Environmental Assessment
of the Proposed Jack County
Power Plant Expansion Project
Jack County, Texas

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ENVIRONMENTAL ASSESSMENT OF THE PROPOSED JACK COUNTY POWER PLANT EXPANSION PROJECT JACK COUNTY, TEXAS

Prepared for:

Rural Utilities Service
United States Department of Agriculture
1400 Independence Avenue, SW
Washington, D.C. 20250-0747

Prepared by:

PBS&J
6504 Bridge Point Parkway
Suite 200
Austin, Texas 78730

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Acronyms and Abbreviations

%	percent
°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
ac	acre(s)
ac-ft	acre feet
AGC	Automatic Generation Control
AOU	American Ornithologists' Union
BACT	Best Available Control Technology
BEG	U.S. Bureau of Economic Geology
BFW	Boiler Feedwater
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
Brazos Electric	Brazos Electric Power Cooperative, Inc.
CAA	Clean Air Act
CEMS	Continuous Emissions Monitoring System
CFCs	Chlorofluorocarbons
CFR	U.S. Code of Federal Regulations
CLF	civilian labor force
CO	carbon monoxide
CTG	Combustion Turbine Generator
dB	decibel
dBA	A-weighted decibel
DCS	Distributed Control System
DENA	Duke Energy North America
DFW	Dallas-Fort Worth
DHHS	Department of Health and Human Services
EA	Environmental Assessment
EIS	Environmental Impact Statement
EJ	Environmental Justice
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ERCOT	Electric Reliability Council of Texas
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FM	Farm-to-Market Road
FONSI	Finding of No Significant Impact

FPPA	Farmland Protection Policy Act
ft	feet/foot
FWS	U.S. Fish and Wildlife Service
gpm	gallons per minute
GTG	gas turbine generator
HAP	hazardous air pollutants
HCFCs	hydrochlorofluorocarbons
HEI	Heat Exchange Institute
HERO	High Efficiency Reverse Osmosis
HFCs	hydrofluorocarbons
HI	Hydraulics Institute
HMI	human-machine interface
HPA	high probability area
HRH	Hot Reheat
HRSG	Heat Recovery Steam Generator
HUD	U.S. Department of Housing and Urban Development
HV	High Voltage
kV	kilovolt (1 kV = 1,000 volts)
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
MACT	Maximum Achievable Control Technology
MBTA	Migratory Bird Treaty Act
mg/L	milligrams per liter
MGD	million gallons per day
MMBtu	million British thermal unit
mph	miles per hour
msl	mean sea level
MW	megawatts
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Pollutants
NFIP	National Flood Insurance Program
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSPS	New Source Performance Standards
NSR	New Source Review
NWS	National Weather Service
OEM	Original Equipment Manufacturer

OTHM	Official Texas Historic Marker
Pb	lead
PDC	Power Distribution Center
PFCs	perfluorocarbons
PLC	Programmable Logic Controller
$PM_{[n]}$	particulate matter with an aerodynamic diameter of *[n]*
ppm	parts per million
PSD	Prevention of Significant Deterioration
PUC	Public Utility Commission of Texas
RFP	Request for Proposal
ROW	rights of way
RUS	Rural Utilities Service
SAL	State Archeological Landmark
SCR	Selective Catalytic Reduction
SCS	Soil Conservation Service
SDHPT	State Department of Highways and Public Transportation
SIP	State Implementation Plan
SO_2	sulfur dioxide
SRCC	Southern Regional Climate Center
STG	Steam Turbine Generator
SWPPP	Stormwater Pollution Prevention Plan
TAC	Texas Administrative Code
TARL	Texas Archeological Research Laboratory
TCEQ	Texas Commission on Environmental Quality (formerly the TNRCC)
TDA	Texas Department of Agriculture
TDWR	Texas Department of Water Resources
THC	Texas Historical Commission
TNRCC	Texas Natural Resource Conservation Commission (now the TCEQ)
TORI	Texas Outdoor Recreation Inventory
TORP	Texas Outdoor Recreation Plan
TPWD	Texas Parks and Wildlife Department
TRWD	Tarrant Regional Water District
TSDC	Texas State Data Center
TWC	Texas Workforce Commission
TWDB	Texas Water Development Board
TXBCD	Texas Biological and Conservation Data System
TxDOT	Texas Department of Transportation
TXNDD	Texas Natural Diversity Database
USACE	U.S. Army Corps of Engineers
USBOC	U.S. Bureau of the Census

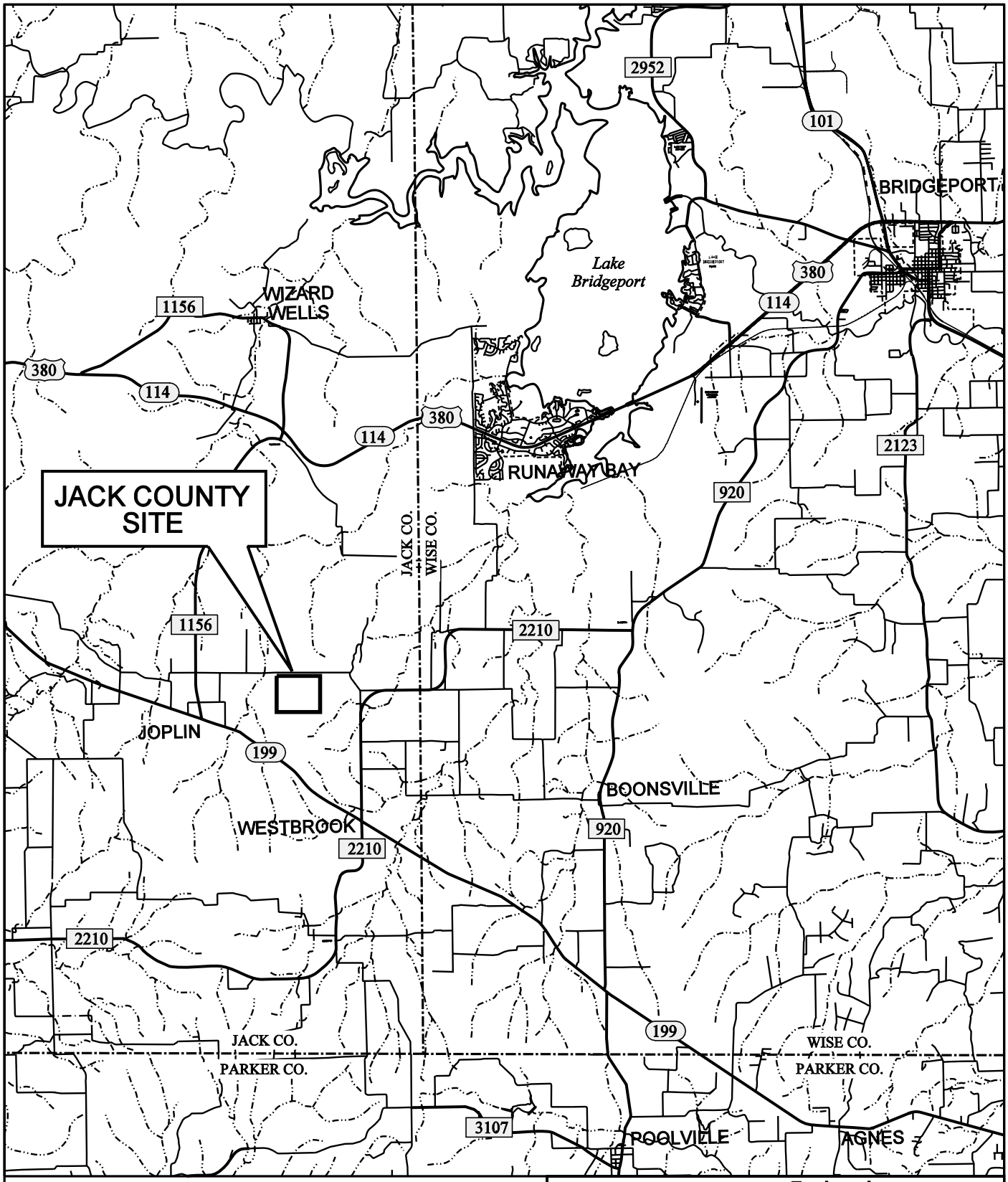
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
VOC	volatile organic compounds
ZLD	Zero Liquid Discharge

1.0 Introduction

1.0 INTRODUCTION

Brazos Electric Power Cooperative, Inc. (Brazos Electric) is proposing to expand their existing power plant facilities near Joplin, in Jack County, Texas. The project will consist of expanding the generation capacity within the existing Jack County Power Plant Site, which currently operates a 600-megawatt (MW) gas-fired, combined-cycle electric generation station located within the 50-acre (ac) portion of Brazos Electric's 205-ac tract (Figure 1-1). The proposed expansion will include the addition of one 600-MW natural gas-fired combined cycle generator and ancillary equipment located entirely within the 50-ac power generation site. No additional excavation or alteration to the landscape is required, as the footprint for the proposed expansion was permitted and prepared during initial construction of Phase I.

The Rural Utilities Service (RUS) has determined that the proposed project warrants an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA). Brazos Electric subsequently contracted PBS&J to prepare this EA. The RUS will use this EA to assist in deciding whether additional NEPA documentation may be required (e.g., Environmental Impact Statement (EIS)) or if the project may proceed following issuance of a Finding of No Significant Impact (FONSI).



PBSJ
• Engineering
• Environmental Consulting
• Surveying

Figure 1-1

PROJECT AREA LOCATION
JACK COUNTY POWER PLANT SITE

Base Map: TxDOT General Highway Maps; Jack, Parker, and Wise Counties, Texas

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2.0 Project Description

2.0 PROJECT DESCRIPTION

2.1 PURPOSE AND NEED

A summary of Brazos Electric's current capacity, demand, and reserves is shown on Figure 2-1. A Load-Capacity Comparison is shown in Table 2-1. Demands are based on the 2006–2025 Load Forecast, which was approved by RUS in August 2007. Since being approved by RUS, the Load Forecast has been adjusted downward by approximately 45 MW because of the loss of two industrial loads (see Table 2-1).

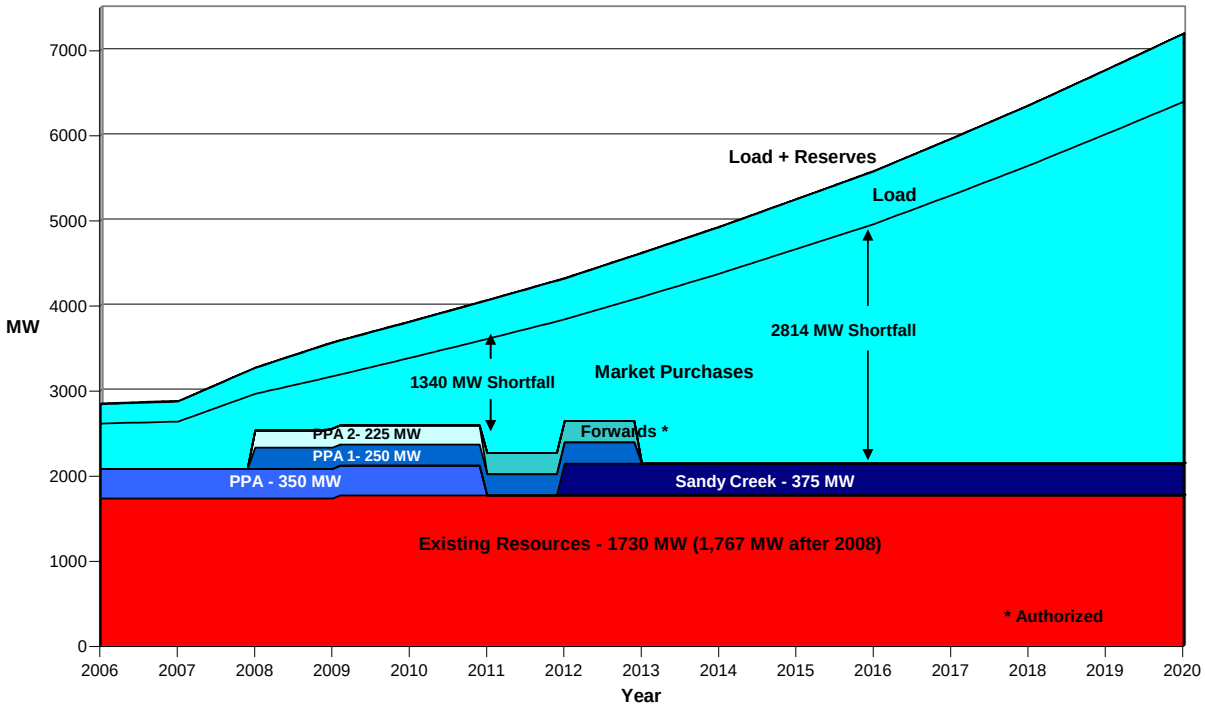

Figure 2-1. Member System Load, Reserves, Resources Existing
(as of December 2007)

Brazos Electric satisfies the electric capacity and energy requirements of its member cooperatives and customers from (1) owned resources, (2) long-term contracts, (3) short-term purchases, and (4) daily market purchases. Based on the comparison of Brazos Electric's 2006–2025 Load Forecast with existing owned resources, long-term contracts and short-term purchases shown on Table 2-1, Brazos Electric will have significant long-term capacity and energy exposure in the market if no new resources are built.

Based on an updated forecast of capacity, demand and reserves released in December 2007, Electric Reliability Council of Texas (ERCOT) reserve margins appear to be adequate through 2011; however, continued adequacy of reserve margins is extremely dependent on whether (i) additional generation resources will be constructed, or (ii) mothballed units will be returned to service in future years. As reserve margins declined in recent years, the costs of capacity and energy have increased. The effective heat rate of ERCOT market energy also increased, particularly during the peak summer months.

Table 2-1. Load-Capacity Comparison
Member System Beneficiary and Non-Member Load Requirements
(No Adjustment for Non-REACT)

	Updated Load Forecast 2006-2025																			
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
System Load (MW)																				
Members System Coincident Peak [1][2]	2,536	2,557	2,874	3,076	3,287	3,505	3,729	3,988	4,252	4,536	4,821	5,152	5,491	5,853	6,223	6,651	7,090	7,558	8,036	8,590
Losses @ 2.1%	53	53	62	66	71	75	80	86	91	97	103	111	118	126	133	143	152	162	172	184
Sub-Total	2,589	2,610	2,936	3,142	3,357	3,580	3,809	4,073	4,344	4,633	4,924	5,262	5,609	5,979	6,356	6,794	7,242	7,721	8,209	8,774
Non-Member Diversified Load (incl Losses)	24	24	25	26	27	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
Total	2,613	2,634	2,961	3,167	3,384	3,607	3,837	4,102	4,374	4,664	4,956	5,295	5,643	6,013	6,392	6,831	7,280	7,759	8,248	8,815
Reserve Requirements [3]	327	329	367	396	423	451	480	513	547	583	620	662	705	752	799	854	910	970	1,031	1,102
System Peak w/ Reserve Req.	2,940	2,963	3,328	3,563	3,807	4,058	4,316	4,615	4,920	5,247	5,576	5,957	6,348	6,765	7,191	7,685	8,190	8,729	9,279	9,917
Resource Capacity (MW)																				
Miller Plant (Units 1,2,3)	403	403	403	403	403	403	403	403	403	403	403	403	403	403	403	403	403	403	403	403
Miller Plant (Units 4,5)	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208
N. Texas Plant (Units 1,2,3) [5]	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
Jack County	575	575	575	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600
Johnson County	258	258	258	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270
Sandy Creek							375	375	375	375	375	375	375	375	375	375	375	375	375	375
San Miguel PPA	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196
Hydro PPA	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
Contracted Resources	350	350	800	825	825	250	250													
Other Purchase Contracts	800	750	500			250	250													
Demand Reduction Program			25																	
Available Capacity	2,880	2,830	3,055	2,592	2,592	2,267	2,642	2,142	2,142	2,142	2,142	2,142	2,142	2,142	2,142	2,142	2,142	2,142	2,142	2,142
Surplus (Deficit)	(60)	(134)	(273)	(972)	(1,215)	(1,792)	(1,675)	(2,473)	(2,779)	(3,105)	(3,434)	(3,815)	(4,207)	(4,624)	(5,049)	(5,543)	(6,048)	(6,588)	(7,138)	(7,776)

Notes:
[1] Historical Actuals
[2] Forecasted load Based on 2006-2025 Load Forecast - submitted to RUS April 2006
[3] Members REACT Load
[4] Reserve requirements computed at 12.5% (recommended by ERCOT Board); requirements computed for ERCOT load only
[5] N. Texas 3 constrained by emissions beginning 5/1/05

Ownership of efficient combined cycle generation resources provides Brazos Electric with protection against volatility in market energy prices, ancillary services, heat rates and capacity charges.

2.2 DESCRIPTION OF POWER PLANT

The proposed facility addressed in this report will be a 2x1 combined-cycle power plant producing a nominal 620 MW. The facility design is a two-on-one configuration (two combustion turbines and one steam turbine), single fuel (natural gas), duct-fired power plant with inlet air chilling. The steam turbine exhaust shall be condensed in a water-cooled steam surface condenser. A cooling tower shall cool the hot circulating water. The expected range of plant operation is between 35% and 100% (baseload).

Figure 2-2 shows the site arrangement and plant layout of Jack County Unit 1. This project is the second unit (Phase II) of the two unit combined-cycle facility. Jack County Unit 1 is a nominal 620-MW combined-cycle facility and is located south of the proposed Jack County Unit 2. Figure 2-3 is a satellite image of the 50-ac generation facility showing the existing Jack County Unit 1 and the location of the proposed project expansion (Jack County Unit 2).

The proposed plant is to be operated as an intermediate resource plant, running an average of 7,500 hours per year (nonoverhaul years) or 6,600 hours per year (major overhaul years). Plant annual startups will be less than 120 per year.

Site plan for the proposed Phase II expansion is shown on Figure 2-4. The following information on plant systems and facilities was obtained from the Brazos Electric Cooperative – Jack County Generation Facility; Exhibit D – Technical Scope of Work; Turnkey Engineering, Procurement and Construction; March 3, 2008.

Combustion Turbine-Generators

The two “F” Class, advanced firing temperature Combustion Turbine Generators (CTG) shall be capable of delivering electric power in continuous operation, and shall include all associated auxiliary systems and accessory equipment. A dry, low nitrogen oxides (NO_x) combustor for turbine exhaust emission control shall be furnished for each CTG. The plant shall be capable of continuous operation over the design ambient range from minimum CTG load (Minimum combustion turbine load is defined as within emissions compliance) to 100% of CTG load, with each Heat Recovery Steam Generator’s (HRSG) stack emissions within permit limits. CTG industry optimum load designs such as Opflex, Isotherm, Low carbon monoxide (CO), shall be included in the plant design. The CTGs shall be 60-Hertz, 3,600-rpm combustion turbines directly connected to the generator and shall be designed to burn natural gas only. The CTG shall have a rating of 167 mw at ISO conditions.

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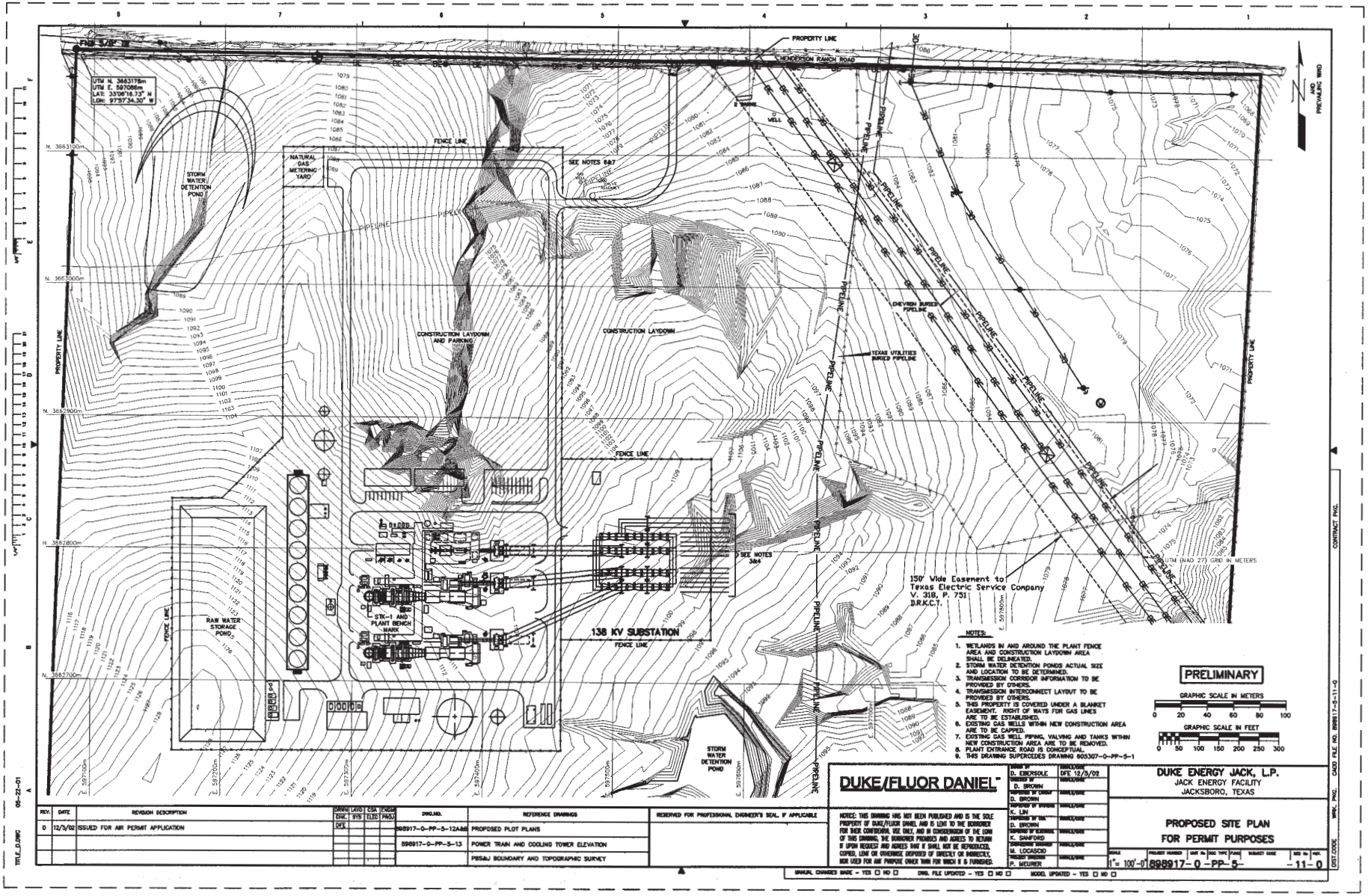


Figure 2-2. Jack County Power Plant Existing Site Plan

Source: BEPC, 2003

north

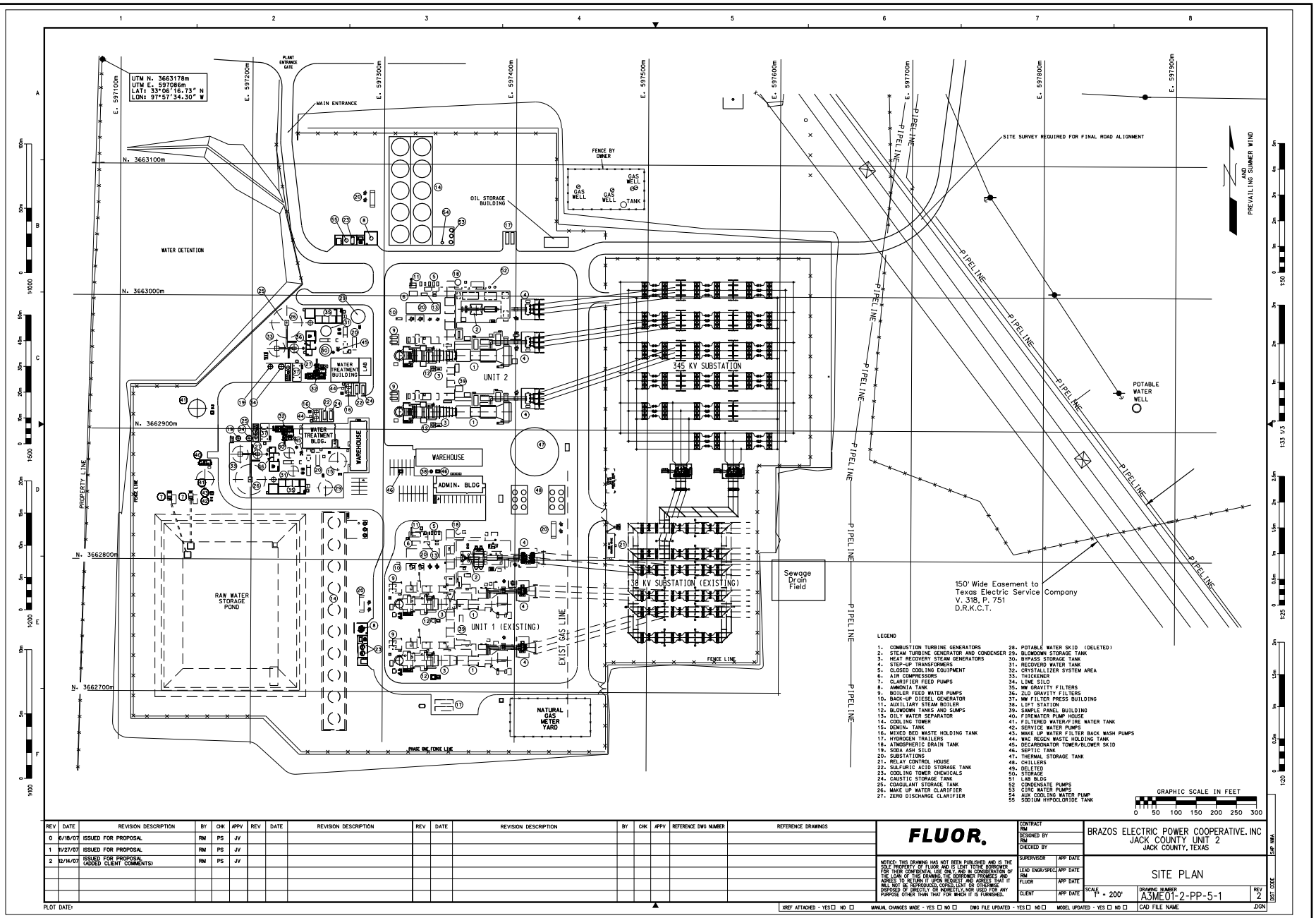
0 350 700 1,400
Feet

Source: Texas Natural Resource Information System (2008)

PBS&J
6504 Bridge Point Pkwy, Ste. 200
Austin, Texas 78730
Phone: (512) 329-8342 Fax: (512) 327-2453

Figure 2-3

JACK COUNTY
POWER PLANT SITE



Source: BEPC, 2008

Figure 2-4. Proposed Jack County Power Plant Expansion Site Plan

Heat Recovery Steam Generator (HRSG)

The two HRSGs, using duct-fired, three-pressure level, natural circulation design with steam reheat and superheat sections. Selective Catalytic Reduction (SCR) will be used for NO_x control. Space and support will be provided for future CO catalyst.

The heat and material balances are based on the feedwater preheater re-circulation system being used to maintain a 140 degrees Fahrenheit (°F) water inlet temperature to the feedwater preheater. The feedwater preheater recirculation temperature should normally be 20°F above the exhaust gas acid dewpoint.

The SCR system performance requirement is 2 ppmvd @15% O_2 NO_x with 7 ppmvd @15% O_2 ammonia slip. The SCR system will use 19.4 wt% aqueous ammonia (technical grade). The SCR performance shall be guaranteed for 3 years, which is considered to be the typical guarantee for the industry. A NO_x analyzer shall be provided upstream of the SCR catalyst for ammonia feed forward control.

The CO spool shall be sized for future catalyst to meet 2 ppmvd @15% O_2 CO and 20% volatile organic compounds (VOC) reduction in the HRSG stack.

The stack height shall be approximately 150 feet (ft) (or as ultimately established in the Air Permit and by stack emission and Continuous Emissions Monitoring System (CEMS) port upstream and downstream clear diameter requirements).

CEMS will be mounted to both stacks. The monitoring system shall meet all applicable Federal and State standards for monitoring of stationary services in the appropriate size class as specified in the Air Permit Special Conditions. Emission test ports and CEMS ports in the stack shall be located at least 2 stack diameters downstream of any disturbance (including stack damper and silencer) and ½ stack diameter upstream of the stack exit.

Steam Turbine Generator (STG) and Auxiliaries

The facility shall include a steam turbine generator (STG). The STG shall be sliding pressure, condensing type, with reheat capability and with controls suitable for interface with the plant distributed control system. The STG shall consist of high pressure, intermediate and low pressure sections. High-pressure steam shall be supplied to the HP section of the steam turbine. The HP turbine exhaust shall be mixed with the IP steam returned to the reheat section of the HRSGs, and then shall flow to the IP section of the steam turbine. The IP turbine exhaust shall be discharged to the LP section. LP section steam flow shall be exhausted to the condensing system.

The generator shall be hydrogen-cooled with static excitation. The Generator shall be rated at 0.95 leading/0.85 lagging power factor. Generator and excitation system designed to accommodate voltage swings of plus or minus 5% at 60 Hertz. The STG shall have a nominal output of 320 MW.

The plant shall include a STG bypass system designed to attemperate steam generated in the HRSGs without duct firing and route this steam to the condenser system. The by-pass system is designed to operate in start-up and upset conditions only. In the event of an STG trip, the bypass system shall automatically divert all steam to the condensing system. The STG shall be capable of operating in both the inlet steam pressure control mode and in the sliding pressure control mode. The steam turbine controls shall be integrated with the Plant Distributed Control System (DCS) Unit Master Automatic Generation Control (AGC) controls.

Steam Condenser System

The Facility shall include a steam surface condenser with accessories, including a steam jet air ejector system, in accordance with Heat Exchange Institute (HEI) Standards and any ASME Boiler and Pressure Vessel Code called for in HEI. The condensing system shall be designed for outdoor installation. The steam condensing system shall be designed to provide deaeration of the HRSG make-up water with less than 7.0 ppb of dissolved oxygen in the vacuum condensate. The condensing system shall be designed in accordance with HEI Standards for steam surface condensers. Where the HEI Standards and this section of the scope of work are at variance, this section shall control.

The condensing system shall maintain the backpressure required by the steam turbine guaranteed rating while operating with circulating water temperatures based upon cooling tower/surface condenser performance under design ambient conditions as specified in the Performance Data and Guarantees. The condensing system shall be capable of maintaining the backpressure and exhaust temperature within the permissible limits set by the turbine manufacturer while experiencing operation of the steam turbine bypass system at unfired steam production flow.

The condensing system design shall be capable of condensing full steam production simultaneously from both HRSGs (HP, IP, and LP sections) under all of the design ambient operating conditions and shall maintain condensing system pressure within the turbine manufacturer limits for operation. Additionally, the condensing system shall be designed in a manner that prevents the steam turbine generator from rolling off of turning gear operation during full turbine bypass operation.

Material for the surface condenser tubes and tube sheet shall be 316-stainless steel. Surface condenser shell and water boxes shall be carbon steel. Tube sheet design analysis shall be performed to determine both tube loads and maximum stress levels within the tube sheet.

Water boxes shall be divided and shall be full access, bolted cover-plate type. Inspection access shall be provided to inlet and outlet water boxes. The water boxes shall be epoxy coated for corrosion protection. Water boxes shall also be protected with passive cathodic protection.

An exhaust expansion joint between the turbine and the exhaust ducting shall be provided. The exhaust expansion joint shall be capable of absorbing turbine exhaust hood and condenser movement in any direction from the horizontal and vertical centerlines of the hood.

Vacuum in the condensing system shall be initially developed and normally maintained by the steam jet air ejector system supplied with the condenser. This system shall reduce the condensing system pressure from atmospheric upon each restart, and remove noncondensable gases from the condensing system during normal operation. Steam jet air ejector shall be remotely operated from control room.

Condensate Pumps

Two 100% capacity condensate pumps shall be provided. The pumps shall take suction from a single Hotwell/condensate tank collecting water from both the water cooled condensers. The condensate pumps shall be designed in accordance with the Hydraulics Institute (HI) Standards, Centrifugal Pump Section. The pumps shall be designed and manufactured for safe and reliable operation and shall be supplied with suitable materials. They shall operate without cavitation. Vibration levels shall conform to HI Standards.

Chiller System

The two CTGs for Jack County Unit 2 shall utilize inlet air cooling, designed to lower combustion turbine inlet air temperature as provided by a thermal energy chilled water system. Heat rejection from the chiller shall be via a dedicated mechanical draft cooling tower. The chiller cooling tower and chiller structures, sidings and components shall be resistant to corrosion.

The chiller system for Jack County Unit 2 under this combined cycle plant EPC contract will consist of one mechanical chiller, one cooling tower, two combustion turbine inlet air chiller coils, one forwarding pump skid (with two 100% pumps) along with associated civil, mechanical, piping, electrical and controls. This phased approach will allow the Jack County Unit 2 EPC contractor to install the chiller and forwarding pump skid on existing foundations and make associated electrical, controls and piping interface connections without disturbing any existing and/or operating equipment within the Jack County Unit 1 chiller area. Supply and return piping to/from the chiller coils will be routed underground to the maximum extent possible. Freeze protection shall utilize a propylene glycol-water mixture in appropriate concentration in the circulation loop per the site conditions. The chiller system is intended to be a packaged system with integral controls, also available at the DCS capable of turndown/aux. load minimization based on ambient temperatures.

Boiler Feedwater (BFW) (Pumps and Related Valves)

Each HRSG shall be provided with two 100% capacity high-pressure boiler feedwater pumps. Feedwater pumps shall be motor driven, horizontal, centrifugal, and multi-stage, with an intermediate pressure bleed.

The HP feedwater control system shall include a 100% and 20% capacity feedwater control valves in parallel with the controls arranged for a bump-less transfer of control on power increase and decrease. These control valves shall be sized such that extended operation of a valve close to its seat (<10% open) shall not be experienced during startups.

The pumps shall be capable of operating continuously at minimum flow without damage to the pumping equipment. Minimum flow control valves shall be provided. Pump performance test criteria shall be in accordance with the HI Standards, Centrifugal Pump Section. Pump suction shall be designed to protect the pumps from net positive suction head transients.

