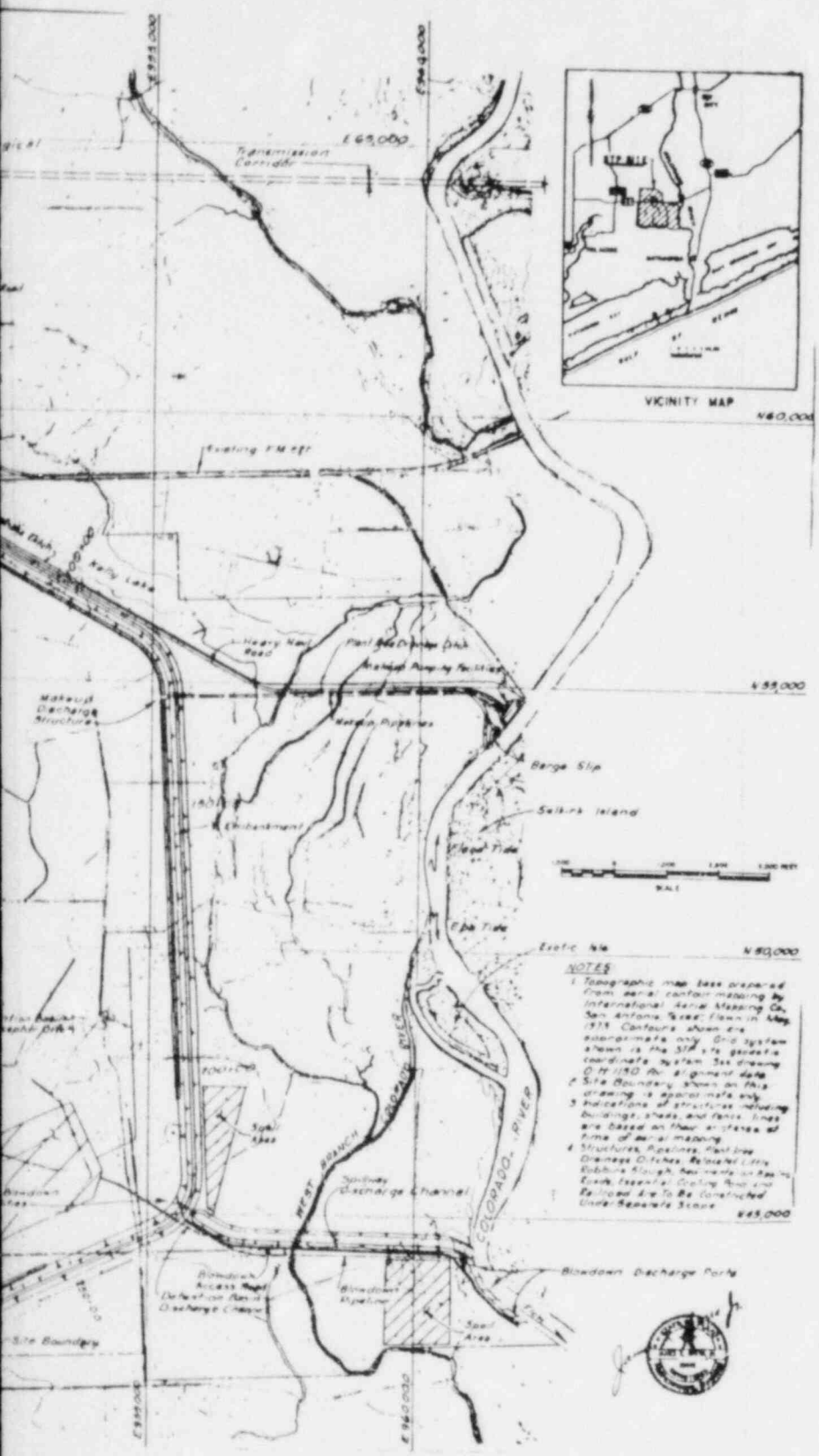

SOUTH TEXAS PROJECT UNITS 1 & 2

SITE DEVELOPMENT PLAN

FIGURE 2.1-7

Amendment 6

4.2 TRANSMISSION FACILITIES CONSTRUCTION

The purpose of this section is to describe the anticipated effects of construction of the modified STP transmission line routes described in Section 3.9.

The STP transmission line system is composed of five separate route sections. These sections (including the modified routes) and their corresponding mileage are presented in Table 4.2-1.