Each BFW pump shall be provided with a recirculation line to maintain the minimum pump flow rate as specified by the pump manufacturer. Minimum flow control shall be via a control valve designed for service. ARC valves shall not be used. Specific vibration specifications shall be included as follows: Vibration equipment shall be GE Bentley-Nevada accelerometers with System One compatibility (GE BN 3500 System). Signals should be sent to the DCS.

Main Steam System and Steam Turbine Bypass

The main steam system provides distribution of HP, IP/Reheat, and LP steam to the steam turbine generator. High pressure steam shall flow from each HRSG through a motor-operated isolation valve and into the high pressure steam header where the steam shall be routed to the STG. Intermediate pressure steam shall be mixed with cold reheat steam from the STG and further superheated in the HRSG. Hot reheat steam shall flow from each HRSG through a motor-operated isolation valve to the hot reheat steam header, which delivers the steam to the IP section of the STG. Low-pressure steam shall flow from each HRSG through a motor-operated isolation valve into the low-pressure steam header that delivers the steam to the LP section of the STG.

An STG bypass system shall provide a means to bypass the steam turbine during start-up and plant upset conditions including steam turbine trips. The facility shall include a 100% of unfired steam production turbine bypass for periods when the steam turbine will not accept steam from the HRSGs (typically not more than 24 hours). The STG bypass shall be sized to bypass 100% of the unfired steam from both HRSGs. The STG bypass shall transfer steam flows from the steam turbine throttle to the steam condensing system. The system shall include all piping, drains, valves, steam conditioning valves, spraywater valves, isolation valves, instrumentation, and appurtenances required for a complete system. The bypass system shall be designed to protect all downstream piping and equipment. Dump lines shall be self-draining and sloped to the steam condensing system. Valves and controls to protect the steam turbine shall be supplied with the steam turbine.

Cooling (Circulating) Water System

A cooling water system shall provide a continuous supply of cooling water to the steam condensing system. A “circulating” type of system, involving a cooling tower, shall be used. Main components of the cooling water system described in this section, are circulating water pumps, circulating water piping, cooling tower with basin and pump pit.

There will be three 50% capacity circulating water pumps shall be provided and shall be designed for continuous service. The pumps shall be vertical (single stage, mixed flow) types. The pumps and all associated valves, lubrication equipment and accessories shall be located adjacent to the cooling tower

Circulating Water Pipe

Circulating water pipe from the circulating water pumps to the surface condenser, and from the surface condenser to the cooling tower area, shall be primarily via underground piping. Pipe shall be designed to withstand internal pressures, both operating and transient. Minimum design pressure shall be higher than the pressure corresponding to the shutoff head of the pump. Blowdown piping shall be taken off of the return line. Maximum flow velocity shall not exceed 15 ft/second.

Cooling Tower

Cooling Tower shall include a back to back fiberglass cooling tower and accessories in accordance with Cooling Tower Institute Standards, as applicable. The cooling tower shall be designed to reject the heat energy returned from the steam surface condenser to atmosphere and shall be designed to provide the cold water temperatures consistent with the plant design criteria. Jack County Unit 2 cooling tower design shall be of mechanical induced draft, multi-cell, counter flow type. Arrangement and orientation of the cooling tower shall take into account the prevailing wind direction. Maximum drift rate shall be designed to meet the 10 microns (PM_{10}) requirement in the air permit. The tower (including fill and its support system) shall be designed to include necessary features to prevent damage from freezing during start-up and operation under any mode.

Closed Cooling Water System

A closed cooling water system shall be provided and designed to remove the thermal load from all auxiliary items requiring cooling water. Freeze protection shall utilize a propylene glycol/water mixture in appropriate concentration per the site conditions. The system shall utilize three 50% capacity plate and frame heat exchangers for heat rejection. Heat rejection shall be to the circulating water system. The materials of construction shall be adequate for the water chemistry of the circulating water and closed cooling water mixture. Self-cleaning strainers shall be provided at each heat exchanger inlet.

Closed cooling water pumps shall have two 100% capacity closed cooling water pumps and one 100% capacity auxiliary closed cooling water pump shall be provided. The pumps shall be centrifugal, horizontal-type driven by constant speed motors. Each pump shall be complete with case, shaft, impeller, mechanical seals, base plate, coupling, coupling guard, and driver.

Water Systems

The water systems for Phase II shall be integrated to that of those existing in Phase I. Several systems from Phase I will serve both Phase I and Phase II, in addition several existing Phase I systems are at

capacity and will need to be expanded with the Phase II build-out and interconnected with the existing Phase I systems. The existing Phase I water systems form the basis of what is required for Phase II.

The raw water makeup system stores water from Lake Bridgeport in the 12-million gallon Raw Water Storage Pond, clarifies, filters, and stores filtered product water in the existing firewater/filtered water tank. The existing Phase I system includes chemical treatment systems for the maintenance of the storage pond. Phase II makeup water system shall share the existing 12-million gallon Raw Water Storage Pond with Phase I.

The pond shall be lined with a geomembrane. The liner shall be designed for exposure to raw water conditions and shall be designed for minimum air temperature of –1°F; maximum air temperature of 113°F; pH range of 5 to 12; exposure to UV light; and exposure to trace concentration of diesel fuel, fuel oil (#2), and lubricating oils and greases.

The pond shall be designed such that full firewater capacity is below the raw water suction pipe and cannot be utilized through the raw water suction pumps. Depth of pond shall include 12 inches allowance below the lowest suction pipe in order to avoid the solids accumulation in the pond. Pond depth shall include sufficient freeboard to account for a single 25-year, 24-hour storm event plus maximum wave run-up, but not less than 24 inches. Sides of the pond shall be sloped as required for ground and liner stability, but not greater than 3 horizontal to 1 vertical.

Pump bay at the storage pond shall include firewater pumps, firewater jockey pumps, and pumps for raw water supply to the Raw Water Treatment System.

Raw Water Treatment system:

- Incoming raw water (from the Owners water pipeline to site) shall be chlorinated and stored in an open air lined pond.
- A solid contact-type clarifier, using lime, polymer and coagulant aid to enhance precipitation and flocculation shall first treat raw water.
- The treated water (clarifier overflow) shall then be filtered through multimedia gravity filters (sand filters) and stored in a below ground clearwell (concrete sump).
- Filter backwash waste and the clarifier sludge blowdown shall be collected in a sludge sump. To minimize wastewater, most of the water from the sludge sump shall be recycled through the clarifier.
- Excess sludge shall be processed through a sludge thickner and dewatering system. Decant water from the thickner and dewatering system shall be recycled via the sludge sump and clarifier.
- Sludge from the thickner shall be sent to a filter press (elevated in a metal enclosure/building) where water is removed and the remaining sludge cake is dropped into a truck for hauling to a local landfill. The water is sent to the sump.

- Treated water in the clearwell sump shall be pumped: (1) to the cooling tower basin for make-up water purposes; (2) for service water requirements such as utility stations, filter backwash requirements, etc.; (3) as feed to the Demineralization System for demineralized water production.

Raw water for the proposed plant will be supplied from Lake Bridgeport, Walnut Creek Water District, and the recycle water from the Zero Liquid Discharge (ZLD). Raw water analysis of each water source shall be the design basis for the Facility. To operate Jack County Unit 2, Brazos Electric has contracted to purchase additional 1,000 ac-ft per year of water from Tarrant County Water District, an additional 90 million gallons per year from Walnut Creek and will use recycle waste water from Jack County Unit 2, Zero Liquid Discharge system estimated at 300,000 gallons per day.

The following operating cases are considered for estimating water balance calculations:

1. Winter average: 5 months (short days and long nights)
   a. 3 months of winter with no duct firing and no chilling
   b. 2 months of winter with full duct firing 8 hours/day and no chilling
2. Summer average: 7 months (long days and short nights)
   a. 4 months of summer with full duct firing 8 hours/day and chilling
   b. 3 months of summer with no duct firing and no chilling
3. Summer Maximum Average: (Note that at this condition 708 gallons per minute [gpm] of raw water is drawn from the Raw Water Storage Pond lowering the level. This condition occurs for 8 hours per day.)

   The raw water shall be cleaned and treated to provide a source for:

   - Cooling Tower Make-up Water (due to evaporation of drift losses as well as blowdown of the tower)
   - Plant Service Water (to oil-water separator, utility stations, etc.)
   - Demineralized Make-up Water

The filtered water storage tank shall be used as cooling tower makeup and service water. The service water system shall be sized to accommodate all Phase II users including makeup to chiller cooling towers. In addition, service water shall be routed to various utility stations throughout the facility, for use as general wash down and utilities such as water seals, cleaning, and flushing. Provisions shall be added to allow the transfer of service water between the Phase I and Phase II filtered water tanks.

Potable water system shall be upgraded to support the existing water distribution system to be capable of serving a total staff of 46 people. In the event the existing system is not adequately sized, contractor is to supply new potable water chlorination/filtration system and other additional treatment as required treating well water for potable use. The distribution system shall be sized in accordance with the fixture unit

method as described in the Uniform Plumbing Code. Any applicable state, county or local authority sizing procedures shall override the procedures and methods described in the Uniform Plumbing Code.

The current demineralized water system includes adequate capacity for Phase II. 2x100% demineralized water transfer pumps from the existing demineralized water storage tank shall be provided. Pump suction and minimum flow return connections are available on the tank.

The ZLD System existing at Phase I is an Aquatech High Efficiency Reverse Osmosis (HERO) System. A mechanical vapor compression based Aquatech crystallizer is included to remove solids from the various reject streams to produce a solids stream for offsite disposal and a recovered water stream for re-use within the plant. A new ZLD system shall be added with Phase II that is similar to that of Phase I. The Phase II ZLD system shall be sized in accordance with the water balance for Phase II. Interconnections between following existing Phase I and new Phase II systems shall be made to allow the various intermediate water streams to be transferred to/from the corresponding systems:

- Makeup water clearwell
- Filtered water storage tank
- Cooling tower blowdown storage
- ZLD clearwell
- WAC rinse water to cooling tower basin
- Cross connect HERO booster pumps (each phase only)
- Recovered water storage tank
- Bypass storage tank

The ZLD system consists of the following subsystems:

- Blowdown storage tank
- ZLD clarifier
- ZLD coagulant feed system
- ZLD polymer feed system
- ZLD lime feed system
- ZLD acid feed system
- ZLD gravity filters
- ZLD softeners (weak acid cations)
- HERO RO units
- Bypass storage tank
- Crystallizer

- Recovered water storage tank
- Anti-foam system
- Crystallizer solids dewatering system

The oily water/process water systems shall include the collection of all process waste streams within the site. Plant oily water drains shall gravity flow into an oily water sump, and shall be pumped through an oil-water separator. From the oil-water separator, the clear water shall gravity drain to the clear well sump and be recovered to the make-up water clarifier. The oil from the separator shall drain into a separate sump that shall be capable of being drained by a truck with a vacuum pump. Oil contained in the water discharge shall be less than or equal to 15 parts per million (ppm). Oil containment curbing/basin shall be provided for each main transformer.

Wastewater Treatment Systems

Wastewater discharge shall be routed to the ZLD system. The plant is required to be a zero liquid discharge facility.

The facility shall include the collection of all process waste and sanitary waste streams within the site. The point of connection for the process waste off site discharge shall be defined by the contractor, including location coordinates and elevation. The point of connection shall be located approximately 10 ft within the plant fenceline. Owner shall supply the piping system outside of the plant fenceline.

The septic system shall include the collection of all sanitary waste streams within the site and shall be combined before discharge to the septic system and leach field at the plant site. Contractor shall determine whether the existing septic and leach field system is of adequate capacity and provide tie-ins to the existing system or in the event it is not of adequate capacity, provide a new system. All sanitary waste streams shall be combined before discharge to the septic system and leach field at the plant site.

Plant oily water drains shall gravity flow into an oily water sump, and shall be pumped through an oil-water separator. From the oil-water separator, the clear water shall drain to the clear water sump and be recovered for cooling tower make-up. The oil from the separator shall drain into a separate sump that shall be capable of being drained by a truck with a vacuum pump. Oil contained in the water discharge shall be less than or equal to 15 ppm, or as required by the permit.

Oil containment curbing basin shall be provided for each main transformer. A drain, using either pipe and a manual valve or a manually operated pump, shall be supplied to drain oil-free water from the containment. The containment shall be capable of being drained by a truck with a vacuum pump when oil is present. A local power outlet shall be installed for a portable submersible pump.

Water from the combustion turbines water wash operation shall drain into a containment sump. The sump shall be capable of being drained by a truck with a vacuum pump.

Auxiliary Boiler System

The facility shall include an outdoor auxiliary boiler (minimum 25,000 lbs/hr, 125 psig, saturated), which for start-up purposes, provides temporary steam until the HRSG begins providing steam. Boiler stack height shall be 32 ft, or per air permit requirement.

During initial start-up (i.e., with no cold reheat or HP steam available), auxiliary steam shall be provided by the auxiliary boiler. The auxiliary boiler shall be fired by natural gas from the fuel gas system. Make-up water for the auxiliary boiler is supplied from the demineralized water system, with the water deaerated by the auxiliary boiler deaerator.

The auxiliary boiler shall be a fire tube, low emission, natural circulation, packaged type boiler complete with single gas burner, motor-driven forced draft fan, electronic programming and flame safeguard controls, boiler limit and fuel safety interlocks, fully automatic combustion controls, feed water regulator and local control panel. The local panel shall interface with the DCS for remote monitoring and control. An auxiliary steam backup system consisting of a desuperheater, control valves, on-off valves, piping, instrumentation and controls shall be provided to letdown HP and Hot Reheat (HRH) steam to the auxiliary steam header. An electric superheater shall be supplied to superheat auxiliary steam to that required by the steam turbine generator seals.

Boiler (HRSG) Chemical Feed System

The boiler chemical feed system shall protect the HRSGs from corrosion and scale formation. The chemical feed systems shall maintain water chemistry at acceptable conditions. An oxygen scavenger shall be fed to the condensate pump discharge for oxygen scavenging and metal passivation. Phosphate shall be fed to the HP boiler drum to maintain the desired boiler water pH. Neutralizing amine shall be fed to the condensate pump discharge for neutralizing acid forming gases. Each chemical feed system shall include a chemical feed pump with automatic stroke adjustment, controlled by the DCS, which can be manually set to control the flow rate of chemical feed and, where needed, a timer can be manually set to control the start time and run time of the pump. The chemical conditioning system for the HRSGs shall be sized to maintain the proper amount of chemical conditioning at the applicable full condensate flow rate. The pump discharges shall be provided with pressure gauges and back pressure valves. Each set of pumps shall be provided with suction strainers and connections for a portable calibration column that shall be provided separately. Materials for the chemical feed pumps shall be fully compatible with the chemicals handled and the system operating conditions.

Cooling Tower Chemical Injection System

The cooling tower chemical injection system shall inject chemical solutions into the cooling tower circulating water for control of all necessary parameters.

Fire Protection System

The fire protection system shall provide the plant with detection, warning and means for controlling and extinguishing fires. It shall consist of a new water loop system tied into the existing loop, with yard hydrants, sprinkler, deluge, dry-pipe, and standpipe systems. In buildings, the water systems shall be supplemented by portable extinguishers, "clean agent" or CO_2 gaseous systems. The plant control room and cable room will be equipped with an FM200 fire protection system.

The primary source of firewater is the raw water. Dedicated firewater shall be maintained in the existing Jack County 1 Filtered/Firewater Tank. The water supply for the permanent fire protection installation shall provide a 2-hour supply for the following items below, whichever is larger, plus a hose stream demand of not less than 500 gpm.

Compressed Air System

The compressed air system shall be a combined plant air/instrument air system, and shall supply clean, dry, oil-free air at the required pressure and capacity for all pneumatic controls, transmitters, instruments and valve operators, and clean, dry, oil-free compressed air for nonessential plant air requirements. The compressed air system shall include two 100% capacity air compressors (300 SCFM each).

Sanitary Waste System

The aerobic sanitary system shall collect sanitary waste from the administration and warehouse/ maintenance shop and route the waste to a sanitary lift station if gravity flow is not possible. The waste shall drain to a leach field. The aerobic sanitary system shall be designed to carry and treat the design flows for 46 personnel. The aerobic sanitary system shall be designed to comply with the applicable codes.

Plant Stormwater Collection/Discharge System

Stormwater collection basis shall be sheet runoff to inlets of storm sewer piping with low point collection. Rainfall detention shall be in accordance with state, county, or local authority requirements, if any. Rain water shall be collected and channeled to discharge points just outside plant boundary limits, where flow is returned to natural sheet flow.

Plant Security System

The existing plant security system shall control access to the plant. A minimum of four security cameras for Jack County Unit 2 expansion to include plant monitoring from the control room with camera maneuverability controlled from the control room via existing plant network system. The security monitoring system shall match existing system. The existing system has expansion capability.

Plant Telephone System

The plant telephone and data system shall be extended to each building (including CTG control cab, STG exciter housing, and CEMS shelter), shelter, Power Distribution Center (PDC), and vicinity of the three step-up transformers.

Plant Control System

The majority of the plant's control functions shall be incorporated into the plant DCS control system and will be located in a common control room with Jack County Unit 1; the use of local single loop and multi-loop controllers shall be kept to a minimum. Local microprocessor-based single and multi-loop controllers supplied as part of skid mounted equipment control systems are acceptable.

Delta V was the supplier for Jack County Unit 1 and is one of the vendors being considered for Jack County Unit 2.

The plant control system shall be a fully integrated microprocessor-based DCS. The technical and performance requirements for the design, manufacturing, assembly and testing of the DCS "Distributed Control System Specification."

The control system shall provide analog (modulating), and digital (on/off) control and monitoring of the facility equipment and systems. Sequence of events input points shall be provided to monitor and alarm various trip signals to support post-trip analysis.

The control system shall support both automatic and manual modes of operation, and shall provide the operator with real time information on equipment status and process variables via displays and/or printed logs. The control system operator stations shall provide the operator interface for plant monitoring and control functions.

In general, all motors with the exception of Supplier packaged equipment such as the CTG and STG shall be controlled via the DCS. Local motor control stations shall not be provided.

Standby equipment shall be selected for auto start by the operator through the DCS and shall automatically be placed into service when system conditions are beyond the parameters set for normal operation. Annunciation shall be standard whenever a "standby" piece of equipment is placed into service. Annunciation shall be adjustable to allow a clear alarm above ambient noise.

The control system shall automatically alarm, display and/or record on log printer(s) all out-of-limit and abnormal conditions. The control system shall support automatic historical data recording for report generation. The control system shall be supplied with, and be capable of AGC. Integration of overall plant AGC (i.e., unit one and unit two) to facilitate complete operation. All Programmable Logic Controllers (PLCs) shall be Allen Bradley 505 Control Logics. Communications channels to DCS shall use ABTCP

communication protocol. The control system will be provided with a battery-backup system and an uninterruptible power supply for high reliability.

CTG and STG Control Systems

Primary control of the CTGs and STG shall be via supplier provided control systems. The control system for each CTG shall be located in a supplier provided, environmentally controlled enclosure adjacent to the CTG. An operator station (human-machine interface or HMI) shall be provided locally with the CTG control system. The control system for the STG shall be located in one of the PDCs.

The HMIs shall integrate all of the displays and functions needed for real-time control and monitoring of the turbine generators. Two operator stations (Multi-unit HMIs) shall also be located in the central control room, each capable of monitoring/controlling any CTG/STG.

The DCS shall acquire the necessary operating parameters from each CTG/STG for data acquisition and/or historization purposes. The DCS shall also include overview screens for monitoring critical CTG/STG parameters. Control of critical loops from the plant DCS shall be via hard-wired signals between the CTG/STG control systems.

Continuous Emissions Monitoring System (CEMS)

A CEMS shall be provided for each HRSG stack. Each CEMS shall be installed in a prefabricated (factory-assembled) and temperature-controlled building. The CEMS is a system of instrumentation used to continuously monitor air pollutant concentrations in flue gas from the CTG/HRSG. The CEMS shall be designed to measure and record concentrations of NO_x, CO, NH_3 slip, and O_2 using fully extractive sampling technology. Instrumentation for measurement of stack gas flow is not included. Gas flow will be calculated based on gas turbine flow calculations. The CEMS shall comply with applicable requirements of final Facility Air Permit and 40 Code of Federal Regulations (CFR) Part 60 & Part 75.

High Voltage (HV) Switchyard

The transmission interconnection shall be tied to the Oncor 345-kilovolt (kV) line crossing the Jack County site. The project electrical scope ends at the high voltage bushings of each generator step-up transformer. The high voltage control and metering interface shall be as agreed to with Brazos Electric and/or Utility.

Net plant output revenue metering equipment shall be provided by Brazos Electric and shall be located at the Owner's or the Utility's substation. Net plant output revenue metering (V, +MW, +MWHR, +MVAR, +MVARH) shall be connected to the plant DCS using fiber optic communication equipment.

Power Transformers

The main transformers shall be two winding oil filled with ±2x2½% externally operable de-energized HV taps with 9% Z on the ONAN base as indicated on the Overall One Line Diagram. The 345-kV winding shall be rated 1050-kV BIL connected solidly grounded Wye with 1300-kV BIL composite bushings and the 18-kV winding shall be rated 150-kV BIL connected Delta. Transformer mounted or separately mounted HV station class metal oxide lightning arresters rated 220-kV MCOV shall be supplied with the main transformer.

Building and Enclosure Descriptions

The existing administration/control building will be utilized to house new control room equipment for Jack County Unit 2. The new warehouse building (7,100 square ft, nominal size is a new building constructed north of the existing administration/control building that will be of approximate dimension of 50-x-142 ft. The building will consist of an approximate 50-x-86-ft warehouse area, 24-x-31-ft maintenance area, break room, assorted offices, and restrooms.

The water treatment building/lab is a new building constructed north of the existing water treatment area and will be sized according to water treatment equipment plot requirements.

Fuel Gas Supply System and Diesel Fuel Storage and Handling System

Natural gas shall be used as the only fuel for each combustion turbine, duct burner and auxiliary boiler.

The Owner shall provide natural gas service to the gas yard on the Jack County Unit 2 pipe flange, which shall be located adjacent to the fuel gas metering area. The system shall include all piping and equipment from the natural gas interconnection flange near the Owner provided fuel gas metering and valve skid to the combustion turbines, duct burners, and auxiliary boiler. Fuel gas parameters from the fuel gas metering and valve skid shall be monitored in the DCS via a fiber optic communication link.

The temperature and pressure must meet the CTG, HRSG, and auxiliary boiler Original Equipment Manufacturer's (OEM) specification. Under no circumstance shall free moisture be allowed to enter the CTG combustion system (water or condensed hydrocarbons).

Natural gas supply shall not be piped to the administration/control building. Warehouse/maintenance building or any building/enclosure, and shall not be odorized.

Diesel fuel storage and handling facilities shall be limited to that required for the single diesel firewater pump driver and the back-up diesel generator. The diesel driver shall be furnished with a day storage tank on its base sufficient for 12 hours of run time. A containment curb to contain any spills from the fuel loading operation shall surround the diesel system.

Electrical Transmission

The proposed Jack County Unit 2 generation addition is located adjacent to an existing Oncor Electric Delivery Company 345-kV transmission line. An ERCOT Generation Interconnection Study was performed and concluded that: (i) 44 miles of 345-kV transmission line would need to be re-conductored or rebuilt; and (ii) terminal equipment at several locations would need to be upgraded to accommodate the Jack County Unit 2 generation addition, but construction of new transmission lines would not be required.

2.3 REQUIRED ENVIRONMENTAL PERMITS

Table 2-2 presents a summary of the various environmental permits that may be required for the proposed Jack County Power Plant Expansion Project. Information provided in the table includes the potential permit, authorization or clearance; the issuing agency; action required; estimated schedule to receive approval; and comments.

Table 2-2
Summary of Environmental Permitting Requirements

Regulated Area	Requirements	Issuing Agency	Action Required	Operationally Required By	Estimated Procurement	Comments
AIR QUALITY	General application for construction permits and amendments	TCEQ	Form 10400 Form PI-1, BACT Analysis Table PSD-1	Prior to start of construction	9–12 months	Incorporates NSR, construction dust control plan, PSD evaluation and minor source reviews under RACT standards.
	Title IV Acid Rain Permit	TCEQ/EPA	Form OPAR-1; Form OP-1 Form OP-CRO-1; Amend Certificate Of Representation	Prior to plant operation	24 months	Application for CEMS Certification as per Title IV permit
	Title V Federal Operating Permit	TCEQ/EPA	TCEQ FOP permit application	Prior to plant operation	12–24 months	Incorporates conditions for CEMS Certification application
	Risk Management Plan	N/A	See comments	See comments	See comments	Only required for emission of Hazardous Air Pollutants greater than 40 CFR Part 68 thresholds
WATER & WASTEWATER	Storm Water Construction General Permit (CGP) or TPDES CGP	TCEQ	• Develop storm water pollution prevention plan (SWPPP) • Performance Endangered Species Act(ESA) • Certification process. • Complete and submit Notice of Intent (NOI) form to apply for permit coverage.	Submit 48 hours prior to commencement of construction activity	Effective 48 hours after NOI postmark	Complete a Notice of Termination (NOT) form to discontinue permit coverage if final site stabilization has been achieved.
	TPDES Wastewater Discharge Permit	TCEQ	Submit permit application as per Form TCEQ – 10411/10055	Upon discharge of Industrial Waste Water	462 days	
	Industrial Storm Water Permit	TCEQ	File Notice of intent TCEQ	End of Construction and prior to start-up	See comments	Applicability will depend on facility location and design. Will also determine necessity for SWPPP development.
	On-site Sewage Facility (OSSF) permit	County of plant site	Pay Fees – Submit plans	Time of use	30 days	State Authorization handled by county or city or TCEQ in absence of local authority
	Public Drinking Water System I.D.	TCEQ	Retain certified water well driller	Time of use	30 days	State I.D. Number issued after authorization & completion of well
PETROLEUM STORAGE TANKS (PST)	Above Ground Storage Tank registration	TCEQ	Submit Form TCEQ-0724	Time of fuel delivery	60 days	
	Underground Storage Tank Registration	TCEQ	Submit Form TCEQ-0724	Time of fuel delivery	60 days	
U.S. ARMY CORPS OF ENGINEERS	Section 10/404 Permits	USACE	Submit Work Scope Proposal	Prior to Construction	6 months	Only required if discharging dredge or fill material or crossing waters of the U.S.
	Nationwide Permits	USACE	Submit Nationwide Permit Request	Prior to Construction	30 days	Avoidance of Wetlands & Jurisdictional 404 Water Permits
	Environmental Assessment/Environmental Impact Statement	USACE	Submit Assessment to RUS for approval	At least 30 days prior to construction	120 days	
MISCELLANEOUS	Federal Endangered Species Consultation	U.S. Fish & Wildlife Service	Presence/Absence Survey	Prior to Construction	1–3 years	Determined by site location and habitat. If not suitable habitat, no study required
	Determination of Obstruction Hazard	DOT FAA	File FAA Form 7460-1	Prior to construction	90 days	
	Cultural Resources Approval	Texas Historical Commission	See comments	Prior to construction	60 days	Submit archeological site survey to THC. If no significant findings work proceeds.

3.0 Alternatives

3.0 ALTERNATIVES

3.1 NO ACTION

With this alternative, Brazos Electric would not receive approval for financing from the RUS to construct the proposed Jack County Unit 2 facility. No on-site activities related to the construction of the proposed generation addition would occur, and thus the potential environmental impacts described in Section 5.0 would also not occur. The natural, human, and cultural resources on the proposed site would likely remain as they are described in Section 4.0 of this document. Under this alternative, the growing electrical demand in Brazos Electric's system would have to be met from other, unknown generation resources or by power purchases from other existing remote generation resources, if available. In the event market power is unavailable, or is in short supply, prices would increase substantially. If shortages are excessive, firm load shedding would be undertaken by all ERCOT market participants based upon their load ratio share.

3.2 PROJECT ALTERNATIVES

In 2006, Brazos Electric retained Black & Veatch to assist in the preparation of a long-range power supply study. As part of the 2006 Power Supply Study, Brazos Electric and Black & Veatch evaluated (i) a wide range of natural gas-fired and coal-fired generation technologies and plant sizes, (ii) renewable energy technologies, and (iii) proposals received in response to a request for proposals (RFP) for capacity and energy. Fossil-fuel technologies evaluated include natural gas-fuelled simple cycle combustion turbines and combined cycle configurations, and coal-fueled pulverized coal, circulating fluidized bed, and integrated gasification combined cycle units. Renewable technologies evaluated include solid biomass, biogas, wind, solar and hydroelectric. RFP responses were sought for renewable energy, conventional generating units, and nuclear; however, no nuclear or renewable alternatives were proposed.

As part of the 2006 Power Supply Study, Brazos Electric developed and issued a Request for Proposals and Joint Capacity Development Expressions of Interest (2006 RFP) for (i) unit contingent power sales from existing or proposed units to be owned by or under the control of the respondent, (ii) offers for Brazos Electric to participate in the ownership of respondent's existing units or planned units to be built by the respondent, (iii) a system power sale by an electric utility or a nonutility generator owning multiple units, or (iv) expressions of interest in joint ownership in a possible Brazos Electric capacity option to be built by Brazos Electric in the future. Brazos Electric's 2006 RFP was developed in compliance with 7 CFR 1710.254. RUS's Power Resource & Planning Branch reviewed the 2006 RFP, and RUS's comments were incorporated prior to publication. Notice of the 2006 RFP was published in *USA Today*, *Wall Street Journal* and *MW Daily* on three successive days during August 2006.

As the result of the 2006 RFP process, Brazos Electric pursued negotiations and reached agreements with LS Power for 375 MW of capacity and energy from Sandy Creek, a 900-MW supercritical pulverized coal generating plant to be constructed near Riesel in McLennan County, Texas. Sandy Creek is

scheduled to begin commercial operations in July 2012. Discussions are continuing with two other entities that provided coal-based proposals.

The 2006 Power Supply Study recommendations included the following:

- Brazos Electric's needs for capacity and economical energy justify the addition of a combination of baseload, intermediate, and peaking self-build generation resources and long-term PPAs, as well as continued short-term purchases of fixed-priced forward energy contracts and call options.
- Brazos Electric's needs for capacity and economical energy justify the addition of both coal fired and natural gas-fired generating resources in order to maintain a balanced and diverse fuel supply.
- Brazos Electric should perform detailed analyses and conceptual design studies necessary for environmental permitting of CC unit additions at the existing Jack County and Johnson County brownfield sites. Because these are existing sites, the length of time and cost to bring new units to commercial operation should be less than those for a greenfield development.

In response to the 2006 Power Supply Study recommendations, Brazos Electric retained Fluor Enterprises, Inc., to perform conceptual design studies for natural gas-fired combined cycle unit additions at the Jack County and Johnson County Generating Facilities, and at an as yet undetermined greenfield site (Greenfield CC). The estimated capacity, capital costs, and cost per kilowatt for these unit self-build alternatives were used in the final evaluation of the alternatives.

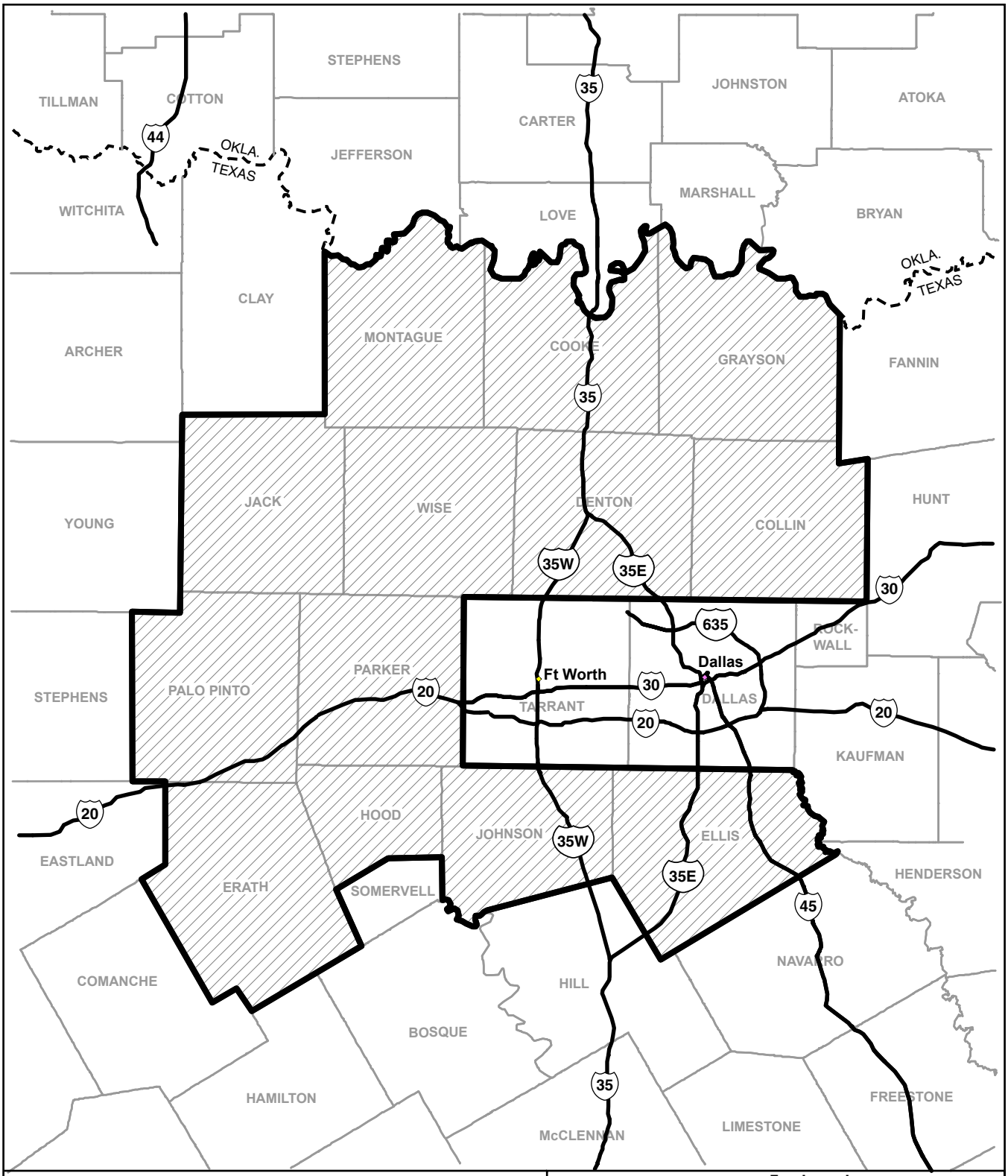
Brazos Electric analyzed three alternatives for constructing capacity to serve its system load requirements: installation of (i) a nominal 600 MW 2x1 combined cycle gas-fired unit, including duct-fired capacity, (Jack County Unit 2), (ii) a 275 MW 1x1 combined cycle gas-fired unit, including duct-fired capacity (Johnson County II), and (iii) a 1,200 MW 2x2x1 combined cycle gas-fired unit, including duct-fired capacity (greenfield alternative). Brazos Electric also analyzed updated power supply proposals from three independent power producers. Jack County Unit 2 was ranked as the best alternative because it had the lowest evaluated cost and highest ranking for qualitative factors.