4.2.1 GENERAL OVERVIEW

The general overview presented in Section 4.2.1 of the Environmental Report--Construction Permit Stage required no updating except to note the following change.

The formerly proposed site to Lon Hill Substation line of CPL traversed minimal spans of urban areas as the line approached Lon Hill Substation. As described in Section 3.9, this route has been modified to go from the site to Blessing Substation. The modified route traverses no urban areas.

In addition a 2500 foot 345 kV transmission line will run from the STP switchyard to the HVDC terminal described in Section 2.2.3. This additional line will be completely contained within the STP site. 6

4.2.2 EFFECTS OF CONSTRUCTION ON PLANT AND ANIMAL LIFE

The discussion of the effects of construction on plant and animal life presented in Section 4.2.2 of the Environmental Report--Construction Permit Stage is applicable to the modified transmission line routes except for changes in the acreages of woodland, marsh, and open field which will be affected. The total acreage of woodland to be affected by transmission line rights-of-way is about 830 acres (Table 4.2-2). About 9 acres of woodland will be disturbed along the modified route from the site to Blessing Substation (Figure 4.2-2). Another 47 acres of woodland will be disturbed along the modified route from the tie point at Danevang to Holman Substation (Figures 4.2-3a-c). A summary of land classification along the modified transmission line routes is presented in Table 4.2-3. C TE4

The modified transmission line routes do not traverse any marshland. The total amount of marshland crossed by STP transmission line rights-of-way is about 110 acres.

4.2.3 ECOLOGICALLY SENSITIVE AREAS

Ecologically sensitive areas are those areas which could experience significant impacts from construction along the transmission route. One of the primary ecological considerations along the transmission routes is modification in habitat, particularly in woodlands, forested areas, and marshland. Construction of the modified transmission line routes is not expected to greatly affect migrant or transient endangered bird species which could occur in the vicinity during migration periods.

4.2.3.1 Endangered Species

The modified transmission line routes do not traverse areas where endangered species are known to exist.

4.2.3.2 Sensitive Habitat--Site to Blessing

Sensitive habitat along this modified segment of the transmission system consists of a small area of woodland near Blessing Substation (Figure 4.2-2).

4.2.3.3 Sensitive Habitat--Danevang to Holman

This segment of the proposed transmission system lies primarily within open field habitat. The line crosses six small areas of live oak forest, the largest (about 1 mile in length) is 6 miles southeast of Glidden. This woodland comprises about 4 percent of the vegetation crossed by the proposed route (see Figures 4.2-3a, b, and c).

4.2.4 NUMBER AND LENGTH OF NEW ACCESS AND SERVICE ROADS REQUIRED

Access to the rights-of-way of all transmission lines associated with the STP will be provided by private or public roads. In some areas, private roads may require improvement to accommodate the use of heavy construction equipment. In some cases, improvement will be made to private roads at the request of the landowner. Generally, in these cases, grading and placing of shell will be the extent of the improvement. Q340.17

A limited number of improvements will be made along transmission line rights-of-way to allow accessibility. In most areas, the placement of culverts in drainageways (including roadside ditches), and gates in fences crossing the rights-of-way will be the extent of improvements made. In especially boggy areas, it may be necessary to install a temporary plank road or to place fill.

4.2.5 EROSION DIRECTLY TRACEABLE TO CONSTRUCTION ACTIVITIES (POWER TRANSMISSION FACILITIES)

In accordance with the discussion in the Introduction to Regulatory Guide 4.2, Revision 2, pertaining to the "Applicant's Environmental Report--Operating License Stage," this section is not addressed since no updating of the corresponding material presented in the Environmental Report--Construction Permit Stage was necessary.

4.2.6 EFFECTS ON AGRICULTURAL PRODUCTIVITY

Adverse effects on agriculture resulting from the construction of the modified transmission lines are negligible.

The construction period for the transmission system allows sufficient time for scheduling most construction activities to avoid disturbance to unharvested fields. This feature minimizes crop damage from construction.

As previously indicated, the land owner is free to use all available land within the right-of-way, providing his use does not conflict with the interests of the applicant. Agricultural productivity, therefore, will be disturbed only to the extent that land at the base of the transmission towers is taken out of use. The bases of the towers occupy an average of 0.01 acre. Table 3.9-1 shows that of the total 304.3 miles in the STP transmission system, 90.4 miles will cross agricultural cropland. Tables 3.9-2 and 3.9-3 indicate that the modified routes account for 40.1 of the 90.4 acres. Applying the design specification that the average span distance between towers will be about 1,000 feet (800-1,200 feet), there will be a total of 478 transmission towers constructed on agricultural land. The modified routes account for 212 of the 478 towers.

The total productive acreage lost as a result of the transmission system construction is 4.78 acres (0.01 x 478). The modified routes will cause the loss of about 2.12 acres of productive acreage (0.01 x 212).

4.2.7 MITIGATING MEASURES TO LIMIT ENVIRONMENTAL IMPACT DURING CONSTRUCTION

In accordance with the discussion in the Introduction to Regulatory Guide 4.2, Revision 2, pertaining to the "Applicant's Environmental Report--Operating License Stage," this section is not addressed since no updating of the corresponding material presented in the Environmental Report--Construction Permit Stage was necessary.

4.3 RESOURCES COMMITTED

In the construction and operation of any electric generating station few resources are irretrievably committed to the facility for other than its operational life. The commitments made may be separated into four categories: construction materials, land, vegetation and wildlife, and water resources. These commitments are discussed within the following sections.

4.3.1 PLANT CONSTRUCTION MATERIAL COMMITMENTS

Construction of the power plant requires large quantities of building materials. Of the major materials used, only concrete and reinforcing steel are considered nonrecyclable at this time. At the time of plant decommissioning, about the year 2020, advanced technology and the increased cost of materials may require the recycling of essentially all building materials. Table 4.3-1 presents the estimated quantities of the major materials required for construction of the STP power plant.

4.3.2 LAND COMMITMENTS

The construction of STP requires a significant commitment of land resources. Land uses include the plant and related facilities, i.e., the reservoir and embankment, spillway channel, the essential cooling pond, roads and rail connections, and transmission lines.

The single largest commitment of land is the cooling reservoir which occupies about 7,000 acres of the nominal 12,300 acres located within the site boundaries (not including railroad right-of-way). The reservoir embankment requires approximately another 493 acres. This embankment was constructed of rolled earth fill removed primarily from the reservoir area so that little outlying earth removal was required. The plant and plant facilities occupy about 103 acres of the surrounding land, and an addi tional 79 acres are used for the essential cooling pond.

A portion of FM 521 was rerouted through the northern portion of the site, but outside the site boundary the road maintains its original route. The rerouting of FM 521 required an additional 50 acres. An access road on the east side of the plant connects FM 521 and the plant. A heavy haul road from the plant to the barge slip required clearing of approximately 43 acres.

A railroad spur right-of-way leading from the plant to the northwest corner of the site and extending north from the boundary of the site was cleared for construction. The spur occupies about 10 acres of land.

Makeup and blowdown lines from the reservoir to the Colorado River required about 10 acres of clearing and trenching. The soil was replaced after construction of the pipelines.

Transmission lines travel east, west, and north from the plant. A total of approximately 57 acres are required for the transmission corridor and switchyard within the site boundary.

A total of about 8,250 acres has been cleared or excavated for STP. Of this acreage, the only land considered irretrievable is that under the reactor containment building and other structures which will probably remain after decommissioning.

Approximately 1,700 acres located between the east embankment of the reservoir and the west bank of the Colorado River are to remain as a natural lowland habitat. The remaining 2,350 acres of land within the site boundary not being used for the reservoir, the plant structures and support facilities, and the natural lowland habitat will be left in its natural state as much as possible. The land immediately surrounding the major plant structures will be seeded to give the surroundings an aesthetically pleasing appearance. 6

4.3.3 VEGETATION AND WILDLIFE

The material presented in Section 4.3.4 of the applicant's "Environmental Report--Construction Permit Stage" requires no updating except as discussed below.

A survey completed in the summer of 1974 (Ref. 4.3-1) estimated that a total of 32 alligators were on the site. The study noted, however, that suitable habitat for nest construction was limited outside of the Robbin's marsh area below and outside the site.

4.3.4 COMMITMENT OF WATER RESOURCES

The construction of STP has required the use of three onsite water wells, which have a maximum capacity of 600 gallons per minute each. The wells are used to fulfill potable water needs, to supply water to two fire protection storage tanks, and to supply water to the concrete batch plant. 6