3.2.1 Site Selection Study

Burns & McDonnell performed a Power Plant Site Selection Study (2002 Study) for Brazos Electric in 2002. The Site Selection Study Area is shown on Figure 3-1. The study identified sites in north central Texas for the potential development and construction of future generating resources.

In 2007, Burns & McDonnell provided an Update to 2002 Power Plant Site Selection Study (2002 Study Update) in order to evaluate the existing Jack County and Johnson County generating stations utilizing the same methodology as the 2002 Study. Burns & McDonnell's conclusions reached from the 2002 Study Update are presented below:

For convenience, these conclusions are organized by their primary subject matter.



PBS&J
• Engineering
• Environmental Consulting
• Surveying

Figure 3-1

SITE SELECTION STUDY AREA

JACK CO. POWER PLANT PROJECT

Base Map: DeLorme

File: I:\projects\hc1\bepc\441998\cad\figure3-1.ai

3.2.1.1 General

Subject to the limitations that may be imposed by regulatory and permitting agencies, both the Jack County and Johnson County site areas are capable of accommodating the development and insertion of additional gas-fired generation. Both sites scored very well in relative comparison to previously examined sites in the 2002 Study and either site appears to be a viable option.

3.2.1.2 Environmental

The existing air quality at both the Jack County and Johnson County sites is such that obtaining an additional air emissions permit for the proposed supplemental generation should be practical. However, based upon Johnson County's nonattainment status, there are minor differences between site areas in the relative ease of obtaining this permit.

It appears unlikely that conflicts with protected species will be a significant concern at either site area given the types of habitat available.

It appears unlikely that plant expansion would result in significant wetlands impacts at either site area.

3.2.1.3 Fuel Delivery

Although both site areas are located near multiple large diameter natural gas pipelines, this does not guarantee that the proposed site will have a reliable supply of natural gas. Some of these pipelines may lack the requisite delivery capacity or pressure. However, based on the quantity of pipelines and the presence of multiple entities near the sites, it is unlikely that significant upgrades would be required to support supplemental generation at either site.

Because the planned combined cycle generating units are targeted for intermediate service, they should have a high capacity factor. Because firm natural gas delivery may be unavailable at times, particularly during the peak winter heating season, a single interruptible natural gas delivery contract may not be acceptable for these generating units. Moreover, due to the rapid increase in residential and commercial development in the Dallas-Fort Worth (DFW) metropolitan area, the length or frequency of these interruptions are likely to increase in the future. Therefore, multiple gas delivery contracts are recommended to fuel the generating units in the event that a firm contract is unavailable.

3.2.1.4 Water Supply

The water requirements at a combined cycle generating unit are relatively high. The most practical water supply at the Jack County site is surface water. Delivery of additional water may require upgrades or renovations to the existing infrastructure in order to accommodate the additional influx of water.

Groundwater may be a potential water source at these site areas. A groundwater investigation and possible pump tests may be necessary in order to ascertain groundwater availability, quality, and dependability.

3.2.2 Natural Gas Supply and Transportation

The proposed Jack County Unit 2 generating facility is located in a natural gas producing region of North Texas. Brazos Electric's gas consultant, Black & Veatch, stated in a recent status update: "The Jack County generation facility is well positioned in the Texas (and U.S.) natural gas supply infrastructure to obtain the required supplemental natural gas fuel supply. Obtaining supply access is not a concern given the substantial growth that has occurred in the nearby Barnett Shale field and the associated natural gas pipeline infrastructure in place to move this production to market."

The expansion of the Jack County generation facility will require an increase in natural gas fuel deliverability into the facility. Deliverability increases can be obtained from expansion of existing pipeline/compression facilities, new pipeline/compression facilities and/or additional natural gas supply and transportation agreements. Brazos Electric has determined that firm natural gas transportation, storage, and other services are available from Energy Transfer Fuel Co., Natural Gas Pipeline Company of America, and Falcon Gas Storage Co. Supplies are available from various natural gas producers, gatherers, processors and marketers in north Texas and Oklahoma.

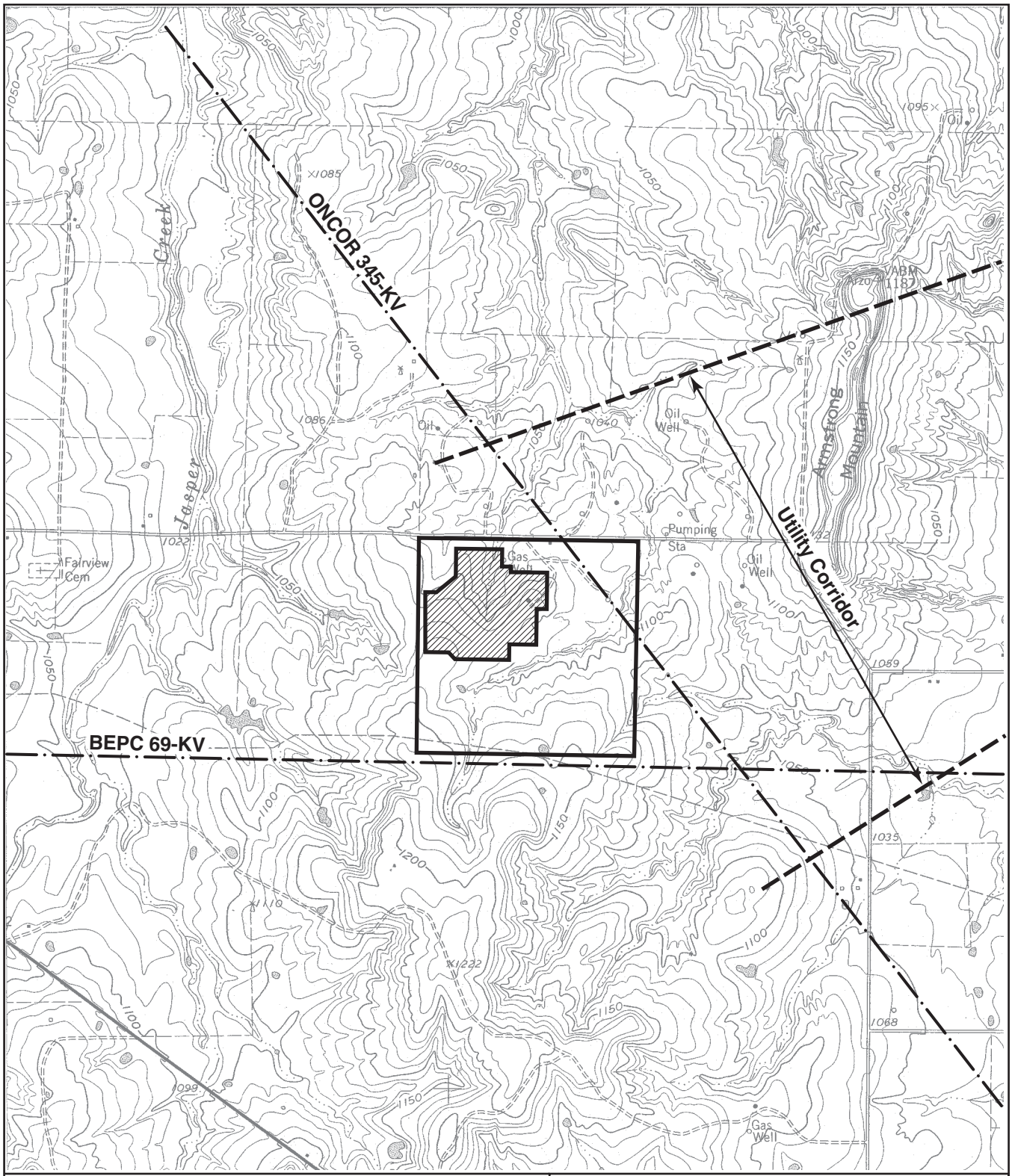
Any pipeline facilities constructed could be routed along existing electric transmission, or natural gas and water pipeline rights of way (ROW).

3.2.3 Water Supply

Brazos Electric contracted for over 4 million gallons per day (MGD) (4,533 ac-ft/year) of water supply from the Tarrant Regional Water District (TRWD) and Walnut Creek Special Utility District (Walnut Creek) for the Jack County Generation Facility. During 2007, Brazos Electric contracted with TRWD for an additional 1 MGD (1,120 ac-ft/year) of water supply. Additional water will also be available from Walnut Creek in 2012. With these additions, total available water supplies of 5,929 ac-ft/year are adequate to permit addition of a second combined cycle unit at the Jack County Generation Facility that utilizes a wet condenser and cooling towers.

3.2.4 Transmission

The proposed Jack County Unit 2 generation addition is located adjacent to an existing Oncor Electric Delivery Company 345-kV transmission line (Figure 3-2). An ERCOT Generation Interconnection Study was performed and concluded that: (i) 44 miles of 345-kV transmission line would need to be re-conductored or rebuilt; and (ii) terminal equipment at several locations would need to be upgraded to accommodate the Jack County Unit 2 generation addition, but construction of new transmission lines would not be required.



north

0 2000 4000 feet

Base Map: USGS 7.5' Quadrangle; Gibtown

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Figure 3-2

JACK COUNTY
POWER PLANT SITE

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4.0 Affected Environment

4.0 AFFECTED ENVIRONMENT

The following section describes the affected environment of the Jack County Power Plant site. This location hereafter is referred to as the Project Site (Figure 4-1).

New transmission lines are not required in order to transmit the output of Jack County Unit 2. Although other electrical transmission line connections between the Jack County site and the regional transmission system will likely occur in the future, their exact location and alignment are not known at this time. However, any additional transmission lines will have to be approved by the Public Utility Commission of Texas (PUC) and/or RUS, and will undergo an environmental review at that time.

4.1 CLIMATOLOGY AND AIR QUALITY

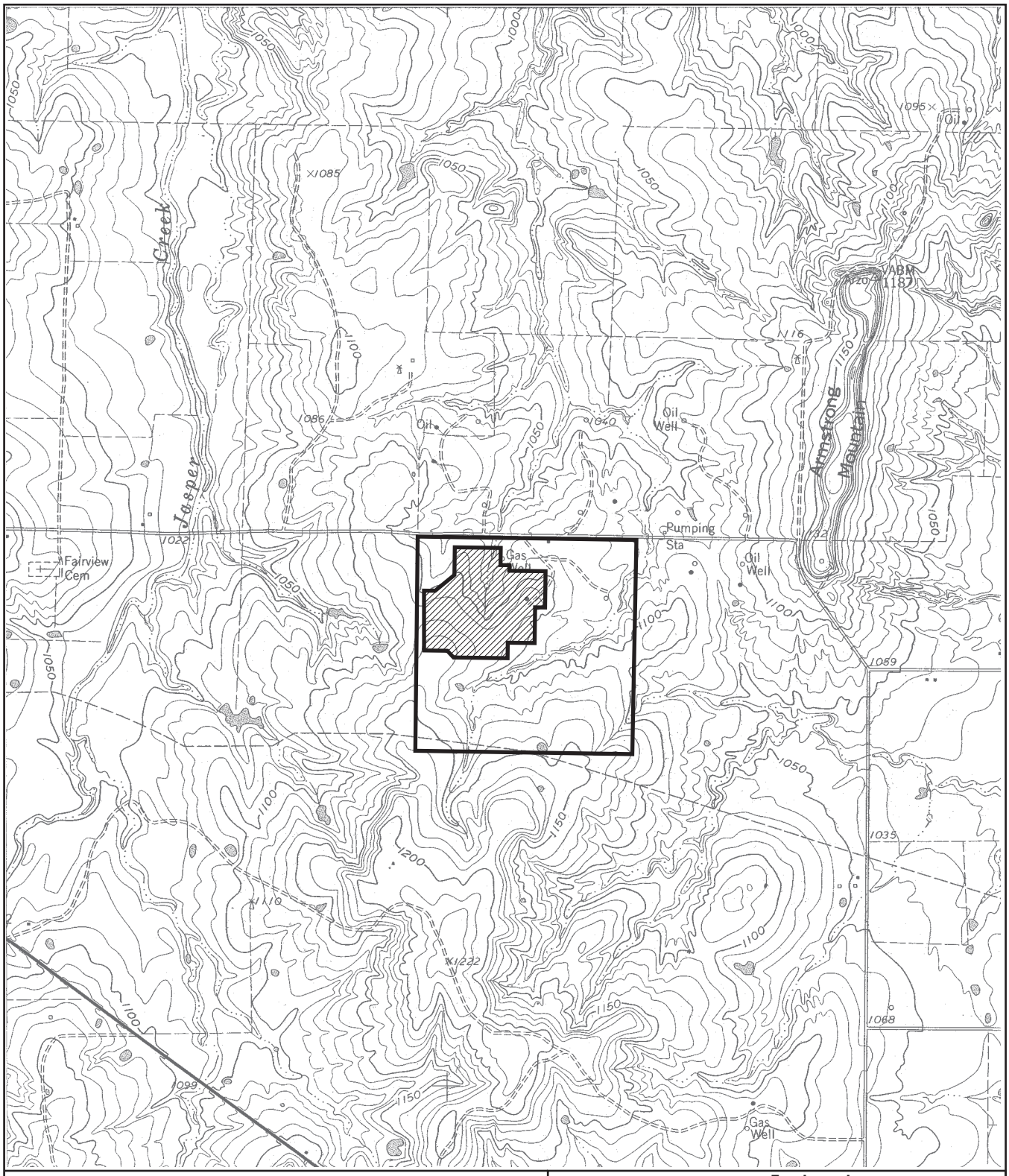
4.1.1 Climatology

The project area is located in Jack County, northwest of the DFW metroplex in north central Texas, approximately 250 miles north of the Gulf of Mexico. Winters are mild, but "blue northers" occur about three times each year, and often are accompanied by sudden drops in temperature. Periods of extreme cold that occasionally occur are short-lived, so that even in January mild weather occurs frequently (National Weather Service (NWS), 2003). Except where otherwise noted, the data presented here were collected from the Climatic Atlas of Texas (Texas Department of Water Resources (TDWR), 1983).

The annual average minimum and maximum temperatures are 52°F and 75°F, respectively. Historically, January is the coldest month, with a normal daily minimum temperature of 30°F, while July is the hottest month with normal daily maximum temperature of 94°F (Southern Regional Climate Center (SRCC), 2008)

Throughout the year, rainfall occurs more frequently during the night. Usually, periods of rainy weather last for only a day or two, and are followed by several days with fair skies. A large part of the annual precipitation results from thunderstorm activity, with occasional heavy rainfall over brief periods of time. Thunderstorms occur throughout the year, but are most frequent in the spring (NWS, 2003). The average annual precipitation is between 31 and 34 inches. Monthly rainfall averages range from approximately 1.3 inches in January to almost 5 inches in May (SRCC, 2008).

Based on seasonal surface wind data, the windiest season is spring with an average wind speed of 13 miles per hour (mph). The average annual wind speed for DFW is 10.25 mph (Bomar, 1983). The most frequent annual wind direction is south (based on a 16-point compass), occurring mostly during the summer and spring. Data for annual frequency distribution of wind direction was presented on a "wind rose" (TDWR, 1983), where the wind radials for each direction represent the percentage of time during the year when the wind flows from that direction.



Base Map: USGS 7.5' Quadrangle; Gibtown

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Figure 4-1

PROJECT SITE

JACK COUNTY POWER PLANT EXPANSION

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The primary meteorological factors, which characterize the dispersion of air pollutants in the project area, are surface wind, atmospheric stability, mixing layer height, transport wind, and the frequency of stagnating anticyclones.

Atmospheric stability is determined by the vertical motion of the lower atmosphere, resulting from thermal and mechanical turbulence, which act to disperse air pollutants. Unstable conditions (when vertical mixing is enhanced) or neutral, windy conditions are most likely to produce maximum short-term ground level air pollutant concentrations originating from elevated buoyant emissions sources such as from power plant exhaust stacks. Stable conditions (when vertical mixing is suppressed) can result in greater impacts for continuous ground-level releases such as from area sources such as dry cleaners and paint shops.

Mixing layer heights and transport wind speeds determine the volume through which pollutants can eventually be mixed. Low mixing heights can result in high concentrations of pollutants through trapping of pollutant plumes or decreased dilution of area source emissions. In general, the greater the mean mixing height and transport wind speed, the less the impact of air pollutant emissions. Maximum concentrations of air pollutants can occur at ground level during periods of a high pressure system in the surrounding area.

4.1.1 Air Quality

National Ambient Air Quality Standards (NAAQS)

The Clean Air Act (CAA), which was last amended in 1990, regulates air emissions from area, stationary, and mobile sources. The CAA requires the U.S. Environmental Protection Agency (EPA) to establish NAAQS for pollutants considered harmful to public health and the environment. The CAA establishes two types of national air quality standards. Primary standards define the maximum levels of air quality that the EPA judges necessary, with an adequate margin of safety, to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards define the maximum levels of air quality the EPA judges necessary to protect public welfare, including protection against decreased visibility, and damage to animals, crops, vegetation, and buildings. Air quality is generally considered acceptable if pollutant levels are less than or equal to these established standards on a continuing basis.

The EPA has set NAAQS for seven principal pollutants, called "criteria" pollutants. They are carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), lead (Pb), inhalable particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns (PM_{10}), fine particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 microns ($PM_{2.5}$), and sulfur oxides (SO_2). Allowable limits for various pollutants may be accessed by referring to *National Ambient Air Quality Standards* as per 40 CFR 50.

Prevention of Significant Deterioration (PSD) of Ambient Air Quality

For areas that have attained the NAAQS, the CAA provides for a New Source Review (NSR) permitting program to ensure that no significant deterioration of existing air quality will result from the construction of new emission sources and from the modification of existing emission sources. Pursuant to the CAA, the EPA has promulgated PSD regulations, which provide for a preconstruction review by the state air quality agency of "major" emission sources of air pollutants that are regulated under the CAA. For 28 designated sources of air contaminants, a "major" stationary source is defined as a stationary source, which has the potential to emit 100 tons per year or more of any of the pollutants regulated under the CAA, including any fugitive emissions (nonstationary source). Other stationary sources of pollutants are defined as "major" if the proposed emissions of any pollutant regulated by the CAA are 250 tons per year or more, excluding fugitive emissions.

New Source Performance Standards (NSPS)

The CAA requires the EPA to publish a list of categories of stationary sources, which in its judgment causes or contributes significantly to air pollution, such that they may reasonably be anticipated to endanger health or welfare. The EPA has established standards of performance for air emission sources within over 80 different source categories including standards of performance for stationary gas turbines and for steam generating units. These performance standards reflect the degree of emission limitation and the percentage reduction achievable through application of the best technological system of continuous emission reduction.

National Emission Standards for Hazardous Air Pollutants (NESHAPs)

In the amendments to the CAA in 1990, a list of 188 Hazardous Air Pollutants (HAPs) was established, and a list of emission source categories, for which new emission standards were to be written, was promulgated by the EPA. The new standards are being proposed and promulgated by the EPA under 40 CFR 63 and are known as Maximum Achievable Control Technology (MACT) standards. In promulgating these emission standards, the EPA uses a "technology-based" and performance-based approach to significantly reduce emissions of air toxics from major sources of air pollution. Under this technology-based approach, EPA developed standards for controlling the routine emissions of air toxics from each major type of facility within a source category. These MACT standards are based on emissions levels that are already being achieved by the better-controlled and lower-emitting sources in an industry. To date the EPA has promulgated over 100 MACT standards. These include standards for stationary combustion turbines and boilers and market driven standards such as the Clean Air Interstate Rule that are applicable to the proposed power plant project.

State Implementation Plan (SIP) for PM_{10}, SO_2, VOC, NO_x, and CO

The CAA also requires that results of the ambient air quality monitoring data be used by the EPA to assign a designation of areas of the U.S. regarding compliance with the NAAQS. For each criteria pollutant, the EPA categorizes the level of compliance or noncompliance with the NAAQS as follows:

- Attainment – area currently meets the NAAQS
- Maintenance – area currently meets the NAAQS, but has previously been out of compliance
- Nonattainment – area currently does not meet the NAAQS

Ozone nonattainment areas are further classified as extreme, severe, serious, moderate, or marginal depending on the severity of nonattainment.

Under the CAA, individual states were required to develop a SIP to define the strategies for assessing and maintaining the NAAQS. The Texas Commission on Environmental Quality (TCEQ) has the responsibility for developing the SIP with approval by the EPA. For areas that are in nonattainment with the NAAQS, the SIP describes how the area will reach attainment of the air quality standards. The SIP sets emissions budgets for point sources such as power plants and manufacturers, area sources such as dry cleaners and paint shops, off-road mobile sources such as boats and lawn mowers, and on-road sources such as cars, trucks, and motorcycles.

The TCEQ PM_{10} SIP rules are contained in 30 Texas Administrative Code (TAC) Chapter 111, "Control of Air Pollution From Visible Emissions and Particulate Matter." As applicable to a proposed power plant project, this rule restricts the opacity of emissions from the exhaust of the combustion units.

The SO_2 SIP rules are contained in TAC Chapter 112, "Control of Air Pollution from Sulfur Compounds." As applicable to the proposed power plant project, this regulation establishes a net ground level concentration limit for SO_2 of 0.4 ppmv averaged over any 30-minute period.

Existing Air Quality

Air quality data are available from a monitoring station located in Weatherford, Texas, approximately 20 miles southeast of the project area. For more information with regard to this monitor's location and operational parameters, refer to http://www.tceq.state.tx.us/cgi-bin/compliance/monops/site_info.pl.

The dispersed nature of emissions in the area and the large distances to major industrial areas ensure generally good air quality for the project area. According to the most recent update of the 40 CFR 81, the EPA has designated the project area as either "attainment" or "unclassified" for all six criteria pollutants. The area around the project area is Class II for PSD purposes. No PSD Class I areas are within 100 kilometers of the project area.

4.2 GEOLOGY AND SOILS

The topography within the 200-ac property boundary is gently rolling with elevations ranging from approximately 1,070–1,150 ft above mean sea level (msl). The 50-ac generation site has been graded to approximately 1,100 ft msl, leveled, and prepared for the power generation equipment and associated auxiliary equipment.

4.2.1 Geology

The power plant site overlies Cretaceous Age deposits of the Twin Mountains Formation. This formation is composed of sand, clay, and conglomerate. The sand found within the Twin Mountains Formation is brownish-yellow in color, and locally weathers to red. The clay found within this formation is red, gray, and green in color and ranges from thin-bedded to massive. The conglomerate is composed of chert, quartz, and quartzite clasts. The thickness of the Twin Mountains Formation is 175 to 200 ft (Bureau of Economic Geology (BEG), 1967).

4.2.2 Soils

The General Soil Map for Jack County (Soil Conservation Service (SCS) now the Natural Resources Conservation Service (NRCS), 1973) was used to identify and characterize the soils that encompass the project area. The SCS has mapped the soil associations that occur within Jack and Wise counties and consequently in the project area. A soil association is where taxonomic soil units occur together in individual and characteristic patterns within the same geographical area.

The power plant site is situated on soils of the Duffau-Windthorst Association. This soil association is described as gently sloping to sloping on deep, loamy and sandy upland soils. Soils of the Duffau series consist of deep, loamy, and sandy soils on uplands. These soils formed in loamy sediment or weakly cemented sandstone. Windthorst soils consist of deep, loamy soils on erosional uplands that formed in stratified clayey and loamy material (SCS, 1973).

4.2.3 Prime Farmland

Prime farmland is defined by the Secretary of Agriculture in 7 USC 4201(c)(1)(A) as land that has the best combination of physical and chemical characteristics for producing food, fiber, or seed and is also available for these uses (i.e., the land could be used as cropland, pastureland, rangeland, forestland, but not land that is developed or under water). It has the soil quality, growing season, and moisture supply needed to economically sustain high yields of crops when treated and managed properly (SCS, 1978).

A review of the U.S. Department of Agriculture's (USDA) Prime Farmlands of Texas list (USDA, 1992) shows that the Duffau and Windthorst soil associations within the project area contain soils that are considered prime farmland soils. However, according to unpublished NRCS soil maps and files, there are no prime farmland soils on the power plant site (Greenwade, 2003).

4.3 WATER RESOURCES

The project area lies entirely within the Trinity River Basin. This basin is bounded on the north by the Red River, on the east by the Sabine and Neches rivers, on the west by the Brazos and San Jacinto rivers, and on the south by the Neches-Trinity Coastal Basin. The Trinity has an overall length of approximately 550 river miles and drains an area of approximately 17,969 square miles (Texas Water Development Board (TWDB), 1997).

4.3.1 Surface Water Quality

Lake Bridgeport, a large impoundment on the Trinity River, is the nearest water reservoir, located approximately five miles northeast of the Jack County Power Plant site. The conservation pool of Lake Bridgeport is 836.0 ft msl and covers a surface area of 13,000 ac. It has a capacity of 386,420 ac-ft, and supplies an average of 79,000 ac-ft of water to surrounding communities. TRWD (formerly Tarrant County Water Control and Improvement District No. 1), presently owns and operates Lake Bridgeport and is charged with providing raw water to the cities of Arlington, Mansfield, and Fort Worth, which then sell drinkable water to many of the other cities in Tarrant County. The district also provides water to entities in Wise County (TWDB, 1997).

Water quality samples from monitoring stations in Lake Bridgeport were collected by the TWDB in 1994. Water from several stations located from Bridgeport Dam in Wise County, to a point immediately upstream from the confluence of Bear Hollow in Jack County, and up to the normal pool elevation of 836 ft, was evaluated. The results indicated that effluent was of a limited amount and that contact recreation and the public's water supply was acceptable (TCEQ, 1994) (formerly Texas Natural Resource Conservation Commission).

4.3.2 Floodplains

The Federal Emergency Management Agency (FEMA) has designated 204 cities within the Trinity River Basin as having one or more potential flood-prone areas within their respective boundaries. Identification and mapping of these areas continues at a rapid pace and as each critical area is mapped, the municipality in each of these areas normally becomes a participant in the National Flood Insurance Program (NFIP). As more communities enter the program and future rating studies are completed, a comprehensive basin-wide standard will emerge (TWDB, 1984).

Jack County does not participate in the NFIP, administered by FEMA, therefore no 100-year floodplains have been mapped for any streams within the project vicinity. However, no low-lying areas traverse the project site other than small intermittent drainages.

4.3.3 Groundwater

This section evaluates the groundwater in north-central Texas, particularly in Jack County and within the project vicinity. Groundwater information has been obtained from published and nonpublished reports, field surveys, aquifer tests, and surrounding wells, and on-site well information.

4.3.3.1 Regional Characteristics

Underlying a broad region of Texas, the Trinity Aquifer extends from south-central Texas to the Red River in north Texas. It supplies water to all or part of 55 counties in Texas including Jack County and the project vicinity. It formed during the early Cretaceous period and is composed of a group of formations: (from youngest to oldest), the Paluxy, Glen Rose, and Twin Mountains. The outcrop or updip portion of

the aquifer underlies the project area and is the place where the Glen Rose is thin or missing but where the Paluxy and Twin Mountains coalesce to form the Antlers Formation. The Antlers consists of up to 900 ft of sand and gravel, with clay beds in the middle portion (TWDB, 1995).

Water from the Antlers is primarily used for both municipal and irrigation needs in north-central Texas. Yields of large-capacity wells average about 430 gpm, with some areas yielding more than 2,000 gpm (TWDB, 1984). During the 1970s, groundwater withdrawals from the Trinity Group Aquifer caused water level declines of 19 to 32 ft per year within the Trinity River Basin. Reductions in artesian pressures that result from lowered water tables significantly increased the potential for saline-water encroachment in Denton, Tarrant, and Dallas counties (TWDB, 1984). In 1980, 7,360 MW of steam electric generating capacity in the Trinity River Basin was recorded for industrial use and a total of 1,100 ac-ft of groundwater withdrawn for such purposes. In addition, approximately 45,900 ac-ft of surface water was consumed and 320 ac-ft of treated municipal effluent used for cooling electric power plants (TWDB, 1984).

Other groundwater uses in the past have included a total of 79,900 ac-ft of water withdrawn for irrigating 34,400 ac in the Trinity River Basin in 1980, although this amount was predominately used in the coastal rice belt. Estimated fresh water use for mining purposes in the Trinity River Basin totaled 17,300 ac-ft in 1980 with most of this concentrated in Wise, Dallas, and Liberty counties (TWDB, 1984).

Generally, groundwater is acceptable for municipal uses; however, extensive development in the DFW region has caused water levels in the Trinity Aquifer to drop as much as 550 ft. For these reasons, municipalities of the region have begun to abandon public supply wells in favor of surface water supplies (TWDB, 1984).

4.3.3.2 Groundwater Recharge and Local Aquifer Conditions

The primary source of groundwater in the Antlers Formation is precipitation along the outcrop. The average annual precipitation is approximately 32 inches and the mean temperature about 64°F. Surface water seepage from lakes and streams on the outcrop is also a significant source of groundwater. The rate of movement of water through the aquifer depends upon the permeability, porosity, and the hydraulic gradient; however, the average rate of movement of water in the Antlers is about 1 to 2 ft per year (TWDB, 1982).

4.3.3.3 Groundwater Movement and Water Quality

Groundwater occurs primarily within sand and sandstone units of the Twin Mountains and Antler formations and exits under water table conditions along the outcrop and under artesian conditions where confining beds of limestone, shale, and clay overlie the water-bearing units. Movement of groundwater is primarily down gradient, from high to low elevations, and at right angles to the contours that denote the configuration of the water table. Movement is also to the east and, locally, away from groundwater highs and towards the surface drainage system (TWDB, 1988).

Eight sample wells (three in Jack County) completed in the Trinity Aquifer Group were collected as a part of a study conducted by TWDB and all tests were completed in the Twin Mountains Formation. Due to the lack of samples available in the project area, only general statements of water quality can be derived from the study. Results demonstrated that sulfate content averaged 142 milligrams per liter (mg/L) with 1 of the 8 samples exceeding 300 mg/L. Chloride content averaged 172 mg/L with 2 of the 8 samples greater than 300 mg/L. Fluoride and nitrate content was low. Hardness seemed to be the main problem with an average hardness of $CaCO_3$ of 528 mg/L. Dissolved solids content averaged 883 mg/L. All samples would be classified as very hard (greater than 180 mg/L) (TWDB, 1988).

4.4 ECOLOGY

4.4.1 Vegetation

4.4.1.1 Regional Vegetation

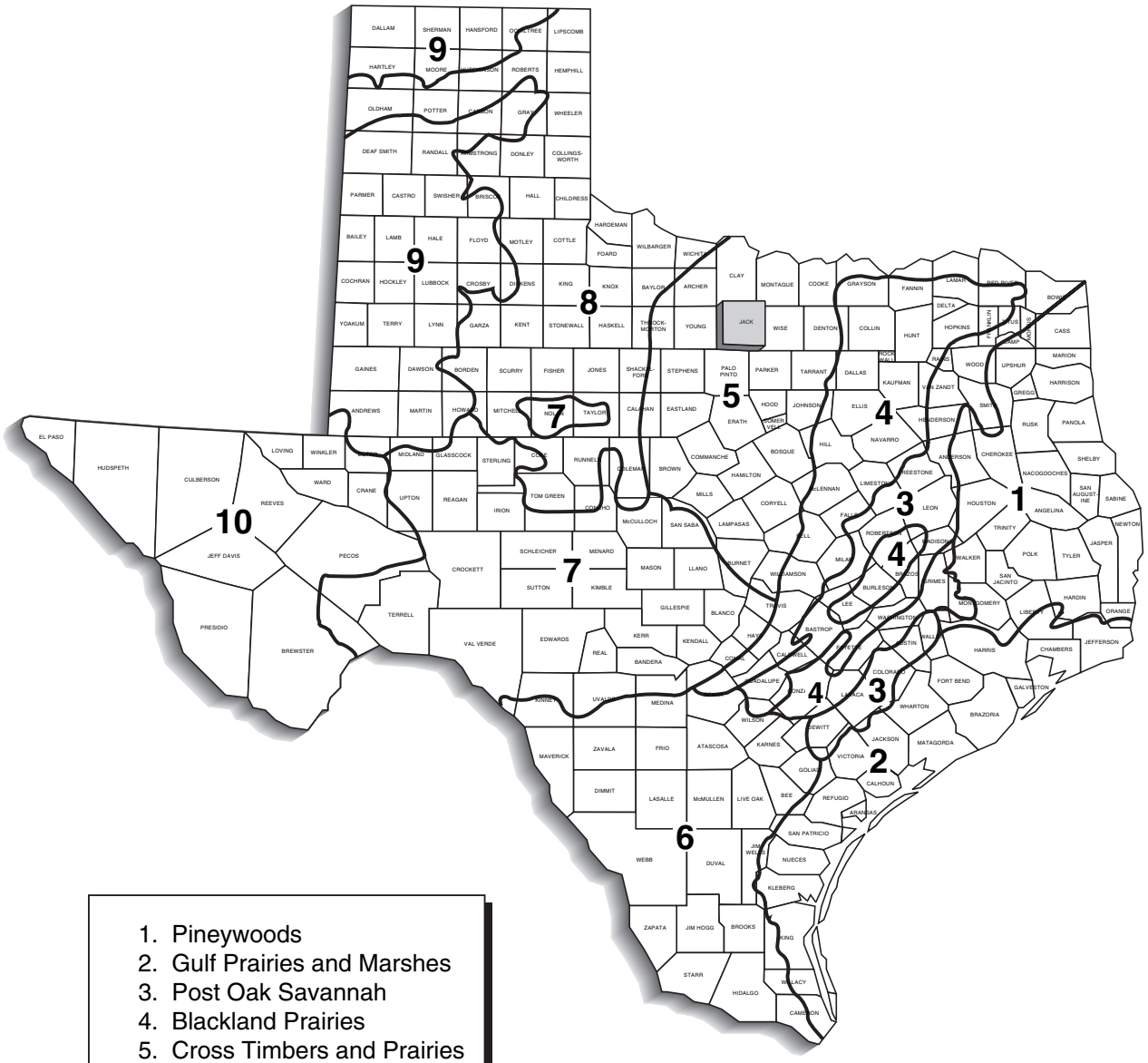
As shown on Figure 4-2, the project vicinity lies within the Cross Timbers and Prairies Vegetational Area of Texas, as delineated by Gould (1975). The Cross Timbers and Prairies are bordered by the Blackland Prairies to the east and the Rolling Plains immediately to the west. Climax vegetation is mainly composed of big bluestem (*Andropogon gerardii* ssp. *gerardii*), little bluestem (*Schizachyrium scoparium* var. *scoparium*), yellow indiangrass (*Sorghastrum nutans*), switchgrass (*Panicum virgatum*), Canada wildrye (*Elymus canadensis*), minor amounts of sideoats grama (*Bouteloua curtipendula* var. *caespitosa*), blue grama (*Bouteloua gracilis*), hairy grama (*Bouteloua hirsuta*), Texas wintergrass (*Nassella leucotricha*), and buffalograss (*Buchloe dactyloides*). Approximately 75% of this area is used as range and pasture, and the major crops in this vegetational area are peanuts, fruits, sorghum, wheat, oats, corn, and forages. The predominant livestock activities are beef cattle and cow-calf operations (Hatch et al., 1990).

4.4.1.2 Vegetation Community Types in the Project Area

A majority of the power plant site was cleared during the initial phases of construction and currently consists of undeveloped, cleared land, with little native vegetation. Vegetation communities present within the project area prior to clearing included pastureland, upland woodland, and riparian woodland. Dominant species within the pastureland community included bermudagrass (*Cynodon dactylon*), western ragweed (*Ambrosia psilostachya*), oldfield threeawn (*Aristida oligantha*), some honey mesquite (*Prosopis glandulosa*), and various other native herbaceous vegetation. Dominant species within the upland woodland community consisted of post oak (*Quercus stellata*), blackjack oak (*Quercus marilandica*), and some live oak (*Quercus virginiana*). The riparian woodland community associated with a tributary to Jasper Creek consisted of post oak, blackjack oak, hawthorn (*Crataegus* sp.), and greenbriar (*Smilax* sp.).

4.4.1.3 Important Species

Important species are defined as those that (a) are commercially or recreationally valuable; (b) are threatened or endangered; (c) affect the well-being of some important species within criterion (a) or



1. Pineywoods
2. Gulf Prairies and Marshes
3. Post Oak Savannah
4. Blackland Prairies
5. Cross Timbers and Prairies
6. South Texas Plains
7. Edwards Plateau
8. Rolling Plains
9. High Plains
10. Trans-Pecos

north

100 0 100 200

scale in miles

Source: Hatch et al., 1990

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Figure 4-2

LOCATION OF JACK COUNTY
IN RELATION TO THE
VEGETATIONAL AREAS OF TEXAS

JACK COUNTY POWER PLANT EXPANSION

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criterion (b); or (d) are critical to the structure and function of the ecological system, or are biological indicators. No commercially important species were encountered within the power plant site.

4.4.1.4 Ecologically Sensitive Areas

In general, an area may be considered ecologically sensitive if: 1) it supports a rare plant or animal community or a rare, threatened, or endangered species; 2) it is valuable due to its maturity and the density and diversity of plants and animals it contains; or 3) it supports a community of plants adapted to flooding and/or saturated soil conditions and dominated by species considered to be wetland indicators by a regulatory agency (e.g., U.S. Army Corps of Engineers (USACE)).

The Texas Parks and Wildlife Department's (TPWD) Texas Biological and Conservation Database System (TXBCD, now the Texas Natural Diversity Database [TXNDD], 1990) described and classified 78 plant communities at the series level within Texas, based on dominant species. TPWD ranked these series according to conservation needs and designated them as endangered, threatened, apparently secure, and secure (Diamond et al., 1987). According to TXNDD (2007), no unique natural plant community series occur in the vicinity of the project area. Other sensitive areas, such as regulatory wetlands, are discussed in Section 4.4.3.

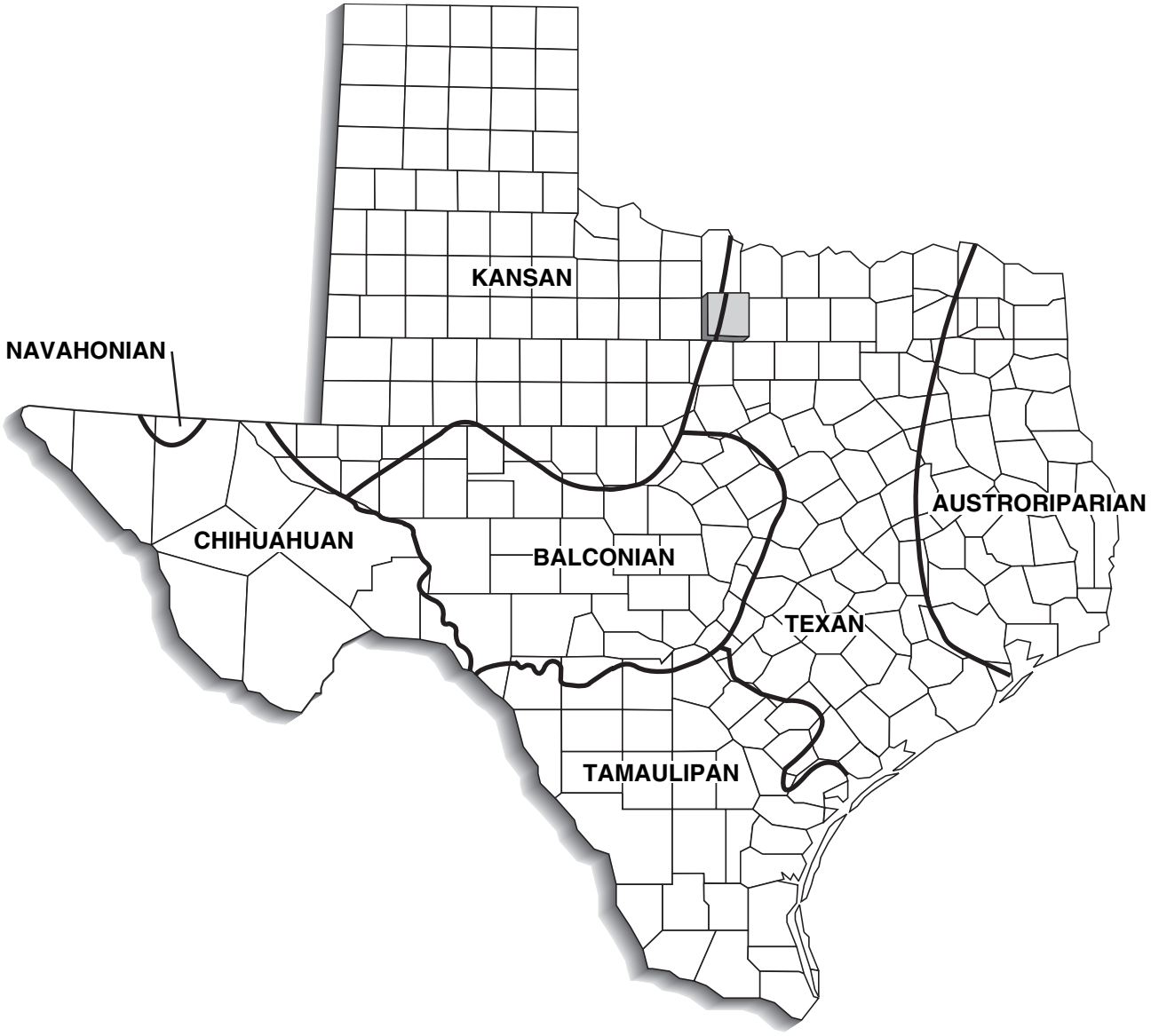
4.4.2 Wildlife

4.4.2.1 Terrestrial Species

As shown on Figure 4-3, the project area counties lie primarily within the Texan Biotic Province with a small western portion of Jack County within the Kansan Biotic Province, as described by Blair (1950). As the project area only occurs within the Texan Biotic Province, the following text only addresses resources for this province. This province represents a transitional area between the forested Austroriparian Biotic Province to the east and grassland provinces to the west. Such integration of forests and grasslands results in a mixture of vertebrate species typical of the two general habitats. At least 49 species of mammals are known to have occurred in the Texan province in recent times, in addition to 39 snake species, 16 lizards, two land turtles, 18 anurans (frogs and toads), and five urodeles (salamanders and newts) (Blair, 1950). There are no endemic vertebrate species in this region.

According to Blair (1950), only five urodele species occur in the Texan Biotic Province, which is a barrier to the distribution of the endemic urodele fauna that occurs in the Balconian Biotic Province to the west and the fauna of the Austroriparian province to the east. The five urodele species found in the Texan Biotic Province also occur in the Austroriparian Biotic Province. According to Dixon (2000), no documented records of any urodele species exist from Jack County.

Anuran species expected to occur in the project area include Blanchard's cricket frog (*Acris crepitans blanchardi*), Strecker's chorus frog (*Pseudacris streckeri*), Woodhouse's toad (*Bufo woodhousii*), eastern green toad (*Bufo debilis debilis*), red-spotted toad (*Bufo punctatus*), Texas toad (*Bufo speciosus*), American bullfrog (*Rana catesbeiana*), southern leopard frog (*Rana sphenocephala utricularia*), Hurter's



north

100 0 100 200

scale in miles

Source: Blair, 1950

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Figure 4-3

LOCATION OF JACK COUNTY
IN RELATION TO THE
BIOTIC PROVINCES OF TEXAS

JACK COUNTY POWER PLANT EXPANSION

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spadefoot (*Scaphiopus hurterii*), Couch's spadefoot (*Scaphiopus couchi*), Cope's gray treefrog (*Hyla chrysoscelis*), and gray treefrog (*Hyla versicolor*) (Dixon, 2000; Bartlett and Bartlett, 1999).

Common reptiles expected to occur in the project area include turtles such as the red-eared slider (*Trachemys scripta elegans*), razor-backed musk turtle (*Sternothorus carinatus*), yellow mud turtle (*Kinosternon flavescens*), Texas river cooter (*Pseudemys texana*), and ornate box turtle (*Terrapene ornata*); and lizards such as the eastern six-lined racerunner (*Aspidoscelis sexlineata sexlineata*), prairie lizard (*Sceloporus consobrinus*), Texas spotted whiptail (*Aspidoscelis gularis gularis*), eastern collard lizard (*Crotaphytus collaris*), Texas spiny lizard (*Sceloporus olivaceus*), Texas horned lizard (*Phrynosoma cornutum*), great plains skink (*Eumeces obsoletus*), and little brown skink (*Scincella lateralis*) (Dixon, 2000; Bartlett and Bartlett, 1999).

Snakes of the project area include the eastern yellow-bellied racer (*Coluber constrictor flaviventris*), Texas ratsnake (*Elaphe obsoleta*, Baird's ratsnake (*Elaphe bairdi*), western coachwhip (*Masticophis flagellum testaceus*), diamond-backed watersnake (*Nerodia rhombifer*), blotched watersnake (*Nerodia erythrogaster transversa*), bullsnake (*Pituophis catenifer sayi*), prairie ring-necked snake (*Diadophis punctatus arnyi*), Texas long-nosed snake (*Rhinocheilus lecontei*), variable groundsnake (*Sonora semiannulata semiannulata*), Texas brownsnake (*Storeria dekayi texana*), checkered gartersnake (*Thamnophis marcianus*), western ribbonsnake (*Thamnophis proximus*), rough earthsnake (*Virginia striatula*); and several venomous species such as the broad-banded copperhead (*Agkistrodon contortrix laticinctus*), western cottonmouth (*Agkistrodon piscivorus leucostoma*), and western diamond-backed rattlesnake (*Crotalus atrox*) (Dixon, 2000; Tennant, 1998).

Numerous avian species may occur within the project area. Common bird species of potential occurrence include year-round residents such as the great blue heron (*Ardea herodias*), turkey vulture (*Cathartes aura*), black vulture (*Coragyps atratus*), red-tailed hawk (*Buteo jamaicensis*), killdeer (*Charadrius vociferus*), mourning dove (*Zenaida macroura*), belted kingfisher (*Megaceryle alcyon*), blue jay (*Cyanocitta cristata*), American crow (*Corvus brachyrhynchos*), black-crested titmouse (*Baeolophus atricristatus*), Carolina chickadee (*Poecile carolinensis*), northern mockingbird (*Mimus polyglottos*), northern cardinal (*Cardinalis cardinalis*), lark sparrow (*Chondestes grammacus*), red-winged blackbird (*Agelaius phoeniceus*), eastern meadowlark (*Sturnella magna*), great-tailed grackle (*Quiscalus mexicanus*), brown-headed cowbird (*Molothrus ater*), northern bobwhite (*Colinus virginianus*), and house sparrow (*Passer domesticus*) (Pulich, 1988; Lockwood and Freeman, 2004).

Many other species of birds migrate through the project area in the spring and fall or use the area for nesting (summer) or overwintering. Migrant/winter residents expected to occur in the project area include the double-crested cormorant (*Phalacrocorax auritus*), Canada goose (*Branta canadensis*), northern pintail (*Anas acuta*), gadwall (*Anas strepera*), ring-necked duck (*Aythya collaris*), lesser scaup (*Aythya affinis*), hooded merganser (*Lophodytes cucullatus*), northern flicker (*Colaptes auratus*), ruby-crowned kinglet (*Regulus calendula*), cedar waxwing (*Bombycilla cedrorum*), yellow-rumped warbler (*Dendroica coronata*), chipping sparrow (*Spizella passerina*), field sparrow (*Spizella pusilla*), vesper sparrow (*Pooecetes gramineus*), savannah sparrow (*Passerculus sandwichensis*), white-throated sparrow

(*Zonotrichia albicollis*), dark-eyed junco (*Junco hyemalis*), and American goldfinch (*Carduelis tristis*) (Pulich, 1988; Lockwood and Freeman, 2004).

Summer residents expected to occur in the project area include the yellow-billed cuckoo (*Coccyzus americanus*), chuck-will's-widow (*Caprimulgus carolinensis*), common nighthawk (*Chordeiles minor*), chimney swift (*Chaetura pelagica*), eastern kingbird (*Tyrannus tyrannus*), scissor-tailed flycatcher (*Tyrannus forficatus*), purple martin (*Progne subis*), barn swallow (*Hirundo rustica*), yellow-breasted chat (*Icteria virens*), summer tanager (*Piranga rubra*), blue grosbeak (*Passerina caerulea*), indigo bunting (*Passerina cyanea*), painted bunting (*Passerina ciris*), dickcissel (*Spiza americana*), and orchard oriole (*Icterus spurius*). Numerous other migrating species, such as shorebirds wintering on the Gulf coast, passerines wintering in Central America, and raptors and waterfowl, may pass through or over the project area during spring and fall migrations (Pulich, 1988; Lockwood and Freeman, 2004).

Mammals of potential occurrence in the project area include the Virginia opossum (*Didelphis virginiana*), least shrew (*Cryptotis parva*), eastern mole (*Scalopus aquaticus*), eastern red bat (*Lasiurus borealis*), Brazilian free-tailed bat (*Tadarida brasiliensis*), nine-banded armadillo (*Dasypus novemcinctus*), eastern cottontail (*Sylvilagus floridanus*), black-tailed jackrabbit (*Lepus californicus*), black-tailed prairie dog (*Cynomys ludovicianus*), eastern fox squirrel (*Sciurus niger*), plains pocket gopher (*Geomys bursarius*), hispid pocket mouse (*Chaetodipus hispidus*), fulvous harvest mouse (*Reithrodontomys fulvescens*), Texas mouse (*Peromyscus attwateri*), white-footed mouse (*Peromyscus leucopus*), hispid cotton rat (*Sigmodon hispidus*), southern plains woodrat (*Neotoma micropus*), North American porcupine (*Erethizon dorsatum*), coyote (*Canis latrans*), northern raccoon (*Procyon lotor*), common gray fox (*Urocyon cinereoargenteus*), American badger (*Taxidea taxus*), striped skunk (*Mephitis mephitis*), bobcat (*Lynx rufus*), and white-tailed deer (*Odocoileus virginianus*) (Schmidly, 2004).

4.4.2.2 Aquatic Species

As mentioned previously, the project area lies in the Texan Biotic Province. Although the various biotic provinces were originally separated on the basis of terrestrial animal distributions, Hubbs (1957) has shown that the distribution of freshwater fishes within the state generally corresponds with the terrestrial-vertebrate province boundaries, although northeast Texas and the coastal zone show a number of departures from this general rule. No aquatic species were encountered within the power plant site.

4.4.2.3 Recreationally and Commercially Important Species

Wildlife resources within the project area provide human benefits as a result of both consumptive and nonconsumptive uses. Non-consumptive uses include activities such as observing and photographing wildlife, birdwatching, etc. These uses, although difficult to quantify, deserve consideration in the evaluation of the wildlife resources of the project area. Consumptive uses of wildlife species, such as hunting and trapping, are more easily quantifiable. Consumptive and nonconsumptive uses of wildlife are often enjoyed simultaneously and are generally compatible. Many species potentially occurring in the project area provide consumptive uses, and all provide the potential for nonconsumptive benefits.

The white-tailed deer is the most important big game mammal in Texas. Deer require woodlands containing good shrub layers that provide food and cover. Edge situations are often favored for browsing. Although food habits vary regionally and seasonally, twigs of shrubs and trees, acorns, and various forbs and grasses make up most of a deer's diet (Martin et al., 1951). The TPWD divides the counties of Texas into several ecological areas for white-tailed deer management, with Jack County falling within the Cross Timbers and Prairies Ecological Zone, as described in previous sections.

The 2005 TPWD estimate of the deer population for the Cross Timbers and Prairies Ecological Region was 316,660 deer, which is approximately 9.5% of the estimated state population (3,326,400 deer) (Lockwood, 2006). The Cross Timbers and Prairies buck to doe ratio in 2005 was 3.35 does per buck, while the 2005 observed fawn crop was 0.38 fawns per doe (Lockwood, 2006). An estimated 7,552,512 ac of deer range occurs within this ecological region, which is approximately 9% of the state's deer habitat (83,535,843 ac) (Lockwood, 2006).

Other game species regularly hunted within the Cross Timbers and Prairies region include wild turkey (*Meleagris gallopavo*), northern bobwhite, mourning dove, rabbits, squirrels, and several species of migratory waterfowl (Purvis, 2006).

Furbearers (e.g., northern raccoon, Virginia opossum, bobcat, common gray fox, ringtail (*Bassariscus astutus*), and striped skunk) are of some economic and recreational importance in Texas. On a statewide basis, furbearers harvested during the 2004-2005 trapping season had a statewide value of just $41,165.50. The raccoon harvest was the most at approximately $30,722.00, followed by otter ($7,680.00), and bobcat ($1,224.00) (Young, 2005). TPWD data show that the northern raccoon was the most commonly observed furbearer in the Cross Timbers and Prairies ecoregion, followed by the skunk and common gray fox. Furbearers are generally most abundant in bottomland/riparian woodlands.

4.4.2.4 Migratory Birds

In compliance with Executive Order (EO) 13186, potential impacts to migratory birds must be considered in the NEPA process. The Migratory Bird Treaty Act (MBTA) prohibits intentional and unintentional take of migratory birds, including their nests and eggs, except where permitted. Hundreds of species of birds migrate through the project area in the spring and fall or use the area for nesting (summer) or overwintering. A discussion of migratory bird species potentially occurring in the project area is included in Section 4.4.2.1.

4.4.3 Wetlands

Prior to the clearing of the project area during the initial phases of construction, an intermittent tributary of Jasper Creek (a jurisdictional water of the U.S.), with an average ordinary high water mark of approximately 5 ft, was located within the project area.. Approximately 1,600 linear ft (0.18 ac) was permanently filled in order to accommodate construction of the power plant site. A compensatory mitigation plan was prepared in order to compensate environmental impacts to the stream (see Appendix

A). Section 404 permitting has already been completed for impacts to this waterbody. No other jurisdictional streams or wetlands were identified within the 50-ac power generation site.

4.4.4 Endangered and Threatened Species

4.4.4.1 Vegetation

Information was received from the TXNDD (2007) concerning the occurrence and location of state and federally listed plant species in the project area. The official state list of endangered and threatened plant species promulgated by the TPWD includes the same species listed by the U.S. Fish and Wildlife Service (FWS) as endangered or threatened. Currently, 28 plant species are listed by the FWS as endangered or threatened in Texas (FWS, 2007b). According to TXNDD (2007), no documented records of any endangered or threatened plant species exist from Jack County.

4.4.4.2 Wildlife

Table 4-1 lists those fish and wildlife species with a geographic range that includes Jack County and that are considered by FWS or TPWD to be endangered, threatened, or rare. Sources reviewed to develop the list include FWS (2007a), TPWD (2007), and TXNDD (2007). Inclusion on the list does not imply that a species is known to occur in the project area, but only acknowledges the potential for occurrence. Only those species listed as endangered or threatened by FWS are afforded federal protection.

FWS and TPWD identify four of the nine taxa listed in Table 4-1 as endangered. These are the whooping crane (*Grus americana*), black-capped vireo (*Vireo atricapilla*), gray wolf (*Canis lupus*), and red wolf (*Canis rufus*).

The endangered whooping crane is a large wading bird that in the last 50 years has returned from the brink of extinction. Currently, only two wild populations of whooping crane exist, the largest of which is the self-sustaining Aransas/Wood Buffalo population, which breeds in Wood Buffalo National Park in northern Canada and migrates annually to Aransas National Wildlife Refuge and adjacent areas of the central Texas coast in Aransas, Calhoun, and Refugio counties where it winters (FWS, 1995; Lewis, 1995). A second, smaller wild population occurs in Florida (Lewis, 1995). During migration, whooping cranes frequently stopover at wetlands and pastures to roost and feed. It is possible that whooping cranes could occur in the general area during migration, as Jack County is within the migration corridor of this species (FWS, 1995); however, it is unlikely that they would occur in the project area because of the lack of suitable roosting or foraging habitat.

The endangered black-capped vireo is a rare to locally common summer resident in parts of the Edwards Plateau, Cross Timbers and Prairies, and Trans-Pecos regions of Texas, and the Wichita Mountains of Oklahoma (Grzybowski, 1995). Black-capped vireos nest in patchy shrublands where dense woody cover aprons to ground level and extends to approximately 6 ft in height. Suitable habitat contains 35 to 65% woody cover, with optimal habitat containing approximately 50 to 55% woody cover (Grzybowski et al., 1994). The composition of woody species is not as important as the structure, and species composing

Table 4-1

Endangered and Threatened Species of Possible Occurrence
in Jack County, Texas[1]

Common Name[2]	Scientific Name[2]	Status[3] FWS	TPWD
BIRDS			
Whooping crane	*Grus americana*	E	E
Black-capped vireo	*Vireo atricapilla*	E	E
American peregrine falcon	*Falco peregrinus anatum*	DL	E
Bald eagle	*Haliaeetus leucocephalus*	DL[4]	T
Arctic peregrine falcon	*Falco peregrinus tundrius*	DL	T
MAMMALS			
Gray wolf (extirpated)	*Canis lupus*	E	E
Red wolf (extirpated)	*Canis rufus*	E	E
Texas kangaroo rat	*Dipodomys elator*	NL	T
REPTILES			
Texas horned lizard	*Phrynosoma cornutum*	NL	T

[1]According to FWS (2007a) and TPWD (2007).

[2]Nomenclature follows American Ornithologists' Union (AOU, 1998, 2000, 2002, 2003, 2004, 2005, 2006, 2007), Crother et al. (2000, 2001, and 2003), Baker et al. (2003), FWS (2007a), and TPWD (2007).

[3]FWS – U.S. Fish and Wildlife Service; TPWD – Texas Parks and Wildlife Department

E – Endangered

T – Threatened

DL – Federally delisted

NL – Not listed

[4]On July 9, 2007, FWS published the final rule to remove the species from the list of federally endangered and threatened species (72 FR 37345–37372); the rule became official on August 8, 2007.

potential habitat vary throughout the vireo's range. Dominant tree and shrub species present in suitable breeding habitat typically includes various low-growing oaks (*Quercus* spp.), sumacs (*Rhus* spp.), or Texas mountain laurel (*Sophora secundiflora*), and occasionally Ashe juniper and honey mesquite (Marshall et al., 1985; Grzybowski, 1995). No documented records of black-capped vireo exist from Jack County, but records exist from several adjacent counties (Oberholser, 1974; Pulich, 1988; Sexton et al., 1989; Grzybowski, 1995; Lockwood and Freeman, 2004; Wilkins et al., 2006). The species is unlikely to occur in the project area because of the absence of suitable habitat.

The endangered gray wolf historically ranged across the western two-thirds of Texas, where it inhabited a variety of habitats including forests, brushlands, and grasslands (Schmidly, 2004). Extirpation of native wolf populations has occurred throughout much of the U.S., including Texas. The last authenticated Texas record of a gray wolf was in 1970, from the Trans-Pecos region (Schmidly, 2004). The gray wolf is unlikely to occur in the project area.

The endangered red wolf formerly occurred in the eastern half of Texas, where it inhabited a variety of wooded habitats including pine forests, bottomland hardwood forests, swamps, marshes, and coastal prairies (Schmidly, 2004). The decline of the species was a result of intensive land use (e.g., agriculture and lumbering) and hybridization with the coyote (*Canis latrans*) (Schmidly, 2004). Most authorities consider the red wolf extirpated in Texas and the species is unlikely to occur in the study area.

The remaining five taxa listed in Table 4-1 are strictly state-listed endangered or threatened species. These include the state-listed endangered American peregrine falcon (*Falco peregrinus anatum*), and the state-listed threatened bald eagle (*Haliaeetus leucocephalus*), Arctic peregrine falcon (*Falco peregrinus tundrius*), Texas kangaroo rat (*Dipodomys elator*), and Texas horned lizard (*Phrynosoma cornutum*).

The state-listed endangered American peregrine falcon (*Falco peregrinus anatum*) is a rare migrant statewide, and nests in the mountains of Trans-Pecos Texas, while the state-listed threatened arctic peregrine falcon (*Falco peregrinus tundrius*) is an uncommon migrant statewide and an uncommon winter resident on the Coastal Prairies and coast, where it typically occurs near bays and estuaries (Lockwood and Freeman, 2004). In 1999, FWS removed the peregrine falcon from the federal list of endangered and threatened species (64 FR 46541–46558), but the American and arctic subspecies retain their state-listed status of endangered and threatened, respectively.

The state-listed threatened bald eagle is a rare and local summer resident in the eastern third of Texas, where it breeds along the Gulf Coast and on major inland lakes and reservoirs (Buehler, 2000; Lockwood and Freeman, 2004). During migration and winter, the species is more widely distributed, occurring primarily in the northern two-thirds of the state (Buehler, 2000; Lockwood and Freeman, 2004). Bald eagles prefer large bodies of water surrounded by tall trees or cliffs, which they use as nesting and roosting sites. On July 9, 2007, the FWS published its final ruling to remove the bald eagle from the list of endangered and threatened wildlife (72 FR 37345–37372) and the change of listing status became official on August 8, 2007. The bald eagle will still receive protection at the state level and under provisions of the Bald and Golden Eagle Protection Act (BGEPA) and the MBTA. According to Ortego

(2005), no documented bald eagle nests exist in Jack County; however, the species may pass through the general area during migration.

The state-listed threatened Texas kangaroo rat is a relatively large, long tailed kangaroo rat that occurs in north-central Texas from Cottle and Motley counties, east to Montague County (Schmidly, 2004). The species inhabits clay soils that support a mixture of sparse short-grasses and scattered honey mesquite. Heavily grazed rangeland and well worn earthen roads provide optimal habitat for the Texas kangaroo rat (Schmidly, 2004). According to Schmidly (2004), no documented records of the species exist from Jack County; however, the species has been recorded in adjacent Archer, Clay, and Montague counties. The species is of potential occurrence in the project area, particularly where suitable habitat is present.

The state-listed threatened Texas horned lizard is found throughout the western two-thirds of the state in a variety of habitats, but prefers arid to semi-arid habitats in sandy loam or loamy sand soils that support patchy bunch-grasses, cacti, yucca, and various shrubs (Henke and Fair, 1998; Dixon, 2000). According to Dixon (2000), documented records exist from Jack County, and therefore the species is of potential occurrence in the project area.

4.4.4.3 Designated Critical Habitat

The Endangered Species Act (ESA) calls for the conservation of "critical habitat," the areas of land, water, and air space that an endangered species needs for survival. These areas include sites with food and water, breeding areas, cover or shelter sites, and sufficient habitat to provide for normal population growth and behavior. One of the primary threats to endangered and threatened species is the destruction or modification of essential habitat areas by uncontrolled land and water development. No critical habitat for any endangered/threatened species is known to occur within the project area (TXNDD, 2007).

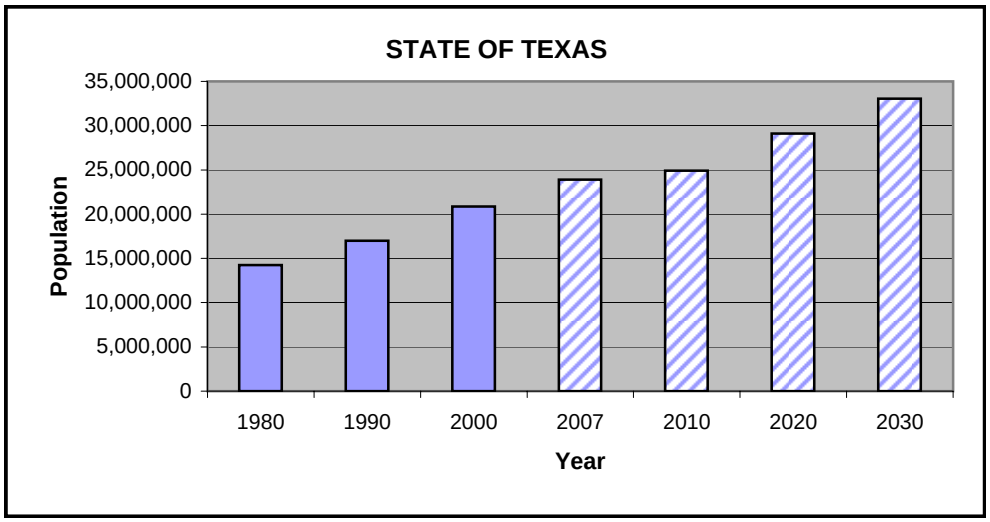
4.5 SOCIOECONOMICS

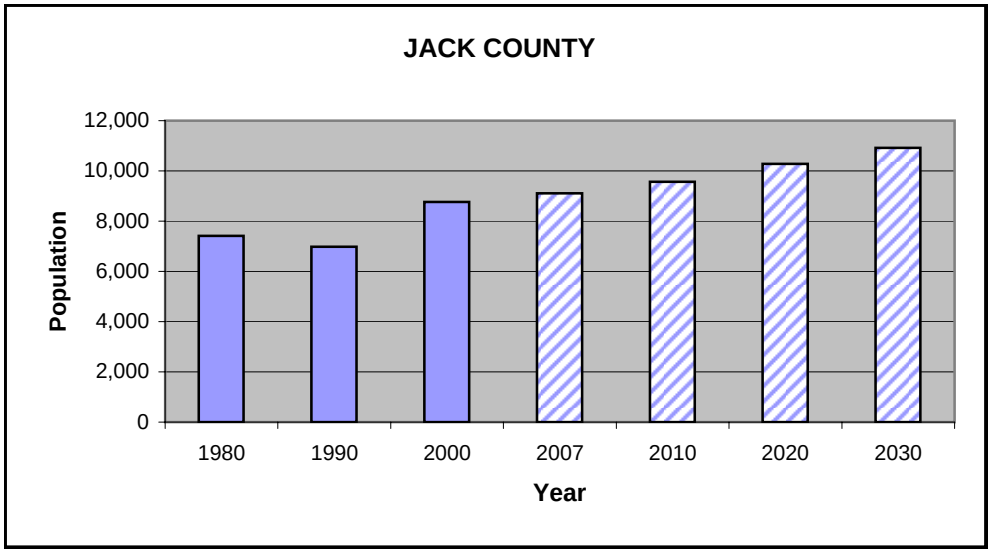
This section presents a summary of economic and demographic characteristics for Jack and Wise counties and describes the socioeconomic environment of the study area. Literature sources reviewed include publications of the Texas Workforce Commission (TWC), Texas State Data Center (TSDC), U.S. Bureau of the Census (USBOC), and the TWDB.

4.5.1 Population

The population of Jack County has fluctuated since 1980. As shown on Figure 4-4, the population of Jack County decreased by 6% to reach 6,981 in 1990, and then increased by 26% to reach 8,763 in 2000. Meanwhile, the state's population experienced steady growth during the 1980s and 1990s, increasing by 19% from 1980–1990, and by 23% between 1990 and 2000. Current population estimates from the U.S. Census Bureau show Jack County to have a population of 9,110, an increase of 4% over its 2000 population. The current estimate for the state's population is 23,507,783, an increase of 13% over the 2000 population (USBOC, 1983, 1990, 2000, 2008).

Figure 4-4
Population Trends and Projections





Source: USBOC, 1980, 1990, 2000, 2008; TWDB, 2006.

Population forecasts provided by the TWDB indicate that Jack County's population is expected to increase by nearly 25% between 2000 and 2030. This is an average annual increase of 0.6%. Meanwhile, the state's population is expected to reach 33,052,506 by the year 2030, an increase of 59%, which reflects an average annual increase of 1.5% (TWDB, 2006).

4.5.2 Employment

As shown on Figure 4-5, the labor force in Jack County has fluctuated with the population since 1980. Jack County's labor force decreased by 2.6% between 1980 and 1990, and then increased by 11.6% during the 1990s. As of November 2007, Jack County's labor force was 4,301, an increase of 25.7% over the 2000 level. By comparison, the labor force in Texas has increased consistently since 1980. Between 1980 and 1990, the State's labor force increased by 27.9%, then increased an additional 19.8% during the 1990s. The State's labor force was recorded at approximately 11,658,000 in November 2007, an increase of 12.9% over the 2000 civilian labor force (CLF) (TWC, 2007).

The unemployment rate in Jack County has been generally stable since 1980, remaining at 3.7% during the 1980s and 1990s. In 2000, the unemployment rate decreased slightly to 3.3%; however, as of November 2007, the unemployment rate of Jack County had increased to 3.7% once again. Meanwhile, the unemployment rate in Texas has fluctuated since 1980. During the 1980s, the unemployment rate for Texas was 5.2%. The rate increased in the 1990s, reaching 6.3%, but then decreased again, reaching 4.2% in 2000. The unemployment rate experienced a slight decrease, and reached 4.1% in November 2007 (TWC, 2007).

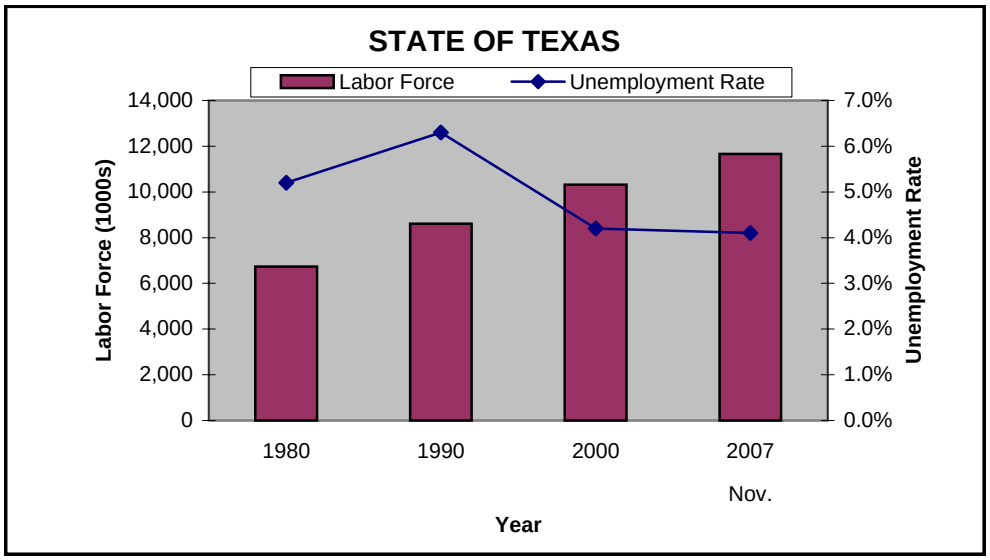
As shown on Figure 4-6, the major employment sectors for Jack County and the State of Texas were somewhat similar. For Jack County, the leading employment sectors for the second quarter of 2007 were natural resources and mining (32%), federal, state, and local government (25%), and trade, transportation, and utilities (15%). For Texas, the leading economic sectors for the second quarter of 2007 were trade, transportation, and utilities (21%), federal, state, and local government (17%), and professional and business services (13%) (TWC, 2007).

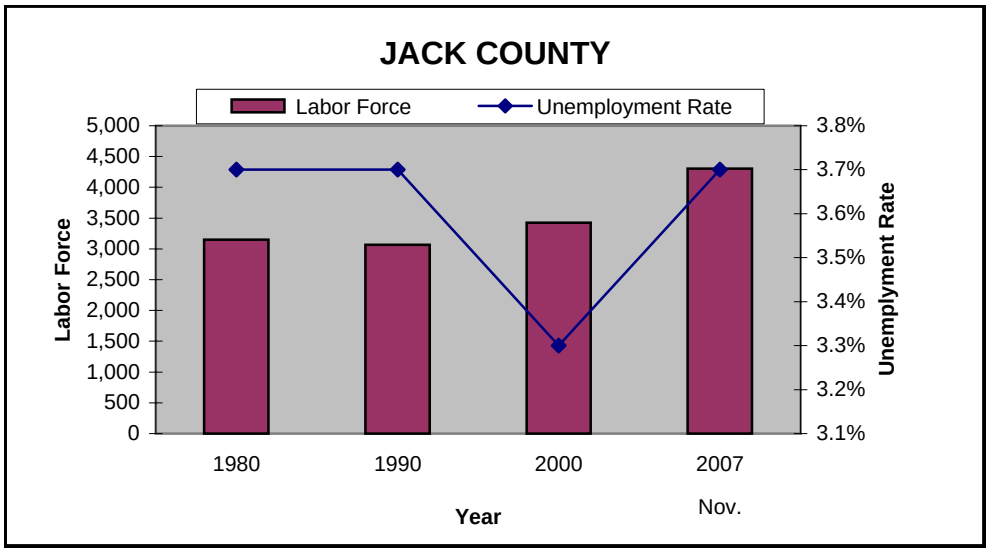
4.5.3 Environmental Justice

EO 12898 – Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations, was signed February 11, 1994 by President Clinton. The EO requires all federal agencies to address the impact of their programs with respect to Environmental Justice (EJ). The EO requires that minority and low-income populations not receive disproportionately high or adverse human health or environmental impacts, and requires that representatives of any minority or low-income populations that could be affected by the project be involved in the community participation and public involvement process.

The data used in this study to determine the potential for disproportionate impacts to minority and/or low-income populations are provided for block groups that overlap either partially or fully within the geographic boundaries of the proposed project. Only blocks and block groups that overlap into the

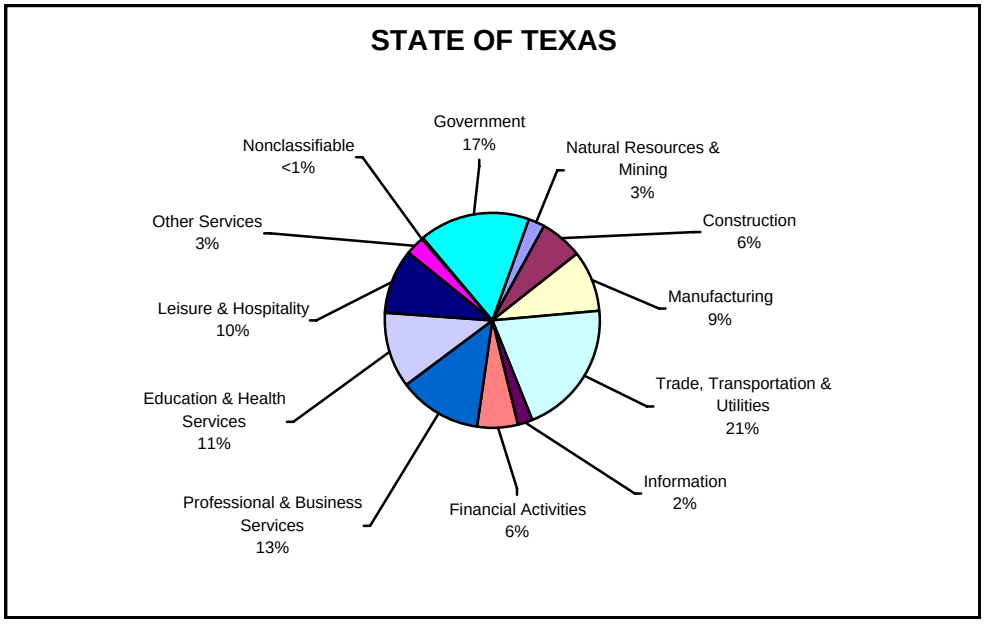
Figure 4-5
Labor Force and Unemployment Rate

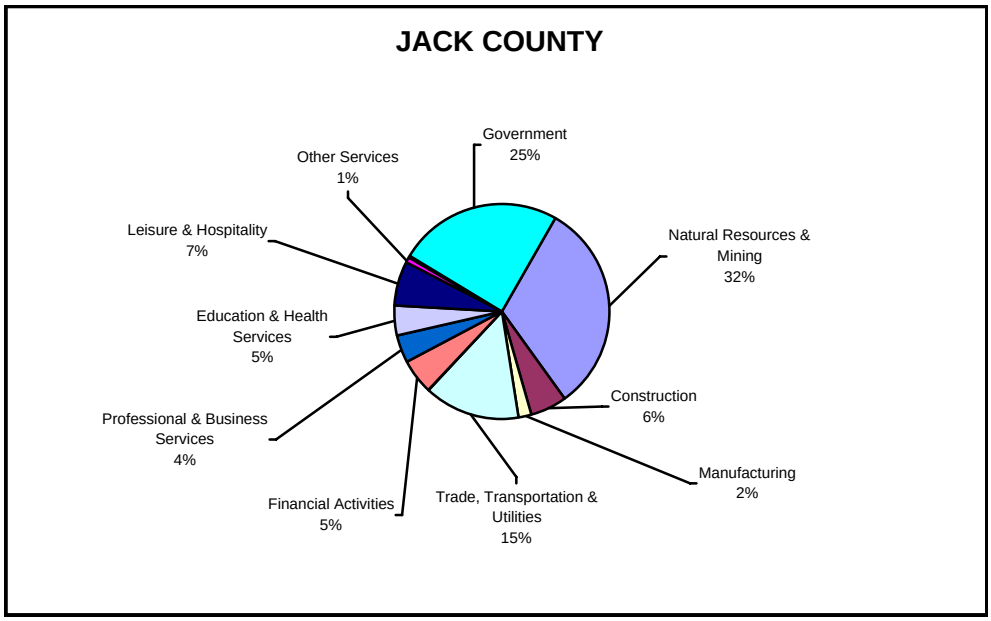




Source: USBOC, 1980; TWC, 2007.

Figure 4-6
Major Employment Sectors, 2nd Quarter 2007





Source: TWC, 2007

proposed project area are used in the census analysis (project area total). The information is based on 2000 U.S. Census Bureau county, state, city, and block level data for ethnicity and income. For this analysis, the population is considered to be a minority population if the percentage of minority persons in the project area is more than 50% of the total population.

As shown in Table 4-2, the ethnic and racial distribution within the study area census tract is similar to that of Jack County as a whole, with a slightly higher percentage of white persons, and slightly lower percentages of minority persons. The study area as a whole is not considered a minority area (U.S. Census, 2000).

Table 4-2
Ethnic Minority and Poverty Distributions in Census Tract 9504,
Jack County, and the State of Texas

Place	Total	White		Minority		% Persons Below the Poverty Level in 1999		Median Household Income in 1999
		#	%	#	%			
Study Area Census Tract 9504	1,451	1,353	93.2	98	6.8	191	13.2	$31,875
Jack County	8,763	7,468	85.2	1,295	14.8	989	12.9	$32,500
State of Texas	20,851,820	10,933,313	52.4	9,918,507	47.6	3,117,609	15.4	$39,927

The Federal Highway Administration (FHWA) Order 6640.23 defines "low-income" as "a person whose household income is at or below the Department of Health and Human Services (DHHS) poverty guidelines." The 2007 DHHS poverty guideline for a family of four is $20,650, and the median household income for the study area census tract is $31,875, which is above the DHHS poverty guideline and comparable to the median household income of Jack County ($32,500). The study area census tract also has a slightly higher percentage of persons living below the poverty level (13.2%) compared to Jack County (12.9%), but this difference is not significant. The study area is not considered to be a low-income area (U.S. Census Bureau, 2000).

4.6 LAND USE/AESTHETICS

4.6.1 Land Use

Jack County is part of State Planning Region No. 3, which is represented by the Nortex Regional Planning Commission, headquartered in Wichita Falls. A review of the NRCS's (formerly SCS) Natural Resource Inventory land use estimates shows that urban land use accounts for just 1% of the total land use in Jack County. Agricultural land uses cover approximately 96% of Jack County's total land area, with 91% devoted to range and pasture (NRCS, 2000). Land use in the vicinity of the project site is dominated by pasture and/or rangeland. Overall, the area is generally undeveloped and rural with few isolated residences occurring throughout. Commercial uses exist primarily along State Highway 199. Exploration and production activities of the oil and gas industry (pipeline easements, access roads, well pads, and remote processing plants) also occur within the project site's vicinity. These operations, however,

generally do not interfere with ranching operations as lands leased for underground minerals are also leased for surface grazing.

A review of the Texas Outdoor Recreation Plan (TORP) (TPWD, 1985), the Texas Outdoor Recreation Inventory (TORI) (TPWD, 1990), as well as federal and state maps, and field surveys did not identify any parks or recreational areas in the vicinity of the project site. The nearest recreational area, Lake Bridgeport, is located approximately 5 miles northeast of the Jack county Power Plant Site. This 13,000-ac impoundment on the West Fork of the Trinity River is owned and maintained by the TPWD. The lake provides numerous recreational opportunities such as water skiing, swimming, boating, fishing, and camping. Common sport fish in this lake include largemouth bass, catfish, crappie, smallmouth bass, sunfish, and white mouth bass. TPWD maintains four public boat ramps along the lake. The privately owned Bay Landing Campground, owned by Thousand Trails Corporation, is located on the southeastern shoreline of Lake Bridgeport, south of Farm-to-Market Road (FM) 1658. This facility offers 257 campsites in a resort style camp preserve for Thousand Trails' members.

Additionally, many private land owners throughout the project area lease their lands for hunting during the appropriate seasons. The primary game species sought in this part of the state are white-tailed deer, quail, doves, and turkey.

A review of the Federal Aviation Administration's (FAA) DFW Sectional Aeronautical Chart (2006a), the Airport/Facility Directory for the South Central United States (FAA, 2006b), recent aerial photography, the AirNav website (AirNav, 2008), and U.S. Geological Survey (USGS) maps found no FAA-registered airports located within the project's vicinity. The nearest facility, the Bridgeport Municipal Airport, is located approximately nine miles northeast of the Jack County Power Plant Site.

4.6.2 Aesthetics

Potential aesthetic impacts is an area of increasing concern to both the public and governmental bodies dealing with siting and approving large, industrial facilities and utility corridors. Consideration of the visual environment includes a determination of aesthetic values (where the location of a power station or utility corridor could potentially affect the scenic enjoyment of the area). Aesthetic values considered in this analysis, which combine to give an area its aesthetic identity, include:

- topographical variation (hills, valleys, etc.)
- prominence of water in landscape
- vegetation variety (forests, pasture, etc.)
- color
- diversity of scenic elements
- degree of human development or alteration
- overall uniqueness of the scenic environment compared to the larger region

PBS&J's aesthetic analysis dealt primarily with potential visual impacts to the public. Viewsheds or scenic areas visible from roads, highways or publicly owned or accessible lands (parks or privately owned recreation areas open to the public, for example) were analyzed. A number of factors are taken into consideration when attempting to define the sensitivity, or potential impact, to a scenic resource from the construction of the proposed power station and utilities corridor. Among these are the following:

- Uniqueness of the landscape in relation to region as whole
- Whether the scenic area is a foreground, middleground, or background view
- Focus of the view
- Scale of elements in the scene
- Number of potential viewers
- Duration of the view
- Amount of previous modification or disturbance to the landscape

Generally, the area surrounding the project site exhibits a moderate level of aesthetic quality for the region with scattered, isolated residences surrounded by agricultural land and oil and gas facilities. The area has maintained the feel of a rural Texas community with an agricultural economy; however, petroleum exploration/production and related oil field operations and the existing Jack County Power Plant are identifiable land uses. As a result, the landscape within this portion of the project area exhibits a moderate level of impact from human development.

The region is characterized by gently rolling to hilly topography with elevations ranging from approximately 750 to 1,200 ft above msl. Water features found within the project's vicinity include numerous unnamed creeks and stock ponds. The dominant vegetation communities represent a transition from oak-mesquite-juniper woodlands, to grassy pasture or rangeland.

The Texas Department of Transportation (TxDOT) has mapped 10 separate "Travel Trails" throughout Texas to provide travel routes through different areas of the state, highlighting natural, cultural and scenic attractions. These routes are described in pamphlets distributed by TxDOT offices and tourist information centers and marked by special signs along the designated highways. None of these travel trails, however, traverse the project's vicinity.

In 1998, TxDOT published a list of "Scenic Overlooks and Rest Areas" in Texas, each of which presented particularly strong aesthetic views or settings (TxDOT, 1998). A review of this list found none of the 46 locations described were located within the project's vicinity.

No other outstanding aesthetic resources, designated scenic views, scenic roadways, or unique visual elements were identified from the literature review or from field reconnaissance efforts. In summary, although some portions of the area are visually pleasing, little distinguishes its aesthetic quality from that other adjacent areas within the region.

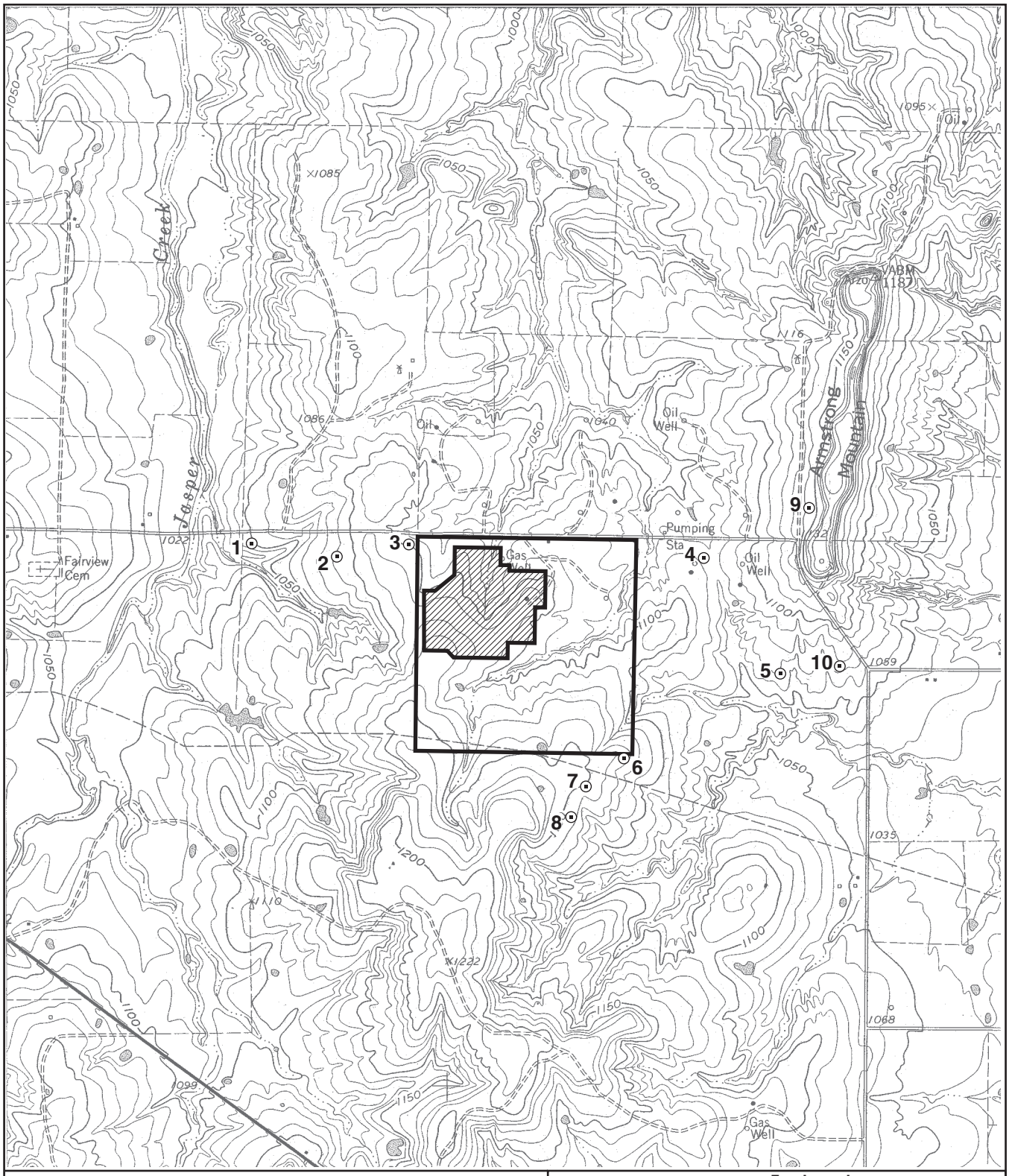
4.7 NOISE

There are no agencies at the state level or within Jack County that regulate noise emissions. However, as directed by Congress in the Noise Control Act of 1972 and amended by the Quiet Communities Act of 1978, the EPA has developed noise level guidelines. The equivalent sound level (L_{eq}) is the A-weighted sound level that is "equivalent" to an actual time-varying sound level, in the sense that it has the same total energy for the duration of the sound. A decibel (dB) is a unit used to express the relative intensity of sounds on a logarithmic scale. The decibel unit of measure based upon an "A" weighted scale is listed as dBA. An outdoor Leq in excess of 55 dBA for 24 hours is considered annoying for some persons, while levels of 70 dBA or more for 24 hours can result in hearing loss (EPA, 1974). The day-night sound level (L_{dn}) is the 24-hour equivalent sound level with the nighttime (10:00 p.m. to 7:00 a.m.) sound level penalized by the addition of 10 dBA. EPA generally recognizes rural areas to have an average Ldn of less than 50 dBA. EPA has also developed guidelines for a short-term Ldn goal of 65 dBA and a long-term Ldn goal of 55 dBA for noise levels outside of structures such as buildings, residences, etc. (EPA, 1976). For residences, the U.S. Department of Housing and Urban Development (HUD) considers an outdoor Ldn of 65 dBA or less to be "acceptable." An Ldn above 65 dBA and not exceeding 75 dBA is considered "normally unacceptable," and levels above 75 dBA are "unacceptable" (HUD, 2002).

Land use adjacent to the proposed project site can best be described as a mix of rangeland with isolated rural residences, and a few scattered oil and gas operations. The major noise sources in the vicinity of the project site represent the daily activities of the general population, including motor vehicle noise associated with FM 2210 and various county roads. Ten noise-sensitive receiver locations within close proximity to the proposed project site, which include mobile homes and residences, are shown on Figure 4-7. Descriptions of the receivers and their approximate distances from the center of the proposed project site are listed in Table 4-3.

Table 4-3
Description of Noise-Sensitive Receivers Within 1 Mile of Power Plant

Site Number	Type of Structure	Distance From Center of Proposed Plant
1	Mobile Home	3,400 ft
2	4 Mobile Homes	2,200 ft
3	Single-family Residence	1,300 ft
4	Mobile Home	3,150 ft
5	Mobile Home	4,200 ft
6	Mobile Home	2,850 ft
7	Mobile Home	2,900 ft
8	Single-family Residence	3,100 ft
9	Single-family Residence	4,750 ft
10	Single-family Residence	5,000 ft



north

0 2000 4000 feet

Base Map: USGS 7.5' Quadrangle; Gibtown

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Figure 4-7

NOISE SENSITIVE RECEIVER LOCATIONS

JACK COUNTY POWER PLANT EXPANSION

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4.8 CULTURAL RESOURCES

As shown on Figure 4-8, Jack County is located within the easternmost portion of the Plains Archeological Planning Region as defined by Kenmotsu and Perttula (1993). The cultural history of Jack County can be divided into four chronological periods: Paleoindian, Archaic, Late Prehistoric, and Historic. The three prehistoric periods have been defined based on environmental adaptation and specific diagnostic artifactual materials. The Historic Period reflects both the effects of European exploration on the indigenous populations of the area and the actual settlement of the region by Europeans and Euro-Americans. Historic sites reflect ranching, farming, and related activities, as these were the primary means of subsistence during much of the Historic Period in the region.

4.8.1 Cultural Setting

The Paleoindian Period (9500 to 5500 B.C.) is the earliest well-defined cultural period in the New World. It extends from the terminal Pleistocene until the early Holocene epochs. Social organization during the Paleoindian Period probably consisted of loosely structured, highly mobile social groups composed of several nuclear families. Sites of this period are often representative of transient camps along small streams occupied by band-size or smaller groups. Base camp-sized occupations are relatively rare. The population density is thought to have been rather low during this period.

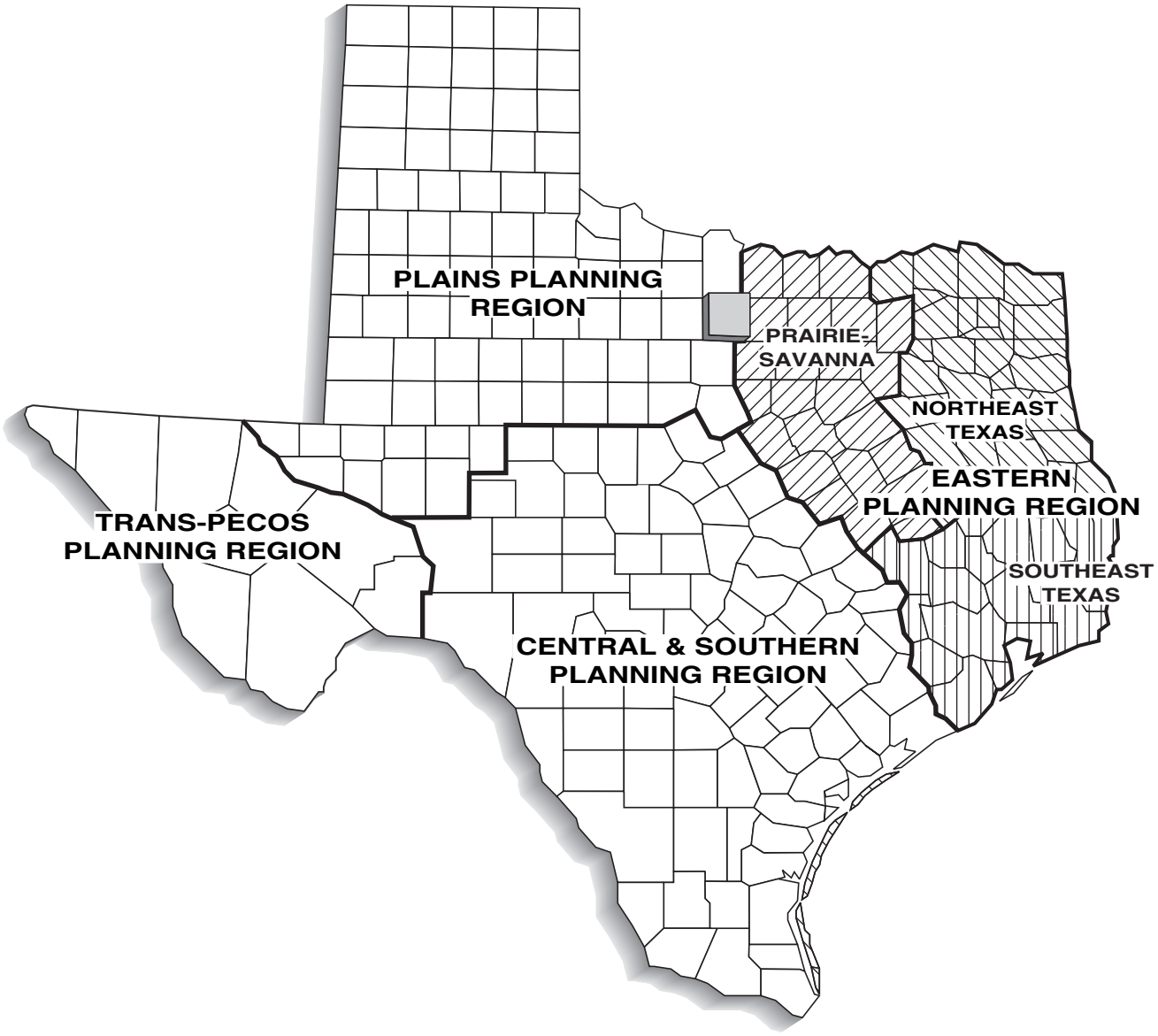
Diagnostic projectile points include *Clovis*, *Folsom*, *Angostura*, *Plainview*, and *Scottsbluff*. *Scottsbluff* is a transitional type, which is also found in early Archaic sites in this area.

Differences in material culture during the Archaic Period (ca. 5500 B.C. to A.D. 800) are believed to reflect somewhat larger and more localized populations, and changes in methods of food procurement and food processing. Although early Archaic populations made their living in much the same way as their Paleoindian ancestors, the Archaic Period as a whole can be characterized as having more specialized resource procurement activities as well as more specialized technology to accomplish these activities.

Archaic lithic scatters are one of the most common site types in the region. Early Archaic sites are generally characterized by surface scatters consisting of burnt rock, hammerstones, heavy utilitarian bifaces (choppers), gouges, and occasional dart points. Gouges, especially prevalent during the Early Archaic, declined in occurrence during the Middle and Late Archaic. By the Late Archaic, assemblages can be characterized by corner-notched dart points, ovate knives, thick-end scrapers, and ground stone artifacts.

Characteristic diagnostic artifacts include *Elam*, *Carrollton*, *Gary*, and *Yarbrough* projectile points. The Archaic in the region is represented by the Trinity Aspect, which is subdivided into the Elam and Carrollton foci (Crook and Harris, 1957).

The beginning of the Late Prehistoric Period (a.d. 500 to a.d. 1540) marks a significant change from earlier lifeways of the region. Most important is the introduction of two technological innovations, the bow-and-arrow and ceramics. In general, the aboriginal groups still functioned as nomadic hunters and



north

100 0 100 200

scale in miles

Source: Mercado-Allinger, et al, 1993

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Figure 4-8

LOCATION OF JACK COUNTY IN RELATION TO THE CULTURAL RESOURCES PLANNING REGIONS OF TEXAS

JACK COUNTY POWER PLANT EXPANSION

File: I:\projects\hc1\bepc\441998\cad\figure4-8.ai

gatherers living at the band level of social organization. However, tribal and confederacy groups formed, occasionally inhabiting semi-permanent or permanent village sites. In many parts of North America, the Late Prehistoric Period is also characterized by the adoption of agriculture and the more sedentary settlement patterns associated with it. However, no strong evidence to suggest the practice of agriculture is present in the region.

Historic contact period sites are recognized by the presence of Spanish and French trade goods in association with lithic and ceramic materials (Jelks, 1967). The Norteno Focus, which may represent the descendants of the preceding Henrietta Focus, is attributed to Wichita-speaking peoples during the historic period in this region (Duffield and Jelks, 1961).

Jacksboro is the largest town and county seat of Jack County. Present day Jack County was originally included in the Texas Emigration Land Company. Jack County was organized in August 1856 and named for William and Patrick Jack, participants in the Texas Revolution. Mesquiteville, designated as the county seat, was later renamed Jacksboro. The Butterfield-Overland Mail route crossed the county. Fort Richardson, constructed between 1867 and 1869 by the United States Army, was the most northern of the Texas forts to protect pioneers from frontier hostilities. It was abandoned in 1878. Jack county residents voted against secession in February 1861. The Chicago, Rock Island and Texas Railway reached Jacksboro in 1898, bringing economic development and access to markets outside the county. With the turn of the twentieth century and more efficient market transportation available, large-scale farming of grains and cotton, as well as livestock production increased. Oil was discovered near Bryson in 1923 and continues to contribute to local development (Texas State Historical Association, 2002).

4.8.2 Previous Archaeological Investigations

The most intensive investigations conducted in Jack County have been conducted at site 41JA2, the Fort Richardson Historic Site (Dessamae, 1972; Roberson and Ing, 1974; Dickson and Westbury; 1976; Westbury, 1976; Black and Kegley, 1998).

Several investigations conducted in the 1980s that were limited in areal scope (Guffee, 1980; Fox, 1981; Scott and Cole, 1986; State Department of Highways and Public Transportation (SDHPT), 1987) resulted in no new cultural resource sites recorded. Archaeological investigations were also conducted for the proposed Lost Creek Reservoir Boat Ramp (Briggs, 1991). A total of 6.9 ac were surveyed and no sites were recorded. In 1991, the SDHPT did a cultural resource assessment for a bridge replacement along County Road 176 at Cameron Creek. Approximately 0.5 ac was surveyed and no cultural resource sites were identified. Two TxDOT projects (TxDOT 1995a, 1995b, 1996a) did not identify any archaeological sites. More recently, the TPWD surveyed and tested approximately 660 ac including portions of Jack County. Four previously unrecorded sites were recorded, 41JA7 to 41JA10. These sites are all within the confines of Fort Richardson State Park.

4.8.3 Records and Literature Review

A literature and records review was conducted for the power plant site. The purpose of the file review was to determine the location of recorded cultural resource sites within the project area boundaries and to determine the density and type of unrecorded cultural resource sites that might be expected.

The cultural resource files at Texas Archeological Research Laboratory (TARL) and at the Texas Historical Commission (THC) were reviewed for sites located within the project area. A search was conducted of both published and unpublished National Register of Historic Places (NRHP) data for sites listed on or determined eligible for the NRHP. The list of State Archeological Landmarks (SALs) compiled by the THC was reviewed for sites determined significant by the state. In addition, a search was conducted of NRHP roads and bridges listed in TxDOT databases. The Texas Historical Marker Program and Historic Cemetery Program records of the THC were also reviewed, using historic general highway maps of the project area (SDHPT, 1936, 1948) were also reviewed. Cemeteries in Jack County were reviewed through county databases and maps. In addition, the Texas Department of Agriculture's (TDA) Family Land Heritage Program listings were reviewed for possible Century Farm or Ranch locations within the project vicinity.

The TARL records identified 17 recorded archaeological sites in Jack County. The THC files identified 4 NRHP-listed properties (2 of them bridges), 1 SAL-designated site, 31 Official Texas Historic Markers (OTHM), and 2 historic cemeteries in the county. Also in the county are 10 century farms or ranches.

5.0 Environmental Impacts

5.0 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

5.1 CLIMATOLOGY AND AIR QUALITY IMPACTS

5.1.1 Construction Impacts

Pollutant emissions from the construction of the proposed project will result in some effects to air quality in the area immediately surrounding the construction site. Air emissions will result from construction activities including site clearance, excavation, grading and trenching as well as from vehicular traffic associated with the project employee commute. However, the construction activities would be considered one-time activities that would not continue past the date of completion. Therefore, these effects are expected to be localized and of short duration.

During construction, fugitive dust emissions will be produced on-site by heavy earth-moving equipment involved in construction activities and by vehicular traffic traveling over temporary unpaved roads. The quantity of these emissions will vary on a day-to-day basis, depending on the area of land being worked, the level of activity, the specific construction activities, and the prevailing weather conditions. Particulate matter will be generated by individual operations in short spurts, whenever any loose, dry material is disturbed. Emitting activities will be generally intermittent, lasting from a few seconds to a few minutes. Examples of such activities include dumping dirt into or out of a dump truck, driving over an unpaved road, and exposing unprotected stockpiles to gusty winds.

The net result will be that ambient concentrations of fugitive dust emissions will decrease very rapidly with increasing distance from the source so that off-property particulate levels exceed current ambient levels only occasionally. Increases in ambient concentrations will be most likely to occur during dry, windy conditions in the late spring. During such periods, particulate emissions due to construction would be superimposed upon naturally occurring emissions of windblown dust, thereby constituting a recurring, short-term, minor adverse impact.

Vehicular exhaust emissions will be produced by the operation of diesel engines and other construction equipment. These mobile source emissions will include small amounts of carbon monoxide, hydro-carbons, and nitrogen oxides, but they are not expected to cause exceedance of any federal or state air quality standards. On-site concentrations of vehicular exhaust emissions may be sufficiently high in the immediate vicinity of the source for diesel odor to be detected. The vehicles will generally be operating singly or in groups of small numbers, and they will generally be operating in the open. This situation (a low density of emissions coupled with good atmospheric dispersion) means that the off-site ambient effects of diesel emissions will be near or below the detection limits of routine field equipment, resulting in very minor adverse impacts.

On-site burning of trees, brush, and other plant growth for land clearing operations is allowed under TCEQ Rule §111.209 when no practical alternative to burning exists and when the materials are generated only from that property. Such burning will be subject to the general requirements of TCEQ

Rule §111.219, which are designed to ensure that outdoor burning is conducted safely and with minimal impact on surrounding areas. Rule §111.219 contains requirements and restrictions related to meteorological conditions, impacts of smoke on highways and roads, impacts of smoke on structures at neighboring properties, hours of the day burning is allowed, and attendance by a responsible person during the active burn phase.

5.1.2 Operation Impacts

In order to receive approval of required air permits to construct the proposed power plant project, Brazos Electric must demonstrate that the proposed project will be capable of meeting several specific air quality criteria on a continuing basis. In meeting these criteria, Brazos Electric must demonstrate to the TCEQ that all environmental effects will be at acceptable levels even when the units are operating at the worst-case scenario. Prior to start of construction, Brazos Electric must submit an application for a NSR permit from the TCEQ to authorize construction of the proposed power plant project. Because of the estimate magnitude of emissions from the proposed combustion units, an application for a PSD permit will also be required. These permit applications will be subjected to intensive and comprehensive agency review and will be made available to the public for additional scrutiny before a permit can be approved. The proposed combustion turbines will be required to utilize best available control technology (BACT) with consideration given to the technical practicability and the economic reasonableness of reducing or eliminating emissions from the facility. Brazos Electric will also be required to submit the results of air dispersion modeling for the proposed project. The application for a combined NSR and PSD permit was submitted to the TCEQ on 4 January 2008 and is currently undergoing review by the TCEQ.

5.1.2.1 Federal Applicability

These facilities must comply with applicable requirements of the EPA Regulations on Standards of Performance for New Stationary Sources, Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Subpart A, General Provisions and the following:

A. Subpart Db, Industrial-Commercial-Institutional Steam Generating Units (HRSGs);

B. Subpart Dc, Small Industrial-Commercial-Institutional Steam Generating Units (Auxiliary Steam Boiler);

C. Subpart IIII, Stationary Compression Ignition Internal Combustion Engines (Diesel Generator Engine); and

D. Subpart KKKK, Stationary Combustion Turbines.

If any condition of the TCEQ's NSR/PSD permit is more stringent than these regulations, then for the purposes of complying with this permit, the permit will govern and be the standard by which compliance shall be demonstrated.

5.1.2.2 Emission Standards and Operating Specifications

The two Class F CTG units will normally operate in combined cycle mode with two supplementary fired heat recovery steam generators (HRSG), and a reheat condensing steam turbine generator. The two HRSG unit duct burners are each limited to a maximum heat input of 600 million British Thermal Units per hour firing natural gas fuel. Fuel fired in the CTGs, duct burners, and auxiliary boiler will be limited to pipeline-quality natural gas.

Upon request by the Executive Director of the TCEQ or any local air pollution control program having jurisdiction, Brazos Electric must provide a sample and/or an analysis of the fuel fired in the CTGs and duct burners, or must allow air pollution control agency representatives to obtain a sample for analysis. Any custom fuel monitoring plan must be approved by the TCEQ Executive Director.

The NSR/PSD permit will include special conditions with limits on air contaminant from the CTG/HRSG units, the auxiliary steam boiler, diesel generator engine, a diesel firewater pump, an ammonia storage tank, and fugitive emissions, as appropriate. Opacity of emissions from the CTG/HRSG exhaust stacks will also be limited so as to not to exceed 5% averaged over a 6-minute period, except during periods of maintenance, start-up, or shutdown.

5.1.2.3 Initial Determination of Compliance

Stack sampling and other testing must be performed as required by the TCEQ to establish the actual quantities of air contaminants being emitted into the atmosphere from CTG/HRSG units and to determine initial compliance with all emission limits established by the NSR/PSD permit. Sampling must be conducted in accordance with the appropriate procedures of the TCEQ and with the appropriate EPA reference methods.

Air emissions from each HRSG exhaust stack must usually be tested while firing the CTG and duct burner at full load or as close to full load as possible for the ambient conditions at the time of testing. The TCEQ may also require air emissions from each HRSG exhaust stack to be tested while firing the CTG only (without the duct burner) so as to determine the air contaminant emission rates from the CTG.

5.1.2.4 Continuous Determination of Compliance For CO and NO_x

In order to demonstrate continuous compliance with the permit limits on air contaminant emissions, the TCEQ will require the installation of a continuous emission monitoring system (CEMS) to measure and record the concentrations of NO_x, CO, and O_2 from each HRSG Exhaust Stack. The CEMS must meet the design, installation, and performance specifications; pass the field tests; and meet the data analysis and reporting requirements specified by the TCEQ and the EPA. The CEMS data must be recorded on a continuous basis while the units are operating and must be made available to the TCEQ, EPA, or other air pollution control program having jurisdiction.

5.1.2.5 Continuous Determination of Compliance for NH_3

The TCEQ will also require that the NH_3 slip concentration in each exhaust stack be tested or calculated according to methods prescribed by the TCEQ. Testing for NH_3 slip is only required on days when the Selective Catalytic Reduction (SCR) unit is in operation.

5.1.2.6 Recordkeeping Requirements

The air quality permit will also require that certain records be maintained at the plant for the life of the permit. All records required by the permit must be made available at the request of personnel from the TCEQ, EPA, or any air pollution control agency with jurisdiction. These records may include:

A. A copy of the NSR/PSD permit;

B. A complete copy of the testing reports and records of the initial performance testing to demonstrate initial compliance; and

C. Stack sampling results or other air emissions testing (other than CEMS data) that may be requested by the TCEQ.

In addition, the air quality permit may also require that certain information be maintained in a form suitable for inspection for a period of 2 years after collection. This information may include CEMS data, records of operation, fuel usage rates, etc. This information must also be made available to the TCEQ, EPA, or any local air pollution control program having jurisdiction.

Table 5-1 lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by the initial air quality permits for the first unit; NSR Permit No. 52756 and PSD-TX-1026. The emission rates shown are those derived from information submitted as part of the initial application for permit and are the maximum rates allowed for these facilities.

5.1.2.7 Results of Atmospheric Dispersion Modeling of Emissions

In obtaining the NSR/PSD permit authorization from the TCEQ, Brazos Electric will be required to submit air dispersion modeling to demonstrate that air contaminant emissions from the proposed expansion will not have a significant impact on the health, general welfare and property of the public, and to demonstrate compliance with all air quality rules and regulations and the intent of the Texas Clean Air Act. Although this modeling has not been submitted to the TCEQ, the TCEQ will be reluctant to issue a permit unless the predicted impact of emissions from the plant is demonstrated to be acceptable to the TCEQ. Therefore, it is expected that air contaminant emissions from the proposed power plant project will not result in unacceptable off-property air quality impacts to the surrounding area.

Table 5-2 lists the anticipated maximum allowable emission rates and all sources of air contaminants to be covered by the pending air quality permits for the second unit; NSR Permit No. 83801 and PSD-TX-1117. The air contaminant emission rates shown are those derived from information submitted as part of the application for permits and are the maximum rates expected for these facilities.

Table 5-1

Emission Sources – Maximum Allowable Emission Rates for Existing Jack County Unit 1

Permit Numbers 52756 and PSD-TX-1026

(Note: The table below lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by the initial air quality permits for the first unit; NSR Permit No. 52756 and PSD-TX-1026. The emission rates shown are those derived from information submitted as part of the initial application for permit and are the maximum rates allowed for these facilities.)

		Air Contaminants Data		
Emission	Source	Air Contaminant	Emission Rates *	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY**
HRSG-1	Combustion Turbine with 550 MMBtu/hr Duct Burner	NO_x	45.3	187.0
		CO	87.3	364.0
		VOC	20.6	86.7
		PM_{10}	34.7	149.0
		SO_2	14.5	58.7
		NH_3	23.4	96.8
HRSG-2	Combustion Turbine with 550 MMBtu/hr Duct Burner	NO_x	45.3	187.0
		CO	87.3	364.0
		VOC	20.6	86.7
		PM_{10}	34.7	149.0
		SO_2	14.5	58.7
		NH_3	23.4	96.8
CTVs 1 thru 10	Cooling Tower Vents (4)	PM	3.0	13.1
		PM_{10}	0.4	1.9
FUG-1	Power Block 1 Fugitive Emissions (5)	VOC	<0.01	<0.02
FUG-2	Power Block 2 Fugitive Emissions (5)	VOC	<0.01	<0.02
FUG-3	N.G. Meter Skid Fugitive Emissions (5)	VOC	<0.01	<0.01
OWS-1	Oil-Water Separator	VOC	0.40	1.1
FWP-TK	Fire Water Pump Storage Tank	VOC	<0.01	<0.01
B-1	Auxiliary Boiler	NO_x	1.3	3.9
		CO	1.4	4.1
		VOC	0.6	1.8
		PM_{10}	0.4	1.1
		SO_2	0.3	0.7
FWP-1	Firewater Pump Engine (6)	NO_x	6.2	1.6
		CO	3.8	1.0
		VOC	0.5	0.2
		PM_{10}	0.5	0.2
		SO_2	0.5	0.1
CVs 1 thru 16	Chiller Vents	PM	0.8	3.5
		PM_{10}	0.2	0.6

Table 5-1
Emission Sources – Maximum Allowable Emission Rates for Existing Jack County Unit 1
Permit Numbers 52756 and PSD-TX-1026
(concluded)

Emission Point No. (1)	Source Name (2)	Air Contaminants Data: Air Contaminant Name (3)	Emission Rates *: lb/hr	Emission Rates *: TPY**
DG-1	Diesel Generator Engine (6)	NO_x	20.8	5.2
		CO	12.6	3.2
		VOC	1.7	0.5
		PM_{10}	1.5	0.4
		SO_2	1.4	0.4
DG-TK	Diesel Generator Engine Storage Tank	VOC	0.2	<0.01
ACID-TK	Acid Storage Tank	H_2SO_4	0.2	<0.01
NH3-Fugitives	Ammonia Storage Tank	NH_3	<0.01	<0.01

(1) Emission point identification - either specific equipment designation or emission point number (EPN).

(2) Specific point source name. For fugitive sources use area name or fugitive source name.

(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
CO - carbon monoxide
SO_2 - sulfur dioxide
PM - particulate matter, suspended in the atmosphere, including PM_{10}.
PM_{10} - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.
H_2SO_4 - sulfuric acid

(4) Cooling tower PM and PM_{10} emissions are an estimate only based on manufacturers' data. Cooling tower assembly has ten vent fan exhausts; emissions are sum-total of all ten exhausts.

(5) Fugitive emissions are an estimate based on component count and applicable fugitive emission factors.

(6) Emissions are based on non-emergency operation of 500 operating hours per year.

* Emission rates are based on an operating schedule of 8,760 hours/year.

** Compliance with the annual emission limits shall be based on a rolling 12-month year rather than the calendar year.

Table 5-2

Emission Sources – Maximum Allowable Emission Rates for Addition of Jack County Unit 2

Permit Numbers 83801 and PSD-TX-1117

(Note: The table below lists the anticipated maximum allowable emission rates and all sources of air contaminants to be covered by the pending air quality permits for the second unit; NSR Permit No. 83801 and PSD-TX-1117. The air contaminant emission rates shown are those derived from information submitted as part of the application for permits and are the maximum rates expected for these facilities.)

		Air Contaminants Data		
Emission	Source	Air Contaminant	Emission Rates *	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY**
HRSG-3	Combustion Turbine with 600 MMBtu/hr Duct Burner	NO_x	43.61	191.01
		CO	58.72	257.19
		VOC	5.36	23.48
		PM_{10}	13.65	59.79
		SO_2	13.31	14.58
		H_2SO_4	1.33	1.46
		Formaldehyde	0.16	0.69
		NH_3	22.60	98.99
HRSG-4	Combustion Turbine with 600 MMBtu/hr Duct Burner	NO_x	43.61	191.01
		CO	58.72	257.19
		VOC	5.36	23.48
		PM_{10}	13.65	59.79
		SO_2	13.31	14.58
		H_2SO_4	1.33	1.46
		Formaldehyde	0.16	0.69
		NH_3	22.60	98.99
CT-2	Cooling Tower 2 (4)	PM	2.67	11.71
		PM_{10}	1.26	5.50
CP-2	Chiller Package 2 (4)	PM	0.06	0.25
		PM_{10}	0.05	0.21
FUG-4	Power Block 3 Fugitive Emissions (5)	VOC	0.07	0.29
FUG-5	Power Block 4 Fugitive Emissions (5)	VOC	0.07	0.29
2EBTK0100	Diesel Storage Tank	VOC	0.01	0.02
CITK0700	Aqueous Ammonia Fugitive Emissions (5)	NH_3	0.01	0.01
2CITK0120	Sulfuric Acid Storage Tank	NaOH	0.01	0.01
2CITK0110	Sodium Hydroxide Storage Tank	H_2SO_4	0.01	0.01
2CITK0400	Sodium Hypochlorite Storage Tank	Sodium Hypochlorite	1.56	0.08
B-2	Auxiliary Boiler 2	NO_x	1.28	1.12
		CO	1.35	1.19
		VOC	0.59	0.51
		PM_{10}	0.37	0.32
		SO_2	0.20	0.04

Table 5-2
Emission Sources – Maximum Allowable Emission Rates for Addition of Jack County Unit 2
Permit Numbers 83801 and PSD-TX-1117
(concluded)

Emission Point No. (1)	Source Name (2)	Air Contaminants Data: Air Contaminant Name (3)	Emission Rates *: lb/hr	Emission Rates *: TPY**
DG-2	Diesel Generator Engine (6)	NO_x	4.00	0.30
		CO	3.48	0.26
		VOC	4.00	0.30
		PM_{10}	0.20	0.02
		SO_2	0.80	0.06

(1) Emission point identification - either specific equipment designation or emission point number (EPN).

(2) Specific point source name. For fugitive sources use area name or fugitive source name.

(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
CO - carbon monoxide
SO_2 - sulfur dioxide
PM - particulate matter, suspended in the atmosphere, including PM_{10}.
PM_{10} - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.
H_2SO_4 - sulfuric acid

(4) Cooling tower PM and PM_{10} emissions are an estimate only.

(5) Fugitive emissions are an estimate based on component count and applicable fugitive emission factors.

(6) Emissions are based on non-emergency operation of 150 operating hours per year.

* Emission rates are based on an operating schedule of 8,760 hours/year.

** Compliance with the annual emission limits shall be based on a rolling 12-month year rather than the calendar year.

5.1.2.8 Greenhouse Gas Emissions

Global temperatures have increased significantly in the last 50 years. This phenomenon is referred to as "global warming." Increased emissions of greenhouse gases from anthropogenic (i.e., human) activity over the last 100 years are suspected of playing a role in the observed global warming, although the precise mechanisms and magnitude of their effect remains subject to debate within the scientific community. However, there currently is broad consensus within those members of the scientific community who have researched this issue that greenhouse gas emissions associated with such anthropogenic activity has contributed to the observed global warming phenomenon.

Although the earth's atmosphere consists mainly of oxygen and nitrogen, neither plays a significant role in enhancing the greenhouse effect because both are essentially transparent to terrestrial radiation. The greenhouse effect is primarily a function of the concentration of water vapor, carbon dioxide, and other trace gases in the atmosphere that absorb the terrestrial radiation leaving the surface of the earth. Changes in the atmospheric concentrations of these greenhouse gases can alter the balance of energy transfers between the atmosphere, space, land, and the oceans creating a net increase in the absorption of energy by the earth.

Greenhouse gases, which include carbon dioxide, methane, nitrous oxides, chlorofluorocarbons, and other chemicals, play a natural role in maintaining the temperature of the earth's atmosphere, by allowing some sunlight to pass through and heat the surface of the earth, and then absorbing a portion of the infrared heat reflected or transmitted from the ground. Natural sources of greenhouse gases include volcanic eruptions, plant respiration and decomposition of organic matter.

Naturally occurring greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxide, and ozone. Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also greenhouse gases, but they are, for the most part, solely a product of industrial activities. Chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) are halocarbons that contain chlorine, while halocarbons that contain bromine are referred to as bromofluorocarbons (i.e., halons). Some other fluorine-containing halogenated substances—hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride—do not deplete stratospheric ozone but are potent greenhouse gases.

There are also several gases that also influence global warming. These tropospheric gases include carbon monoxide, nitrogen dioxide, sulfur dioxide, and tropospheric (ground level) ozone. Tropospheric ozone is formed by two precursor pollutants, VOCs and nitrogen oxides in the presence of ultraviolet light (sunlight). Aerosols are extremely small particles or liquid droplets that are often composed of sulfur compounds, carbonaceous combustion products, crustal materials and other human induced pollutants. They can also affect the absorptive characteristics of the atmosphere.

Carbon dioxide, methane, and nitrous oxide are continuously emitted to and removed from the atmosphere by natural processes on earth. Anthropogenic activities, however, can cause additional quantities of these and other greenhouse gases to be emitted or sequestered, thereby changing their global

average atmospheric concentrations. Natural activities such as respiration by plants or animals and seasonal cycles of plant growth and decay are examples of processes that only cycle carbon or nitrogen between the atmosphere and organic biomass. Such processes, except when directly or indirectly perturbed out of equilibrium by anthropogenic activities, generally do not alter average atmospheric greenhouse gas concentrations over decadal timeframes. Climatic changes resulting from anthropogenic activities, however, could have positive or negative feedback effects on these natural systems.

Energy-related activities were the primary sources of U.S. anthropogenic greenhouse gas emissions, accounting for 86% of total emissions in 2006. Energy-related carbon dioxide emissions alone constituted 83% of national emissions from all sources, while the noncarbon dioxide emissions from energy-related activities represented a much smaller portion of total national emissions (4% collectively).

Emissions from fossil fuel combustion comprise the vast majority of energy-related emissions, with carbon dioxide being the primary gas emitted. Fossil fuel combustion also emits methane and nitrous oxide, as well as indirect greenhouse gases such as nitrogen oxides, carbon monoxide, and nonmethane VOCs. Mobile fossil fuel combustion was the second largest source of nitrous oxide emissions in the U.S., and overall energy-related activities were collectively the largest source of these indirect greenhouse gas emissions.

In the U.S., 82% of the energy consumed in 2006 was produced through the combustion of fossil fuels such as coal, natural gas, and petroleum. The remaining portion was supplied by nuclear electric power (8%) and by a variety of renewable energy sources (9%), primarily hydroelectric power and biofuels. Specifically, petroleum supplied the largest share of domestic energy demands, accounting for an average of 43% of total fossil fuel based energy consumption in 2006. Coal and natural gas each accounted for 28% of total consumption. Petroleum was consumed primarily in the transportation end-use sector, the vast majority of coal was used in electricity generation, and natural gas was broadly consumed in all end-use sectors except transportation (EPA, 2007).

Carbon dioxide is an unavoidable product of combustion of any power generation technology using fossil fuel including natural gas fuel. Carbon dioxide forms when one atom of carbon unites with two atoms of oxygen, either during combustion or in the atmosphere after being emitted from the stack. Based upon a 100% fraction of fuel oxidized during combustion, 110 pounds of carbon dioxide is produced for every million British thermal unit (MMBtu) of natural gas fired in natural gas-fired turbines (EPA, 2000).

The proposed power plant project would fire natural gas fuel at a maximum heat input rate of 2216.2 MMBtu/hr. Applying the AP-42 emission factor and conservatively assuming year round operation (8760 hours/year) would result in potential estimated annual carbon dioxide emissions of about 1.1 million tons of carbon dioxide per unit.

Although a seemingly large number, the carbon dioxide production of a gas-fired combined-cycle plant on a unit output basis is much lower than that of other fossil fuel technologies. Gas-fired combined-cycle plants produce less carbon dioxide per unit energy output than other fossil fuel technologies because of

the relatively high thermal efficiency of the technology and the high hydrogen-carbon ratio of methane (the primary constituent of natural gas). A combined cycle system such as the proposed power plant project is highly efficient; as much as 80% of the fuel input can be converted into usable energy. The proposed CTG/HRSG units working in combined cycle mode will produce electricity or mechanical power and capture recoverable "waste" heat for the production of steam and additional power generation. This combustion and operational efficiency will also greatly reduce the amount of heat, unburned hydrocarbons, and carbon dioxide released into the atmosphere. Energy savings to the plant will also be realized by using the thermal and electrical energy produced during onsite power generation to meet onsite thermal or additional power loads.

The electric power generating industry is participating in extensive research on further defining the extent to which emissions of anthropogenic greenhouse gases contributes to global warming. In addition, technological approaches to reducing greenhouse gas emissions from industrial facilities are the subject of numerous research projects around the world. One possible means to reduce atmospheric emissions of carbon dioxide is to compress and inject it deep underground; however, this technology, and the means to concentrate carbon dioxide in a gasification process, is in the experimental stage.

5.2 GEOLOGY AND SOILS

No significant impacts to the topography or geological resources of the project site are anticipated as a result of the proposed project. Construction will require the removal and/or disturbance of small amounts of near-surface materials, yet the construction will have no measurable effect on the geological features or resources of the project area and will create few long-term adverse impacts on soils.

To reduce potential erosion areas, the grading of temporary roads, construction areas, staging areas or other areas where vegetation is removed will be minimized. Inspection both during and after construction will ensure that problem erosion areas (if any) are identified. These areas will be restored to their pre-construction conditions where possible, and if needed, stabilized by grading parallel to the landscape contours in a manner that conforms to the natural topography as much as possible, and by reseeding the area.

Potential impacts to soils include compaction and increased erosion where vegetation is cleared. Natural succession will revegetate the majority of the project disturbance; however, revegetation of disturbed soils will further reduce potential impacts by erosion. Special precautions will be taken to minimize vehicular traffic, thereby reducing soils compaction. Nevertheless, the most important factor in controlling soil erosion associated with construction activity is to revegetate areas that have potential erosion problems immediately following construction. To further minimize potential impacts to soils, sedimentation and erosion controls such silt fences, etc. will be used. Erosion control measures will be installed prior to any disturbance and will be removed after restoration is complete.

Prime farmland soils, as defined by the NRCS, are soils that are best suited to producing food, feed, forage, or fiber crops. The USDA recognizes the importance and vulnerability of prime farmlands

throughout the nation and, therefore, encourages the wise use and conservation of these soils where possible. A number of soils within the project vicinity are considered prime farmland soils (USDA, 1992). However, there are no prime farmland soils on the power plant site (Greenwade, 2003). Potential erosion impacts to these prime farmland soils from future construction of pipelines or overhead electric transmission lines are anticipated to be insignificant. Construction-related erosion poses the primary concern of impact to prime farmland soils, especially during clearing activities. However, these impacts, if any, are usually temporary and no long-term adverse impacts to prime farmland soils within the project area are anticipated.

5.3 WATER RESOURCES

5.3.1 Water Resource Impacts

The proposed power plant discharge is not likely to have any adverse impacts to waters within the project vicinity. Power plant discharge will be carried from the plant site via pipeline to the Bridgeport (City) waste water treatment system. Discharged water will be treated to established water quality parameters as per required regulations before final release into approved receiving waters.

A Zero Liquid Discharge (ZLD) system was installed at the plant during the initial construction phase, and has successfully recycled all process wastewater. All storm water runoff will be per state and federal regulations and tested periodically for any contaminants.

5.3.2 Stormwater Impacts

If contaminants enter the storm sewer system, they can be discharged to local creeks, thereby impacting the stream ecosystems. All storm water from the transformer area must be treated in an oil-water separator system before discharge. Stormwater from the rest of the facility will leave the site as sheet or channel flow into surrounding land and into Jasper Creek or other nearby discharge location. Because the power facility is not expected to be a major source of water pollutants, no significant adverse impacts are expected. However, stormwater runoff from parking lots and other impervious surfaces may contain high levels of total suspended solids, oil, and grease, FC and other constituents, and may cause some water quality impacts to the immediate downstream, especially during the first flush period. Therefore, a Stormwater Pollution Prevention Plan (SWPPP) is required as part of the power plant's stormwater management and permitting plan. This stormwater plan should include the necessary Best Management Practices (BMPs) to prevent adverse impacts due to stormwater runoff from occurring.

5.3.3 Construction Phase Impacts

During the construction phase of the power station expansion, minimal earth movement and excavation will take place, but heavy machinery will be operated on site. Soil disturbance from construction activities can contribute to soil erosion leading to increased sediment inputs to Jasper Creek or other minor tributaries. To a lesser degree, oil and grease and other constituents can be present in the stormwater

runoff from the construction site. Vehicular traffic should be minimized to reduce the impacts of compaction. A stormwater pollution prevention plan should be prepared during the permit application process that addresses the BMPs necessary to minimize stormwater impacts. The site should be restored to pre-construction conditions, where possible, by grading parallel to landscape contours in a manner that conforms to the natural topography as much as possible, and by reseeding the area.

5.3.4 Floodplain Impacts

Jack County does not participate in the National Flood Insurance Program (NFIP), administered by FEMA, therefore no 100-year floodplains have been mapped for any streams within the project vicinity. Regardless, the proposed power plant expansion project would not require additional excavation, grading, or alteration to topography in low-lying areas.

5.3.5 Groundwater Impacts

5.3.5.1 Aquifer Hydraulics

Based on data from the TRWD, the conservation storage of Lake Bridgeport is 386,539 ac-ft and the conservation pool elevation is 836 ft. Maximum storage is 923,817 ac-ft. There appears to be sufficient water for power generation in the lake and no additional water is needed from groundwater.

Lake water balance studies and long term records can indicate if volumes and water levels encountered during dry periods are sufficient for the proposed power plant operations. If low water levels in the lake during dry periods are a concern, alternatives to pump groundwater need to be explored. This groundwater may be needed for cooling purposes, for example. A detailed knowledge of the aquifer properties would then become necessary. In such a situation, aquifer properties such as transmissivity can be estimated using pumping tests. The interaction between the lake and groundwater levels could also be studied.

To operate the plant at base load without peak firing, the water requirements is 3.8 MGD. To fully duct fire the units for 5 hours, the plant needs an additional 1.3 MGD for a total of 5.1 MGD. The Zero Liquid Discharge system will recycle .75 MGD of process wastewater, and an additional .6 MGD of effluent water will be purchased from the city of Bridgeport or Jacksboro.

5.3.5.2 Impacts to Surrounding Wells

The proposed power plant will obtain water for operating purposes from Lake Bridgeport. Because groundwater is not being used as a source (except for potable water supplied from an on-site well), there should not be any impact to surrounding wells from the proposed power plant. However, low flow periods may be monitored to study any potential lowering of groundwater levels following lake water withdrawals.

Storage tanks with fuel and related products may leak or get ruptured and the infiltration of these products into the aquifer can adversely impact groundwater quality. The potential for such impacts should be reduced using suitable BMPs.

5.4 ECOLOGY

5.4.1 Vegetation

Impacts to vegetation that would normally result from the proposed power plant project is the permanent removal of existing vegetation. However, the 50-ac generation facility was cleared during Phase I construction; therefore, no impacts to vegetation are anticipated as part of the Jack County Unit 2 project. During construction of Phase II, some surrounding vegetation may become coated with fugitive dust; however, this is expected to be minor and temporary.

5.4.2 Wildlife

The impacts of the proposed project on wildlife can be divided into short-term effects resulting from physical disturbance during construction and long-term effects resulting from habitat modification. The net effect of these two types of impacts on local wildlife would be minor. Clearing and construction will directly and/or indirectly affect most animals that usually reside or wander within the project area. Some small, low-mobility forms may be killed by the heavy construction machinery. These include several species of amphibians, retiles, mammals and, if construction occurs in the breeding season, the young of species, including nestling and fledgling birds. Fossorial animals (i.e., those that live underground) such as mice and shrews may similarly be negatively impacted as a result of soil compaction caused by heavy construction machinery. Large, more-mobile species such as birds, raccoons and coyotes would likely avoid the construction activities and move into adjacent areas outside the project site.

The increased noise and activity levels as well as fugitive dust during construction could potentially disturb breeding or other activities of species inhabiting the areas adjacent to the project area. However, these impacts are expected to be temporary. Although the normal behavior of some wildlife species may be disturbed during construction, little permanent damage to the population of such organisms would result.

There will likely be several future electric transmission lines that originate from the power plant site. Their exact locations and alignments have not been determined at this time. It is likely that an alternative routing study/environmental assessment report will be prepared for these lines in support of an application for a Certificate of Convenience and Necessity from the Public Utility Commission of Texas. These lines would also undergo environmental review by RUS if financing is provided by RUS. To the extent reasonable and feasible, these electric transmission lines will utilize or follow existing ROW and property lines to reduce potential land use and environmental impacts.

5.4.3 Wetlands

During the January 2003 ground reconnaissance survey of the proposed power plant site, no jurisdictional wetlands were identified. Thus, no impacts to wetlands occurred as a result of Jack County Unit 1 construction. Because Jack County Unit 1 included the site preparation for Jack County Unit 2, no additional excavation will be required, and thus no impacts to wetlands will occur as a result of Jack County Unit 2 construction.

However, impacts to the head waters of an intermittent stream channel, a jurisdictional water of the U.S., were mitigated before Phase I construction. Approximately 1,600 linear ft of the intermittent tributary to Jasper Creek, with an average ordinary high water mark of approximately 5 ft was permanently filled. A compensatory mitigation plan was prepared in order to compensate for environmental impacts to the stream (see Appendix A). Section 404 permitting has already been completed for impacts to this waterbody. No additional impacts to jurisdictional waters of the U.S. would occur as a result of this project.

5.4.4 Endangered and Threatened Species

5.4.4.1 Vegetation

Information was received from the TXNDD (2007) concerning the occurrence and location of state and federally listed plant species in the project area. The official state list of endangered and threatened plant species promulgated by the TPWD includes the same species listed by the FWS as endangered or threatened. Currently, 28 plant species are listed by the FWS as endangered or threatened in Texas (FWS, 2007b). According to TXNDD (2007), no documented records of any endangered or threatened plant species exist from Jack County.

5.4.4.2 Wildlife

According to the TXNDD, no recorded occurrences of endangered or threatened species are located within 1 mile of the power plant site. The potential for occurrence of individual species listed by FWS and TPWD as endangered or threatened within the project area are discussed below.

No adverse impacts to any of the avian species addressed in Section 4.4.4.2 are expected as a result of the construction of the power plant. During ground reconnaissance surveys none of the avian species, or their habitat, addressed in Section 4.4.4.2, were observed within the power plant site. Most are unlikely to occur within the power plant site and those that do are considered only transients, passing through.

During the ground reconnaissance survey no observations were made of the Texas horned lizard, timber/canebrake rattlesnake, or the Texas garter snake, or their habitat, within the power plant site. However, if these species occur at the site, they may be impacted to some extent during the construction phases of the project.

Mammals addressed in Section 4.4.4.2 that have a potential to occur within the power plant site include the Texas kangaroo rat, plains spotted skunk, and black-tailed prairie dog. During the ground reconnaissance survey, no observations were made of these species within the power plant site. Adverse impacts to the Texas kangaroo rat, plains spotted skunk, and black-tailed prairie dog are possible if these species occur and are in underground dens during the time of clearing and construction. The red wolf and the gray wolf are considered extirpated from Texas.

No aquatic species occur within the power plant site; therefore it is unlikely that adverse impacts to aquatic species will occur as a result of the proposed Jack County Unit 2 project.

5.5 SOCIOECONOMIC IMPACTS

For this project, minimal short-term local employment will be generated. Brazos Electric normally uses its own employees or contractors during the clearing and construction phase of projects. A portion of the project wages will find their way into the local economy through purchases such as fuel, food, lodging, and possibly building materials. Furthermore, as a private utility, Brazos Electric is required to pay sales tax on its purchases and local property tax on land or improvements. The cost of permitting, designing, and constructing the proposed expansion will be paid for through a loan guarantee from the USDA RUS and ultimately from revenue generated by the sale of electrical service.

Potential long-term economic benefits to the community resulting from construction of this project are based on the requirement of electric utilities to provide an adequate and reliable level of power throughout their service areas. Economic growth and development rely heavily on adequate public utilities, including a reliable electrical power supply. Without this basic infrastructure a community's potential for economic growth is constrained and its ability to meet the demands of future growth would be limited.

Furthermore, disproportionate impacts in relation to EJ issues are not indicated, as the area is not characterized by ethnic minority or economically stressed populations (USBOC, 2000).

5.6 LAND USE/AESTHETICS

5.6.1 Land Use

Land use impacts can be determined by the amount of land actually converted from one use to another, and by the compatibility of the proposed use with adjacent land uses. The proposed expansion of the Jack County Power Plant would not convert any land uses. The entire 50-ac generation facility was excavated and graded during the initial construction of Jack County Unit 1. With regard to adjacent land uses, the proposed site is surrounded on all four sides by rangeland. The proposed action will not impact or cause the relocation of any existing structure or population, nor should it significantly impact or modify social or community cohesion in the project area.

An abandoned gas/oil well currently exists on the plant site and is owned by Ray Ritchie Oil Productions in Fort Worth, Texas. A meeting was held with the owner of the well, and during the meeting, construction

plans of the power plant were disclosed. The well did not impact the construction, or operations, of Phase I of the power plant. The well owner indicated that there are plans to plug the existing well, and indicated if there are plans to re-drill at the lease, that they would work around the proposed equipment location of both Phase I and Phase II.

There could be future electric transmission lines that originate from the power plant site. Their exact locations and alignments have not been determined at this time. It is likely that an alternative routing study/environmental assessment report will be prepared for these lines in support of an application for a Certificate of Convenience and Necessity from the Public Utility Commission of Texas. These lines would also undergo environmental review by RUS if financing is provided by RUS. To the extent reasonable and feasible, these electric transmission lines will utilize or follow existing ROW and property lines to reduce potential land use and environmental impacts.

5.6.2 Aesthetics

As described in Section 4.6.2, the visual environment within the project site's vicinity is not particularly unique or sensitive within the overall region. The level of human impact is high from agricultural, residential, and commercial development, as well as transportation facilities, utilities, oil and gas operations, and the existing Jack County Power Plant. Furthermore, there are no designated scenic views, scenic areas, or other protected views in the project area. The proposed Jack County Unit 2 would be constructed on the prepared pad site located immediately north of Jack County Unit 1 (see Figure 2-2). Equipment and configuration of the proposed second unit would match the existing Jack County Unit 1 facilities. Because construction of the second unit would not create an intrusion into, or substantially alter the character of, the existing view, the significance of the impact would be qualitative, rather than quantitative. In other words, the degree of the impact associated with Jack County Unit 2 would be less severe as compared to the impact of constructing a new facility.

There will likely be several future electric transmission lines that originate from the power plant site. Their exact locations and alignments have not been determined at this time. It is likely that an alternative routing study/environmental assessment report will be prepared for these lines in support of an application for a Certificate of Convenience and Necessity from the Public Utility Commission of Texas. These lines would also undergo environmental review by RUS if financing is provided by RUS. To the extent reasonable and feasible, these electric transmission lines will utilize or follow existing ROW and property lines to reduce potential land use and environmental impacts.

5.7 NOISE IMPACTS

5.7.1 Construction Impacts

Construction noise levels in the vicinity of the project site would fluctuate depending on the type and amount of construction equipment, as well as the duration of construction activities. Typical noise levels associated with the various construction phases are shown in Table 5-3. In general, the excavation and

finishing phases of construction tend to be the noisiest, while ground clearing and erection phases tend to be less noisy. The noise intensity from construction equipment generally decreases by approximately 6 to 7 dBA for each doubling of distance from the source. Therefore, noise levels listed in Table 5-3 would be reduced by approximately 6 dBA at 100 ft, and reduced by a total of 14 dBA at 200 ft (EPA, 1971).

Table 5-3
Typical Construction Site Noise Levels

Construction Phase	Noise Level (dBA)[1]
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

[1] Noise levels are derived with the noisiest piece of equipment located at 50 ft from observer, with all other equipment located at 200 ft.

Source: EPA, 1971.

When considering the effects of construction activities within the project vicinity, "worst-case" conditions are assumed to occur when activities are performed along the perimeter of the proposed project site boundary. For the proposed expansion project, however, the majority of construction activities will occur within the center of the generation island. Calculations indicate that noise levels at the nearest noise-sensitive receiver (Receiver 3), located approximately 1,300 ft from the center of construction activities, would be 60 dBA. It is anticipated that increased noise levels associated with construction activities would occur during daytime hours, would be short-term, and would have minor adverse effects on local residences. Furthermore, little excavation and/or earth-moving equipment would be required for the proposed plant expansion, as the expansion area was cleared, excavated, and leveled during initial construction phases.

5.7.2 Operation Impacts

Noise-producing operations of the proposed project can be categorized into four separate operation types: gas turbine generators (GTG), steam turbine generators (STG), and the cooling tower, and major pumps/motors. These activities can occur simultaneously, although spread out over the project site.

Sound pressure levels of two separate sources are not directly additive. As shown in Table 5-4, if a sound of 60 dBA is added to another sound of 60 dBA, the resulting noise level is 63 dBA, not 120 dBA. Therefore, if the noise levels from equipment within a 2-x-1 water-cooled, combined-cycle plant (i.e., Jack County Unit 1) is 90 dBA at 3 ft, doubling the capacity with Jack County Unit 2, would result in the combined noise level of both units at approximately 93 dBA at 3 ft.

Table 5-4
Decibel Addition

Difference Between Two Sources	For Example	Add To Higher Level	Resultant Sound Level
0 dB	60 and 60 dB	3 dB	63 dB
1 dB	60 and 61 dB		64 dB
2 dB	60 and 62 dB	2 dB	64 dB
3 dB	60 and 63 dB		65 dB
4–9 dB	60 and 65 dB	1 dB	66 dB
10 or more	60 and 70 dB	0 dB	70 dB

Source: TxDOT, 1996b.

Numerous studies by Duke/Flour Daniel have provided an approximation of noise level emissions at various distances from the center of a typical 2-x-1 water-cooled combined cycle power plant. These distances and approximate associated decibel levels are listed in Table 5-5 below. These estimated distances, however, do not take into account factors such as intervening topography, vegetation, and wind direction.

Table 5-5
Estimated Operational Noise Level Contours

Distance from Center of Power Island	**Estimated Existing Noise Levels**	**Estimated Future Noise Levels**
400 to 500 ft	60–70 dBA	63–73 dBA
800 to 1,000 ft	50–60 dBA	53–63 dBA
1,600 ft	45–55 dBA	48–58 dBA
2,600 ft (~½ mile)	40–45 dBA	43–48 dBA
5,280 ft (~1 mile)	35–40 dBA	38–43 dBA

Note: Typical noise levels for a 2-x-1 water-cooled, combined-cycle power plant, on flat land or slightly rolling hills with equipment at source noise 90 dBA at 3 ft. Background noise is defined as existing sound levels due to wind, weather, train, pass-bys, airplane pass-overs, highway traffic pass-by, animals (birds, crickets, cattle, etc.), existing commercial facilities – all measured by sound receptors and then time averaged.

Source: Duke/Fluor Daniel.

Studies undertaken to review the case histories of community response to intruding noise indicate the following (EPA, 1974):

Sound Level Increase	Expected Community Response
0 to 5 dB	No observed reaction
5 to 10 dB	Sporadic complaints
10 to 15 dB	Widespread complaints
15 to 25 dB	Threats of community action
More than 25 dB	Vigorous community action

As shown on Figure 5-1, the nearest noise-sensitive receiver (Site 3) is located approximately 1,300 ft from the center of the generation island. At this distance, the operational noise emitted from the facility would be approximately 48 to 58 dBA. Receiver 2 is located approximately 2,200 ft from the center of the generation island, where noise levels would be slightly above 48 dBA. The remaining receivers are located between 2,850 ft and 5,000 ft from the center of the generation island. At this distance, the operational noise levels would be less than 48 dBA. According to the EPA, typical residential rural areas have an average L_{dn} of less than 50 dBA (EPA, 1976). Therefore, the noise level at Receiver Site 3 could increase 3 dBA and could be as much as approximately 8 dBA above the typical level in a rural setting. A noise level increase of 3 dBA would be barely perceptible and not considered a significant adverse impact.

5.8 IMPACTS TO PUBLIC HEALTH

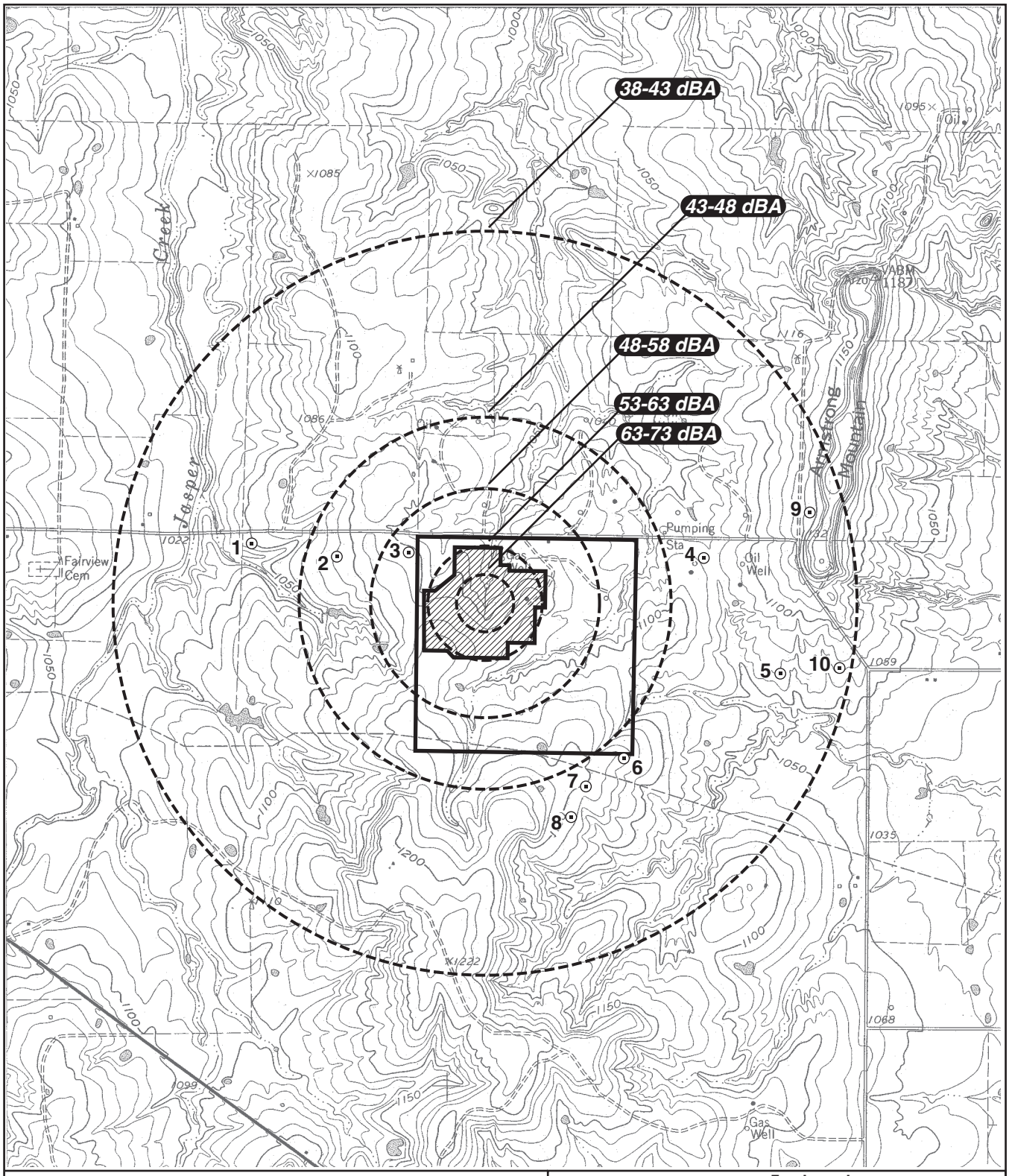
Potential public health impacts could be associated with both the construction and operational phases of the proposed expansion project, from air emissions, water runoff, and noise. During the construction phase, however, these effects would be temporary, transient, and mitigated to a degree by standard construction practices such as dust suppression, erosion/sedimentation controls, etc. and would not present any significant, long-term impacts to public health.

The primary component of the proposed plant's wastewater discharge would be cooling tower blowdown. The two primary water-quality parameters of concern associated with this discharge are TDS and temperature. Each of these parameters will comply with all necessary wastewater/stormwater permit requirements. Thus, it is expected that the proposed discharge will not produce any significant adverse impacts that could affect public health.

Although there are no local, state, or federal regulations regarding acceptable noise levels from this type of facility, PBS&J's noise level predictions indicate that noise from the proposed station will be within both EPA and HUD noise guidelines and criteria and therefore there will be no significant, adverse effects on public health.

There will likely be several future electric transmission lines that originate from the power plant site. Their exact locations and alignments have not been determined at this time. It is likely that an alternative routing study/environmental assessment report will be prepared for these lines in support of an application for a Certificate of Convenience and Necessity from the Public Utility Commission of Texas. These lines would also undergo environmental review by RUS if financing is provided by RUS. To the extent reasonable and feasible, these electric transmission lines will utilize or follow existing ROW and property lines to reduce potential land use and environmental impacts.

More detailed discussions of potential impacts related to air emissions, water quality, and noise are presented in sections 5.1, 5.3, and 5.7, respectively.



north

0 2000 4000 feet

Base Map: USGS 7.5' Quadrangle; Gibtown

PBS&J

• Engineering
• Environmental Consulting
• Surveying

Figure 5-1

PROJECTED NOISE EMISSIONS AT NOISE SENSITIVE RECEIVER LOCATIONS

JACK COUNTY POWER PLANT EXPANSION

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5.9 CULTURAL RESOURCES

5.9.1 Impacts on Cultural Resources

Any construction activity has the potential for adversely impacting cultural resource sites. The impacts may occur through changes in the quality of the historical, architectural, archaeological, or cultural characteristics of that cultural entity. These impacts may occur when an undertaking alters the integrity of location, design, setting, materials, construction, or association of the property that contributes to its significance according to the National Register criteria. Impacts may be direct or indirect.

As discussed in 36 CFR 800, adverse impacts on National Register or eligible properties may occur under conditions that include, but are not limited to:

1) destruction or alteration of all or part of a property;

2) isolation from or alteration of the property's surrounding environment (setting); or

3) introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting.

5.9.1.1 Direct Impacts

Direct impacts to known or unknown cultural resources sites may occur during the construction phase of the proposed project. Direct impacts may be caused by the actual construction of the proposed plant and associated utilities, or through increased vehicular and pedestrian traffic during the construction phase. The increase in vehicular traffic may damage surficial or shallowly buried sites, while the increase in pedestrian traffic may result in vandalism of some sites. Additionally, the integrity of the character of any unrecorded, significant historic structures could also be visually impacted by the construction of the proposed plant or other associated facilities.

5.9.1.2 Indirect Impacts

Indirect impacts include those caused by the undertaking that occur later in time or are further removed in distance but are reasonably foreseeable. These indirect impacts may include alteration in the pattern of land use, changes in population density, accelerated growth rates, or increased pedestrian or vehicular traffic, all of which may have an adverse impact on properties of historical, architectural, archaeological or cultural significance. Historical sites and landscapes might be adversely impacted by the visibility of the proposed plant or the transmission towers and lines.

5.9.1.3 Mitigation

The preferred form of mitigation for cultural resources is avoidance. An alternative form of mitigation of direct impacts can be developed for archaeological and historical sites with the implementation of a program of detailed data retrieval. Additionally, relocation may be possible for some historic structures.

Indirect impacts on historical properties and landscapes can be lessened through careful design considerations and landscaping.

5.9.1.4 Summary of Cultural Resources Impacts

One of the methods utilized to assess an area for potential cultural resources is to identify a high probability area (HPA). When identifying HPAs, the topographic setting, environment, and the availability of raw material and water and subsistence resources are all taken into consideration. Generally, when defining a HPA, a distance relationship to a water resource is set, which would encompass landforms within approximately 1,000 ft of any perennial and/or intermittent drainage. HPAs would be located in an environmental setting that would provide either adequate food or lithic resources. Geological processes are also important because they have the potential for protecting the integrity of an archaeological site by burying it within deep sediments or destroying it by erosional processes.

One archaeological site (41JA17) is located within the boundaries of the 205-ac plant site. The THC has not had the opportunity to evaluate 41JA17 and consultation with them will be required to determine the NRHP-eligibility status of the site. None of the NRHP-listed or determined eligible for listing properties, or SAL-designated sites identified during the records review are located within the plant site boundaries. Additionally, none of the OTHMs, Texas Historic Cemeteries, Century Farms or Ranches, or NRHP-listed bridges are located in the plant site.

It is not anticipated that there will be additional impacts to 41JA17 during or after the proposed Jack County Unit 2 construction. The new construction is confined to portions of the property that were previously disturbed during the Phase I construction.

6.0 Cumulative Impacts

6.0 CUMULATIVE IMPACTS

The project area occurs within a largely rural and agricultural landscape. No new residential subdivisions or commercial developments are known to be planned for the immediate project area. However, it is possible that new construction of single-family dwellings may occur at various times on various private landholdings near the project area. Construction of an additional, new electrical generation station and associated infrastructure was recently completed near the Jack-Wise county line approximately 4 miles southeast of the proposed Brazos Electric facility. The combined development of the proposed Brazos Electric facility and the recently completed facility may have a minor cumulative effect on the natural and human environment within the project area. Potential impacts may include increased air emissions, increased water demand, land conversion, and possible loss of native vegetation and wildlife habitat. Specific, future related impacts and/or projects in the vicinity of the proposed Brazos Electric generation station are unknown by PBS&J at this time.

While Brazos Electric will irreversibly expend labor, materials, fuel (natural gas), etc., in the construction and operation of the proposed power station expansion, no other known irreversible or irretrievable commitments of natural resources will occur. As the purpose of the proposed expansion project is to meet rising energy demand in the project area, it will not create any significant new energy demand. In addition, no new, unusual, or limited sources or types of materials are proposed for use in this project.

Prior to Phase I, Brazos Electric purchased the development rights, and site option to acquire the Jack County site, from Duke Energy North America (DENA). The air permit had already been issued to DENA for the site to support a nominal 520-MW combined cycle unit at 9 ppm NO_x. ENSR conducted the air dispersion model and prepared the final report for the TCEQ, previous known as Texas Natural Resource Conservation Commission (TNRCC). DENA was in the process of revising the permit to support a 620-MW duct-fired plant at the time of Brazos Electric acquired the development rights from DENA. The permit NO_x limits was changed to 5 ppm NO_x when the permit was revised.

To evaluate the probability of adding a Phase II 2-x-1 combined cycle unit to the site, Brazos requested DENA to have ENSR conduct an air dispersion model to determine the feasibility of having a second combined cycle unit on the site. ENSR found no significant impacts by adding a second combined cycle unit using an air cooled condenser in place of a water cooling tower. The only design change impact was to the auxiliary boiler stack height on Phase II Auxiliary Boiler. A formal air dispersion model report is currently being prepared by Argent Consulting Services, Inc., to address Phase II project emissions.

The TCEQ has the responsibility for developing a plan for attaining the NAAQS in Texas and more specifically, within the DFW Nonattainment Area. This plan, which was submitted to and approved by the EPA, is called the SIP. The SIP describes how an area will maintain attainment with the NAAQS or if in nonattainment, how it will achieve attainment of the air quality standards. For a nonattainment area such as DFW, the SIP sets emissions budgets for point sources such as power plants and manufacturers,

area wide sources such as dry cleaners and paint shops, off-road mobile sources such as boats and lawn mowers, and on-road sources such as cars, trucks, and motorcycles.

Limitations on the levels of certain pollutants are set by the NAAQS and the SIP. The SIP for the DFW area includes enforceable commitments required by the EPA for reducing emissions of NO_x and VOC such that the area will attain the NAAQS for ozone. The SIP is a dynamic plan, which can be constantly updated to account for changing conditions. New regulations and control strategies resulting from the DFW SIP impose emission control measures affecting various sources of air emissions including stationary sources, on-road mobile sources, nonroad mobile sources, and area sources.

The TCEQ also has regulations in place to control emissions of air contaminants through the implementation of emission standards and by an elaborate permitting system, which requires the implementation of best available emissions control technology for the construction of new industrial facilities or modifications. These regulations are designed to provide for growth in a way that will continue attainment of the standards.

Air emissions from the proposed Jack County Unit 2 project will be addressed by this regulatory framework. The TCEQ and EPA are responsible for monitoring and tracking air quality levels and the identification of potential air quality exceedances. Within the DFW area, adjustments will be made to the SIP, as appropriate, to achieve and maintain continued attainment of the standards. In addition, area industrial, community, and municipal groups are working cooperatively with the regulatory agencies to identify ways to continue to reduce emissions while allowing for growth in the area.

6.1 MITIGATION

Potential impacts from the proposed Phase II power plant construction would result in permanent impacts within the footprint of permanent plant facilities. The following is a summary of measures that Brazos Electric will undertake to mitigate the effects of the construction and operation of the Jack County Power Plant and associated infrastructure.

- Efforts will be made during construction for proper control and handling of any petroleum or other chemical products used.
- Appropriate erosion-control measures will be utilized during construction activities in accordance with the project SWPPP and standards regulated by the EPA.
- Construction activities will be performed in such a manner as to minimize adverse impacts to adjacent habitats.
- Although a USACE Section 404 Permit authorized the impacts to waters of the U.S., a condition of that permit required that the applicant develop a compensatory mitigation plan. Brazos Electric must continue to comply with all conditions stated in the permit.
- The clean-up operation will involve the removal of debris and the restoration of items damaged by the construction of the project as required. Brazos Electric will assure that affected areas are restored as close to the original condition as practical.

7.0 Agency Coordination

7.0 FEDERAL/STATE AGENCY COORDINATION

Federal law requires that agencies other than the RUS review certain potential environmental impacts of the proposed project and coordinate with the project sponsor and the RUS. The first step in this process involves identifying and contacting relevant local, state, and federal agencies/offices, as well as other nongovernmental groups with interests in the area, in order to determine which environmental resources occur in the project area, and therefore might be affected.

The following local, state, and federal agencies and officials were contacted by letter in January 2008 to solicit comments, concerns and information about the proposed project and to seek information about further permitting or consultation. A map showing the proposed project site on a 1:24,000 USGS topographic quadrangle was included with each letter. This section (and the correspondence included in Appendix B) is intended to document the coordination with other federal and state agencies required by the NEPA. The following agencies were solicited for comments:

Texas Historical Commission	Federal Emergency Management Agency
Texas Parks and Wildlife	Bureau of Indian Affairs
Texas Department of Transportation, Department of Aviation	Texas Department of Transportation, Environmental Affairs Division
Texas Water Development Board	Texas Commission on Environmental Quality
Federal Aviation Administration	U.S. Army Corps of Engineers
Natural Resources Conservation Service	National Park Service
U.S. Environmental Protection Agency	U.S. Fish and Wildlife Service
Nortex Regional Planning Commission	Jack County Officials

As of this writing, several responses had been received from federal and state agencies. A summary of their comments follows. Copies of this correspondence are located in Appendix B of this EA. Any additional comments received will be included as addendums to the final report.

TWDB replied that the scope of the request went beyond their current program responsibilities and provided a contact number to call with any questions.

The USACE, Fort Worth District Office responded with an acknowledgement receipt of PBS&J's letter request for information, and assigned an application file number and USACE Project Manager, but offered no specific guidance other than to contact the USACE in matters dealing with this project.

TXDOT Environmental Affairs Division stated that they are not aware of any sensitive environmental resources in the proposed project area. However, they expressed concerns that oversized loads could potentially cause damage to state roadways. They further stated that this concern would be addressed by obtaining oversize load permits from TXDOT.

The TxDOT Aviation Division indicated that FAA notification would be required if structure heights exceeded 200 ft above ground level, or for any vertical obstruction, temporary or permanent, that penetrates a 100 to 1 slope for a horizontal distance of 1,000 ft from the nearest point of the nearest runway, starting at the surface at the edge of that runway, for each airport with a runway at least 3,200 ft in length, excluding heliports.

The NRCS responded that they rated the project as required by the Farmland Protection Policy Act (FPPA). They stated that they reviewed the site in 2003 when the original power plant site was determined. Their evaluation of the soils of the proposed power plant site indicated that none of the soils were classified as Important Farmland and the site would be exempt from FPPA law. They attached a copy of the letter from the original evaluation dated March 20, 2003, and an AD-1006 form indicating the exemption. They recommended that accepted erosion control methods be used during construction.

The U.S. Department of the Interior, National Park Service (NPS) replied that they reviewed the project and determined that no NPS units would be affected; therefore, they had no comments on the project.

Initially, in a letter dated February 18, 2008, the THC stated that they had completed their review of the project area and found that portions of the study area may have a moderate to high probability of containing significant cultural resources. They stated, however, that they could not conduct their review with that general area map submitted, and requested that PBS&J resubmit the project area plotted on a USGS 7.5-minute topographic quad map.

PBS&J Cultural Resources staff initiated subsequent correspondence with the THC on March 11, 2008, and explained that PBS&J archaeologists surveyed the entire 200-ac tract in 2003 and submitted a draft report for the THC's review in July, 2003. PBS&J's letter stated that one archeological site, Site 41JA17, was identified and was recommended for further documentation if construction of the power plant would impact the site. The THC concurred with PBS&J's recommendations on August 13, 2003. PBS&J further stated that the power plant had been constructed and site 41JA17 was not impacted by the construction. PBS&J's letter also stated that the proposed project will involve no new impacts to the previously surveyed 200-ac tract as it involves only the addition of new equipment to the power station. PBS&J provided a copy of a USGS 7.5-minute topographic map showing the 200-ac property that was surveyed in 2003 and the location of the existing 50-ac generation site containing the Jack County Power Plant. PBS&J requested the THC's concurrence that the addition of new equipment within the power plant, which will require no new excavation or landscape alteration, will have no affect on historic properties. On March 12, 2008, the THC concurred that the proposed project would no affect on historic properties and that the project may proceed.

The TPWD responded that they received the preliminary coordination letter regarding the proposed power plant expansion near Joplin. They commented that because the project would take place within an area previously disturbed by construction of the power plant, additional impacts to fish and wildlife resources would be minimal. TPWD attached their original reply for the power plant construction from May 2003 and requested that PBS&J review the letter as the recommendations provided remain

applicable. Additionally, TPWD stated that no records of rare or protected species have been documented within 1.5 miles of the study area based on a review of TXNDD. TPWD also recommended that PBS&J review updated Jack County rare and protected species lists.

The TCEQ commented that a review of the project for General Conformity impact in accordance with 40 CFR Part 93 and Title 30, Texas Administrative Code § 101.30 indicates that the proposed action is located in Jack County, which is currently unclassified or in attainment of the National Ambient Air Quality Standards for all six criteria air pollutants. Therefore, general conformity does not apply. They further state that construction activities will produce dust and particulate emissions that should pose no significant impact upon air quality standards, and that these emissions could be easily controlled by contractors. Finally, they recommended that the EA address actions that will be taken to prevent surface and groundwater contamination.

8.0 Public Involvement

8.0 PUBLIC INVOLVEMENT PROGRAM

The RUS, in conjunction with Brazos Electric, posted notice of its intent to construct a gas-fired electrical generation plant in two newspapers in Jack County. Public notice was posted in the *Jack County Herald* and the *Fort Worth Star Telegram*. The RUS published a notice of intent in the Federal Register on January 14, 2008. Copies of the notices are provided in Appendix C.

One public meeting was held on January 31, 2008, to solicit information from the citizens of Jack County, Texas, regarding the proposed plant expansion. A total of seven people signed in at the meeting. A questionnaire and self-addressed postage paid envelope were given to each person in attendance with a request that the questionnaire be completed either that evening or at a later date and mailed to Brazos Electric in order that their comments could be evaluated.

In addition to the public meeting, Brazos Electric met with civic leaders of Jack County, notifying them of the public meeting and receiving their input on the proposed project. As of March 3, 2008, Brazos Electric has received a total of one questionnaire. The questionnaire asked citizens to answer questions in order to allow Brazos Electric to evaluate community concerns about the project.

The one respondent asked for a follow-up. This individual voiced concerns about the proposed expansion project. Those concerns included noise, lighting, air pollution, and decreased property values. Brazos Electric staff addressed these concerns verbally at the public meeting and followed-up with additional information.

9.0 References

9.0 REFERENCES

AirNav.com. 2008. Airport Search. http://www.airnav.com/airports/search.html (accessed on March 3, 2008).

American Ornithologists' Union (AOU). 1998. Check-list of North American birds. 7th edition. Allen Press, Inc. Lawrence, Kansas.

———. 2000. 42nd supplement to the check-list of North American birds. Auk 117:847–858.

———. 2002. 43rd supplement to the check-list of North American birds. Auk 119:897–906.

———. 2003. 44th supplement to the check-list of North American birds. Auk 120:923–931.

———. 2004. 45th supplement to the check-list of North American birds. Auk 121:985–995.

———. 2005. 46th supplement to the check-list of North American birds. Auk 122:1026–1031.

———. 2006. 47th supplement to the check-list of North American birds. Auk 123:926–936.

———. 2006. 47th supplement to the check-list of North American birds. Auk 123:926–936.

———. 2007. 48th supplement to the check-list of North American birds. Auk 124:1109–1115.

Baker, R.J., L.C. Bradley, R.D. Bradley, J.W. Dragoo, M.D. Engstrom, R.S. Hoffmann, C.A. Jones, F. Reid, D.W. Rice, and C. Jones. 2003. Revised checklist of North American mammals north of Mexico, 2003. Museum of Texas Tech University, Lubbock. Occasional Papers, Number 229. 1 December 2003.

Bartlett, R.D., and Bartlett, P.P. 1999. A Field Guide to Texas Reptiles and Amphibians. Gulf Publishing Company. Houston, Texas.

Black, A., and G. Kegley. 1998. Fort Richardson State Historical Park, Jack County, Texas, Texas Archeological Testing and Recording 1978, 1979,. 1981, 1985, 1986. Texas Parks and Wildlife Department, Austin.

Blair, W.F. 1950. The biotic provinces of Texas. Texas Journal of Science 2:93–117.

Bomar, G.W. 1983. Texas Weather. University of Texas Press Austin, Texas. 265 pp.

Brazos Electric Power Cooperative, Inc. (Brazos Electric). 2003. Jack Energy Facility. Technical Scope of Work, Turnkey Engineering, Procurement and Construction. Waco, Texas. 95 pp.

———. 2007. Jack County Unit 2 Expansion. Technical Scope of Work, Turnkey Engineering, Procurement and Construction. Waco, Texas. 131 pp.

Briggs, A.D. 1991. An archeological and historical survey of the proposed Lost Creek Reservoir Boat Ramp, Jacksboro, Jack County, Texas. Lone Star Archaeological Services, THC Permit No. 979, Jack County Vol. I.

Buehler, D.A. 2000. Bald eagle (*Haliaeetus leucocephalus*). In: The birds of North America, No. 506 (A. Poole and F. Gill, editors). The Birds of North America, Inc., Philadelphia, Pennsylvania.

Bureau of Economic Geology (BEG), The University of Texas at Austin. 1967. Revised 1991. Geologic Atlas of Texas, Sherman Sheet, Austin.

Crother, B.I., J. Boundy, J.A. Campbell, K. De Quieroz, D.R. Frost, D.M Green, R. Highton, J.B. Iverson, R.W. McDiarmid, P.A. Meylan, T.W. Reeder, M.E. Seidel, J.W. Sites, Jr., S.G. Tilley, and D.B. Wake. 2003. Scientific and standard English names of amphibians and reptiles of North America north of Mexico: update. Herpetological Review 34(3):196–203.

Crother, B.I., J. Boundy, J.A. Campbell, K. De Quieroz, D.R. Frost, R. Highton, J.B. Iverson, P.A. Meylan, T.W. Reeder, M.E. Seidel, J.W. Sites, Jr., T.W. Taggart, S.G. Tilley, and D.B. Wake. 2000. Scientific and standard English names of amphibians and reptiles of North America north of Mexico, with comments regarding confidence in our understanding. Society for the Study of Amphibians and Reptiles, Herpetological Circular No. 29. November 2000.

Crother, B.I., J. Boundy, K. De Quieroz, and D. Frost. 2001. Scientific and standard English names of amphibians and reptiles of North America north of Mexico: errata. Herpetological Review 32(3):152–153.

Crook, W.W. Jr., and R.K Harris. 1957. Hearths and artifacts of early man near Lewisville, Texas and associated faunal material. Bulletin of the Texas Archeological Society 28:7–97.

Dessamae, L. 1972. Archeological investigations at Fort Richardson State Historic Site, Jack County, Texas. Research Report No. 10. The University of Texas at Austin.

Diamond, D.D., D.H. Riskind, and S.L. Orzell. 1987. A framework for plant community classification and conservation in Texas. Texas Journal of Science 39(3):203–221.

Dickson, D., and W. Westbury. 1976. Archaeological research at Fort Richardson State Park, Summer 1975. Archeological Report No. 28, Texas A&M University, THC Permit No. 91.

Dixon, J.R. 2000. Amphibians and reptiles of Texas. Texas A&M University Press, College Station. 421 pp.

Duffield, L.F., and E.B. Jelks. 1961. The Pearson Site: A Historic Indian site in Iron Bridge Reservoir, Rains County, Texas. Archeology Series 4, Department of Anthropology, The University of Texas at Austin.

Federal Aviation Administration (FAA). 2006a. Dallas – Fort Worth Sectional Aeronautical Chart. 77th edition. September 28, 2006.

———. 2006b. Airport/ Facility Directory – South Central U.S. Washington, D.C. September 28, 2006.

Fish and Wildlife Service (FWS), U.S. Department of the Interior. National Wetlands Inventory (NWI) Maps. 1992. Bridgeport West, Boonsville, Gibtown, and Wizard Wells, Texas.

———. 1995. Threatened and endangered species of Texas. Austin, Texas. June 1995.

———. 2007a. Endangered species list: list of species by county for Texas. http://www.fws.gov/southwest/es/EndangeredSpecies/lists/ListSpecies.cfm (accessed December 3, 2007).

———. 2007b. Threatened and endangered species system. http://ecos.fws.gov/tess_public/StateListingAndOccurrence.do?state=TX (accessed December 31, 2007).

Fox, D. 1981. An archeological reconnaissance at City of Jacksboro, Jack County, Report 48-1509. Texas Department of Water Resources, Jack County Vol. I. Austin.

Gould, F.W. 1975. Texas plants - A Checklist and Ecological Summary. MP-585/Rev. Texas A&M University, Texas Agricultural Experiment Station, College Station. 121 pp.

Greenwade, J. 2003. Natural Resource Conservation Service (NRCS). Personal communication to R. Reid, PBS&J. March 21, 2003.

Grzybowski, J.A. 1995. Black-capped vireo (*Vireo atricapillus*). In: The birds of North America, No. 181 (A. Poole and F. Gill, editors). The Academy of Natural Sciences, Philadelphia, and the American Ornithologist's Union, Washington, D.C.

Grzybowski, J.A., D.J. Tazik, and G.D. Schnell. 1994. Regional analysis of black-capped vireo breeding habitats. Condor 96:512–544.

Guffee, E. 1980. Letter to J-A-C Electric Cooperative, Bluegrove, Texas, Distribution Line Survey. Survey Report Museum of the Llano Estacado, Plainview.

Hatch, S.L., K.N. Gandhi, and L.E. Brown. 1990. Checklist of the vascular plants of Texas. MP-1655. Texas A&M University, Texas Agricultural Experiment Station, College Station. 158 pp.

Henke, S.E., and W.S. Fair. 1998. Management of Texas horned lizards. Caesar Kleberg Wildlife Research Institute, Texas A&M University-Kingsville. Management Bulletin No. 2.

Hubbs, C. 1957. Distributional patterns of Texas freshwater fishes. Southwestern Naturalist 2:89–104.

Jelks, E.G. 1967. The Gilbert Site: A Norteno Focus Site in northeastern Texas. Bulletin of the Texas Archeological Society 37:1–248.

Kenmotsu, N.A., and T.K. Perttula. 1993. Archeology in the eastern planning region, Texas: A planning document. Department of Antiquities Protection. Cultural Resources Management Report 3. Texas Historical Commission, Austin.

Lewis, J.C. 1995. Whooping crane (*Grus americana*). In: The birds of North America, No. 153 (A. Poole and F. Gill, editors). The Academy of Natural Sciences, Philadelphia, and the American Ornithologist's Union, Washington, D.C.

Lockwood, M. 2006. Big game research and surveys, white-tailed deer population trends. Performance Report, Federal Aid Project No. W-127-R-14. Texas Parks and Wildlife Department, Austin. July 31.

Lockwood, M.W., and B. Freeman. 2004. The TOS handbook of Texas birds. Texas A&M University Press, College Station.

Marshall, J.T., R.B. Clapp, and J.A. Grzybowski. 1985. Status report: Vireo atricapillus Woodhouse, black-capped vireo. U.S. Fish and Wildlife Service, Albuquerque, New Mexico. 40 pp. and figs.

Martin, A.C., H.S. Zim, and A.L. Nelson. 1951. American Wildlife and Plants: A Guide to Wildlife Food Habits. Dover Press, New York.

Mercado-Allinger, P.A., N.A. Kenmotuso, and T.K. Pertula. 1996. Archeology in the Central and Southern Planning Region, Texas: A Planning Document. Division of Antiquities Protection, cultural Resource Management Report 7, Texas Historical Commission.

Natural Resource Conservation Service (NRCS). 2000. 1997 Land Use Estimates by County for Texas, Natural Resources Inventory. Natural Resources Inventory Division, Temple, Texas.

National Weather Service (NWS). 2003. Dallas/Ft. Worth Climate Overview. http://www.shr.noaa.gov/FWD/CLIMO/dfw/annual/dnarritive.html. March 13, 2003.

Oberholser, H.C. 1974. The Bird Life of Texas. 2 vol. University of Texas Press, Austin.

Ortego, B. 2005. Wildlife research and surveys, project no. 10: bald eagle nest survey and management. Performance Report, Federal Aid Project No. W-125-R-16. Texas Parks and Wildlife Department, Austin. 30 September.

Pulich, W.M. 1988. The Birds of North Central Texas. Texas A&M University Press, College Station. 440 pp.

Purvis, J. 2006. Small game harvest survey results, 1986-87 through 2006-06. Texas Parks and Wildlife Department, Austin. 26 July.

Roberson, W., and J. Ing. 1974. Fort Richardson State Historic Park: Archeological tests at the Bakery Building, September, 1973. Report No. 16 Texas Parks and Wildlife Department, Austin.

Schmidly, D.J. 2004. The mammals of Texas, revised edition. University of Texas Press, Austin.

Scott, R., and V. Cole. 1986. Archeological Survey of Lost Creek Reservoir, Jack County, Texas.

Sexton, C.W., G.W. Lasley, J.A. Grzybowski, and R.B. Clapp. 1989. Distribution and status of the black-capped vireo in Texas. Unpublished draft report. July 20, 1989.

Soil Conservation Service (SCS, now the Natural Resources Conservation Service [NRCS]), U.S. Department of Agriculture. 1973. General Soil Map, Jack County, Texas (with 1999 revisions by NRCS, Jacksboro, Texas.) In cooperation with the Texas Agricultural Experiment Station. Washington, D.C.

———. 1978. Regulations for Designating Prime Farmland. Federal Register Vol. 43, No. 21, Sec. 657.5a 31 January, revised May. 99 pp. + 36 maps.

Southern Regional Climate Center (SRCC). 2008. "Climate Atlas," at: http://www.srcc.lsu.edu/southern Climate/atlas/images/TXtavg.html (accessed March 2008).

State Department of Highways and Public Transportation (SDHPT, now known as the Texas Department of Transportation [TxDOT]). 1936. General Highway Map, Jack County, Texas.

———. 1948. General Highway Map, Jack County, Texas.

———. 1987. Cultural resources Assessment: FM 2190: From US 281 to West End of Existing FM 2190.

Tennant, A. 1998. A Field Guide to Texas Snakes. Second Edition. Gulf Coast Publishing, Houston, Texas. 291 pp.

Texas Biological and Conservation Data System (TXBCD). 1990. Plant communities of Texas (series level). Texas Natural Heritage Program, Austin, Texas. April 1990.

Texas Commission on Environmental Quality (TCEQ). 1994. The State of Texas Water Quality Inventory. Surface water quality monitoring program. TNRCC, Vol. 2, Austin, Texas.

Texas Department of Transportation (TxDOT). 1995a. Archaeological resources survey report: Park Road No 61: Extension of Fort Richardson State Park.

———. 1995b. Archaeological resources survey report: CR 112 at Kerr Branch Crossing.

———.1995a. Archaeological resources survey report on Hillcrest Drive from the south end of Hillcrest Drive to Lindy Street, Volume II, Young County.

———. 1996b. Guidelines for Analysis and Abatement of Highway Traffic Noise. June 1996.

———. 1998. Scenic Overlooks and Rest Areas. Texas Highways, Vol. 45, No. 8. August 1998.

Texas Department of Water Resources (TDWR). 1983. Climatic Atlas of Texas. Texas Department of Water Resources Austin. 151 pp.

Texas Natural Diversity Database (TXNDD). 2007. Special species and natural community data files and NDD data on USGS topographic maps. Accessed December 3, 2007.

Texas Parks and Wildlife Department (TPWD). 1984. 1985 Texas Outdoor Recreation Plan (TORP). Comprehensive Planning Branch, Parks Division. PWD Plan 4000-367. Austin, Texas.

———. 1990. Texas Outdoor Recreation Inventory (TORI) Database. Austin, Texas.

———. 2007. Annotated county lists of rare species, Jack County. http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered_species.phtml (accessed June 27, 2007).

Texas State Historical Association. 2002. "JACK COUNTY." The Handbook of Texas Online. http://www.tsha.utexas.edu/handbook/online/articles/view/JJ/hcj1.html (accessed November 11, 2002).

Texas Water Development Board (TWDB). 1984. Water for Texas. A comprehensive plan for the future. Technical Appendix. Vol. 2. Austin, Texas.

———. 1988. Occurrence and Quality of Ground Water in Jack County, Texas. Report 308. Austin, Texas.

———. 1995. Aquifers of Texas. Ashworth, John B. and Janie Hopkins. Report 345. Austin, Texas.

———. 1997. Water for Texas. A consensus-based update to the state water plan. Technical Planning Appendix. Vol. 2. Austin, Texas.

———. 2006. 2006 Regional Water Plan. County Population Projections for 2000–2060. http://www.twdb.state.tx.us/data/popwaterdemand/2003Projections/populationprojections/STATE_REGION/County_Pop.htm (last updated 4/17/2006)

Texas Workforce Commission (TWC). 2007. Labor Market and Career Information. http://www.tracer2.com/?PAGEID=94&SUBID=120 (accessed 21 December 2007)

U.S. Bureau of Census (USBOC). 1983. 1980 Census of Population. General Social and Economic Characteristics, Texas. U.S. Department of Commerce, Washington, D.C.

———. 1990. American FactFinder. Social Characteristics: 1990. <http://factfinder.census.gov>

———. 2000. American FactFinder. Quick Tables 2000. <http://factfinder.census.gov>

———. 2008. American Factfinder. Population Finder. http://factfinder.census.gov/servlet/SAFFPopulation?_submenuId=population_0&_sse=on (accessed March 5, 2008).

U.S. Department of Agriculture (USDA). 1992. The Prime Farmlands of Texas. Soil Conservation District (now the Natural Resources Conservation Service [NRCS]).

U.S. Department of Housing and Urban Development (HUD). 2002. Office of Community Planning and Development. The Noise Guidebook. Updated 5 June, 2002. Washington, D.C.

U.S. Environmental Protection Agency (EPA). 1971. Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances. Washington, D.C. EPA NTID300.1. December 31, 1971.

———. 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. EPA 550/9-74-004. March. NNA19870406.0098.

———. 1976. About Sound. Office of Noise Abatement and Control. Washington, D.C. EPA 20460. May 1976.

———. 2000. AP-42, Volume I, Fifth Edition, Chapter 3: Stationary Internal Combustion Sources – Stationary Gas Turbines, April 2000.

———. 2007. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2006 USEPA #430-R-08-005 (April 15, 2007).

U.S. Geological Survey (USGS), Department of the Interior. 1960a. 7.5-Minute Topographic Map. Boonsville, Texas Quadrangle.

———. 1960b. 7.5-Minute Topographic Map. Bridgeport West Quadrangle. Photo revised in 1978.

———. 1960c. 7.5-Minute Topographic Map. Gibbtown Quadrangle. Photo revised in 1976.

———. 1960d. 7.5-Minute Topographic Map. Wizard Wells Quadrangle. Photo revised in 1978.

Westbury, W. 1976. Archeological Investigations at Fort Richardson State Park. Archeological Report No. 31, THC Permit No. 113. Texas A&M University, College Station.

Wilkins, N., R. Powell, A. Conkey, and A. Snelgrove. 2006. Population status and threat analysis for the black-capped vireo. Department of Wildlife and Fisheries Sciences, Texas A&M University.

Young, J. 2005. Small game research and surveys, project no. 11: fur-bearing animal regulations/ evaluation of annual fur harvest. Performance Report, Federal Aid Project No. W-126-R-10. Texas Parks and Wildlife Department, Austin. June.

10.0 Preparers

10.0 LIST OF PREPARERS/REVIEWERS

This Environmental Assessment was prepared for Brazos Electric by PBS&J. Brazos Electric provided information in sections 2.0, 3.0, and other sections where public meetings/public involvement were addressed. A list of RUS, Brazos Electric, and PBS&J employees with primary responsibilities for the preparation of this document is presented below:

Responsibility	Name	Title
RUS		
Project Manager	Dennis Rankin	Environmental Protection Specialist
Generation	David Hui	Generation Engineer
Transmission	Sam Gourley	Electrical Engineer
Brazos Electric		
Project Review	Mike McClendon	Regulatory Coordinator
Project Review	Dave McDaniel	Manager, Project Services
Project Review	Billy Helpert	Manager, Power Supply
Project Review	David Murphy	Vice President, Generation
Project Review	Dwight Beckman, P.E.	Planning Engineer
Project Review	Wade Snider	Planning Economist
PBS&J		
Project Manager	Rob Reid	Vice President
Assistant Project Manager	Tommy Ademski	Program Manager
EA Coordinator	Tommy Ademski	Program Manager
Climatology and Air Quality	Ruben Velasquez	Sr. Engineer
Geology and Soils	Devin Seeliger	Staff Ecologist
Water Resources	Devin Seeliger	Staff Ecologist
Ecology	Eric Huebner	Staff Ecologist
Socioeconomics	Jill Schwager	Staff Planner
Land Use/Aesthetics	Jill Schwager	Staff Planner
Noise	Tommy Ademski	Program Manager
Cultural Resources	John Fulmer Maria Cruse	Archaeologist Sr. Lab Analyst
Cumulative Impacts	Tommy Ademski Mike Horvath	Program Manager Program Manager
Maps/Figures/Graphics	David Kimmerling	Senior Graphics Technician

Appendix A

Compensatory Mitigation Plan

Document No. 030280
PBS&J Job No. 441159.00

COMPENSATORY MITIGATION PLAN FOR THE PROPOSED POWER PLANT FACILITY JACK COUNTY, TEXAS

Prepared for:

Brazos Energy Power Cooperative, Inc.
P.O. Box 2585
Waco, TX 76702

Prepared by:

PBS&J
206 Wild Basin Road
Suite 300
Austin, Texas 78746-3343

September 2003

Printed on recycled paper

Contents

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1.0 INTRODUCTION

Brazos Electric Power Cooperative, Inc. (Brazos) contracted PBS&J to prepare this mitigation plan to comply with mitigation requirements. This report describes proposed intermittent stream compensatory mitigation strategies that will offset environmental impacts by the project described below.

Brazos is proposing to construct a 50-acre, 500-megawatt (MW) gas-fired, combined-cycled electric generation station (power plant) on a 200-acre site near the City of Joplin, Jack County, Texas (Exhibit 1). During a January 2003 field investigation of the project area it was determined the proposed power plant will impact the headwaters of an intermittent tributary to Jasper Creek (Tributary 2). Impacts to the tributary, as a result of the proposed power plant will permanently fill approximately 1,600 linear feet (0.18 acre). The project area is located within the U.S. Army Corps of Engineers (USACE) Fort Worth District and can be found on the U.S. Geological Survey (USGS) 7.5-minute Gibtown, Texas, Topographic map (Exhibit 2). The project area is located at approximately N 33°06'08? Lat; W 97°57'24? Long.

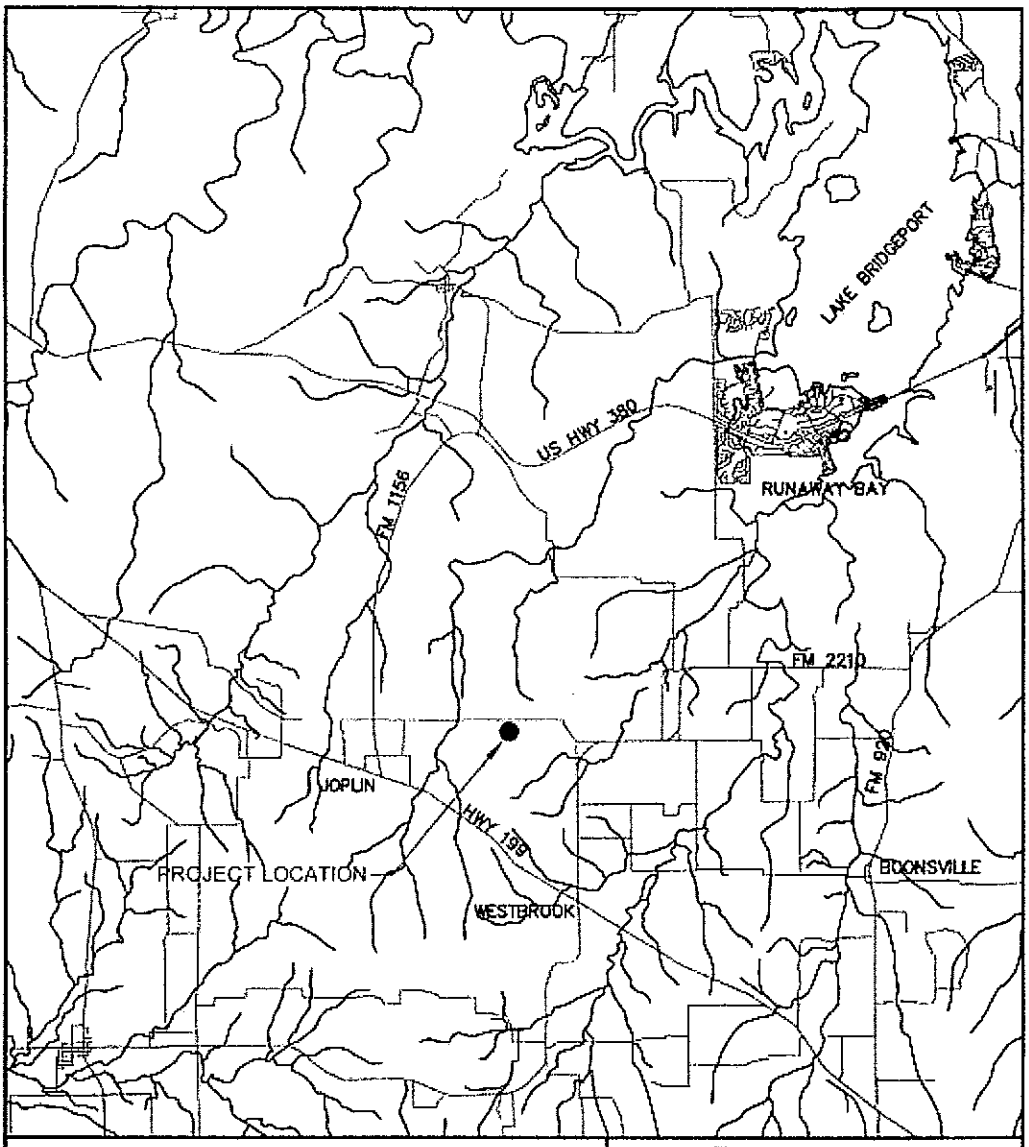
To mitigate for unavoidable impacts to waters of the U.S. as a result of the construction of the proposed power plant facility, Brazos will mitigate through near-site stream restoration and enhancement. Brazos is proposing to remove an approximate 1-acre on-channel impoundment on two tributaries that inhibits the flow of water downstream, planting of trees on approximately 3.6 acres of riparian zone, and deed restrict an approximate 18.8-acre mitigation site that will include the previously mentioned stream and tree planting mitigation activities.

1.1 WATERS OF THE U.S. IMPACTED

Impacts to waters of the U.S., including wetlands, as defined by 33 CFR 328 were evaluated. This evaluation included assessments for intermittent and perennial streams, navigable and non-navigable waterways, deep-water habitats, wetlands, and other special aquatic sites. As required by existing regulations or regional general permits, potential wetlands, as defined by the USACE *1987 Wetlands Delineation Manual*, were evaluated based on the presence of hydrophytic vegetation, wetland hydrology, and hydric soils.

Vegetation. During the January field investigation of the proposed power plant facility, one dominant vegetation community was identified along Tributary 2. A forested riparian community was observed along Tributary 2 located within the proposed power plant facility. This vegetation community is dominated by post oak (*Quercus stellata*), blackjack oak (*Quercus marilandica*), hawthorn (*Crataegus* sp.), and greenbriar (*Smilax* sp.). The riparian vegetation community appeared to be only located on the immediate banks of Tributary 2, and appeared to be grazed actively by cattle.

Hydrology. The average ordinary high water mark for Tributary 2 is approximately 5 feet. Hydrology was not observed throughout the majority of the tributary during the January site visit, however some



BASEMAP: JACK COUNTY, TEXAS

PBSJ

- Engineering
- Environmental Consulting
- Surveying

EXHIBIT 1

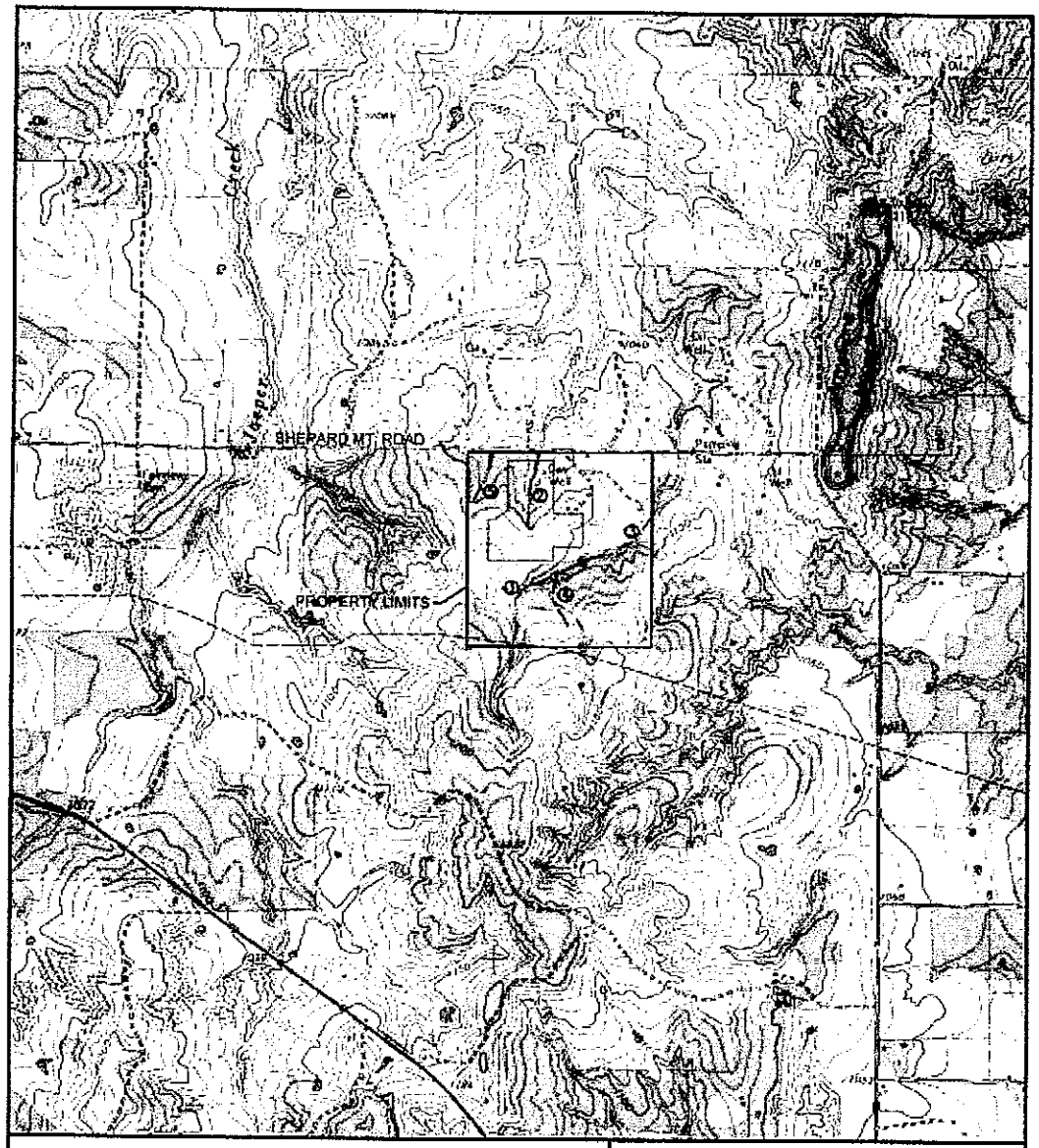
PROJECT VICINITY MAP

BRAZOS ELECTRIC POWER COOPERATIVE, INC.

PROPOSED POWER PLANT FACILITY

JACK COUNTY, TEXAS

PROJ. NO. 441159.03



PBSJ

- Engineering
- Environmental Consulting
- Surveying

EXHIBIT 2
PROJECT LOCATION MAP
BRAZOS ELECTRIC POWER COOPERATIVE, INC.
PROPOSED POWER PLANT FACILITY
JACK COUNTY, TEXAS

PROJ. NO. 41158.06

pooling of water was observed. The substrate composition of this tributary is approximately 90% sand/silt and 10% cobble. This tributary has top bank to top bank distances of 7–25 feet and steep banks averaging 4–8 feet in height.

Mapped Soils. The Natural Resources Conservation Service (NRCS) soil survey for Jack County was used to identify, characterize, and describe the soils occurring in the proposed project area. The soil association identified in the proposed project area is the Duffau-Windthorst Association (NRCS, 1973).

The Duffau-Windthorst Association consists of gently sloping to sloping to deep, loamy and sandy upland soils. Soils of the Duffau series consist of deep, loamy, and sandy soils on uplands. These soils formed in loamy sediment or weakly cemented sandstone. Windthorst soils consist of deep, loamy soils on erosional uplands that formed in stratified clayey and loamy material (NRCS, 1973).

1.2 IMPACTS

PBS&J ecologists walked the proposed project area to delineate any waters of the U.S. It was determined from the ground survey that the proposed power plant facility will permanently impact approximately 1,600 linear feet (0.18 acre) of Tributary 2.

2.0 MITIGATION PLAN

2.1 AVOIDANCE AND MINIMIZATION

Brazos and PBS&J investigated the repositioning of the power plant facility in the immediate vicinity to avoid and minimize impacts to waters of the U.S. However, the repositioning of the power plant facility is restricted by constraints such as an existing pipeline and overhead electrical transmission line corridors to the east, additional waters of the U.S. to the north and south, and property boundary limits to the west. Following efforts to avoid and minimize impacts to waters of the U.S., the proposed power plant facility will unavoidably impact approximately 1,600 linear feet (0.18 acre) of Tributary 2.

2.2 ALTERNATIVES

The following discusses alternatives considered during the selection of the location of the proposed power plant facility. It consists of three sections: No Action/No Build Alternative, Alternative Location, and Preferred Alternative.

No Action/No Build Alternative. The proposed project is required to meet the growing demand for electrical energy within the surrounding rural communities. The No Action Alternative would involve the decision not to build the proposed power plant facility. It would avoid the environmental impacts associated with the construction of the power plant facility. However, the No Action Alternative would not achieve the objective of providing electrical energy to surrounding communities.

Alternative Location. The proposed power plant facility was initially located south of the preferred location. At this location the proposed power plant facility would impact two tributaries to Jasper Creek. The proposed power plant facility would impact Tributary 2 in a south north direction from the center of the proposed power plant facility to the northern boundary of the proposed power plant facility. Tributary 1 on the southern boundary of the proposed power plant facility would be impacted in an east west direction. It is also possible that Tributary 4 could be impacted as well, at the initial location of the power plant facility. To avoid impacting two waters of the U.S., and possibly a third, the proposed power plant facility was relocated to the north, to the current preferred location to avoid impacts to the larger tributary on the south side of the proposed power plant facility.

Preferred Alternative. The Preferred Alternative is to build the proposed power plant facility at the proposed location. This will achieve the objective of power plant construction and the ability to provide electrical energy to the surrounding communities. At this location, approximately 1,600 linear feet (0.18 acre) of intermittent tributary will be impacted, however constructing the proposed power plant facility at this location avoids and minimizes overall impacts to waters of the U.S.

2.3 OBJECTIVES

2.3.1 Mitigation Alternatives

On-Site Mitigation. Brazos has evaluated the possibility of on-site mitigation through stream re-alignment of the intermittent tributary to Jasper Creek that will be permanently filled by the proposed project. Stream re-alignment would involve realigning the stream to the east or west of the proposed power plant facility. Evaluation of possible stream re-alignment options revealed that existing pipeline and overhead electrical transmission line corridors exist to the east of the power plant facility and another tributary to Jasper Creek to the west, neither of these situations would not allow for stream realignment. It was determined that on-site mitigation was not a feasible option to satisfy mitigation requirements.

Near-Site Mitigation. As the next available mitigation option, Brazos proposes to fulfill mitigation requirements through near-site mitigation for the unavoidable impacts to waters of the U.S., associated with the construction activities of the proposed power plant facility. Brazos is proposing stream restoration and enhancement along Tributaries 1, 3, and 4, south of the proposed power plant facility. The goals of mitigation are to:

1. Provide for the replacement of the chemical, physical and biological functions of waters of the U.S. and other aquatic resources which are lost as a result of the proposed power plant facility,

2. Provide more extensive, higher quality, and more cost-effective enhancement and protection of the waters of the U.S., typically achieved by other forms of compensatory mitigation for activities having minor adverse impacts to the aquatic ecosystem,

3. Provide protection, restoration, and enhancement of a 18.8-acre riparian zone, and

4. Provide additional food and cover for wildlife.

2.4 MITIGATION SITE DESCRIPTION

The proposed mitigation site is located on the USGS 7.5-minute Gibtown, Texas, Topographic map (Exhibit 2). The proposed mitigation site is located just south of the proposed power plant facility along Tributaries 1, 3, and 4 (Exhibit 3). Please refer to the Appendix for photos of the proposed mitigation site.

Vegetation. During the January field investigation of the proposed mitigation site, a non-forested to sparely forested riparian community was identified along Tributaries 1, 3, and 4 located within the site. This riparian community is dominated by western ragweed (*Ambrosia psilostachya*), post oak, blackjack oak, live oak (*Quercus virginiana*), hawthorn, and greenbriar. Very little regeneration was observed within the riparian community during the site visit, possibly due to grazing of the site by cattle.

LEGEND

- PROPOSED POWER PLANT FACILITY
- TRIBUTARY TO JASPER CREEK
- ON-CHANNEL IMPOUNDMENT
- PROPOSED DEED RESTRICTED AREA
- PROPOSED TREE PLANTING AREA
- EXISTING UTILITY CORRIDOR

1000 0 500 1000

PBSJ

- Engineering
- Environmental Consulting
- Surveying

EXHIBIT 3
PROJECT AERIAL MAP
BRAZOS ELECTRIC POWER COOPERATIVE, INC.
PROPOSED POWER PLANT FACILITY
JACK COUNTY, TEXAS

PROJ. NO. 441159.00

Hydrology. During the January field investigation of the proposed mitigation site, three intermittent tributaries to Jasper Creek were identified. The following discussion describes each tributary identified.

Tributary 1 is the headwaters of an intermittent tributary to Jasper Creek that has an average ordinary high water mark of approximately 5 feet and a top bank to top bank distance of approximately 30 feet (Exhibits 2 and 3). Tributary 1 has a substrate composition of approximately 70% sand/silt and 30% cobble. This tributary also has an approximate 1-acre on-channel impoundment which separates this tributary from Tributary 3. Hydrology was not observed at the headwaters of this tributary, however hydrology in the form of standing water, was present closer to the on-channel impoundment.

Tributary 3 is an intermittent tributary to Jasper Creek that has an average ordinary high water mark of approximately 2 feet and a top bank to top bank distance of approximately 5 feet (Exhibits 2 and 3). Tributary 3 has a substrate composition of approximately 90% sand/silt and 10% cobble. This tributary is down stream from the above mentioned on-channel impoundment which appears to have caused sedimentation of the channel, possibly due to the lack of hydrology. Hydrology was not observed throughout the majority of the tributary however some hydrology was observed near another on-channel impoundment on the adjacent property.

Tributary 4 is an intermittent tributary to Tributary 1 that has an average ordinary high water mark of approximately 3 feet and a top bank to top bank distance of approximately 12 feet (Exhibits 2 and 3). Tributary 4 has a substrate composition of approximately 90% sand/silt and 10% cobble. This tributary connects to Tributary 1 upstream from the on-channel impoundment. Hydrology was observed within Tributary 4 as the tributary approaches Tributary 1.

Mapped Soils. The NRCS soil survey for Jack County was used to identify, characterize, and describe the soils occurring in the proposed mitigation site. The soil association identified in the proposed project area is the Duffau-Windthorst Association (NRCS, 1973).

The Duffau-Windthorst Association consists of gently sloping to sloping to deep, loamy and sandy upland soils. Soils of the Duffau series consist of deep, loamy, and sandy soils on uplands. These soils formed in loamy sediment or weakly cemented sandstone. Windthorst soils consist of deep, loamy soils on erosional uplands that formed in stratified clayey and loamy material (NRCS, 1973).

2.5 WATERS OF THE U.S. DELINEATION

During the January field investigation, the above mentioned waters of the U.S. were delineated (Exhibits 2 and 3).

2.6 PROPOSED MITIGATION ACTIVITIES

For the unavoidable impacts to waters of the U.S., Brazos is proposing near-site stream restoration and enhancement along Tributaries 1, 3, and 4 to fulfill mitigation requirements. The proposed mitigation

activities will include the removal of an approximate 1-acre on-channel impoundment on Tributaries 1 and 3, and the planting of 300 trees per acre along the tributaries' riparian zones (Exhibit 3). Brazos is proposing to plant trees on approximately 3.6 acres. Brazos will also deed restrict an approximate 18.8-acre mitigation site that will include the previously mentioned stream and tree planting mitigation activities. Stream restoration activities will be implemented with the goal of restoring and enhancing the aquatic ecosystem of the above mentioned tributaries.

2.6.1 Removal of On-Channel Impoundment

To restore the aquatic ecosystem to Tributaries 1 and 3, Brazos is proposing to remove the approximate 1-acre on-channel impoundment that separates Tributary 1 and Tributary 3 (Exhibit 3), and re-contour the stream channel and banks to natural conditions. The removal of the on-channel impoundment and re-contouring of the stream channel and banks will allow for the reconnection of the natural stream channel and allow for the uninhibited flow of water, thus restoring downstream hydrology. A minimum of approximately 2,500 linear feet of intermittent stream channel will be restored by the removal of the on-channel impoundment.

Brazos will remove the on-channel impoundment by removing the soil embankment that prevents the natural flow of hydrology downstream from the impoundment. Soil from the impoundment will be used to re-contour the banks and stream channel of the tributary to resemble the natural state of the tributary prior to the construction of the impoundment. Excess soil not used to re-contour the banks and stream channel will be removed to an upland location and not placed in waters of the U.S.

2.6.2 Tree Restoration

Brazos proposes to use tree plantings as enhancement to the existing riparian community along Tributaries 1, 3, and 4. Brazos will plant 300 trees per acre on approximately 3.6 acres within the tributaries' riparian zones.

2.6.2.1 Site Preparation

To prepare the mitigation site before initial planting, the site will be disced to create soil conditions to maximize root growth and seedling establishment. If discing is completed several months prior to the recommended planting dates, discing or mowing (which ever is necessary) the mitigation site will be conducted just prior to planting, to create favorable planting conditions.

2.6.2.2 Species and Propagule Selection

To compensate for intermittent tributary impacts during construction, Brazos will plant a variety of native tree seedlings. Table 1 lists the species that were carefully chosen based on ability to survive in the area and on native tree species observed in areas surrounding the mitigation site. Additional species may be planted depending upon availability and per consultation with and prior approval by the USACE Fort

Worth District. Bare root seedlings tree stock will be planted on the site. Seedlings will be planted by hand using a dibble bar or similar planting device.

TABLE 1
TREE SPECIES

COMMON NAME	SCIENTIFIC NAME
Post Oak*	*Quercus stellata*
Blackjack Oak*	*Quercus marilandica*
Live Oak*	*Quercus virginiana*
Texas Oak	*Quercus buckleyi*
Pecan	*Carya illinoensis*
Texas Walnut	*Juglans microcarpa*
Texas Ash	*Fraxinus texensis*

* Preferred tree species to be planted.

2.6.2.3 Planting Dates

The time of planting is critical to the initial survival of the desired tree species. With this in mind, planting will be conducted during the dormant season (November through February) while the ground is not frozen.

2.6.2.4 Planting Rates, Spacing and Installation

The recommended tree species will be planted by hand at a rate of approximately 300 seedlings per acre within the mitigation site. Trees will be planted in 50-foot-wide swaths in areas indicated on Exhibit 3. Each tree will be clearly marked for proper identification in the field. Trees will not be planted in straight rows consisting of the same species. Rather rows will be interspersed and randomly planted to ensure maximum site diversity.

When planting, each seedling will be placed vertical to the soil surface with the surface of the roots planted approximately 1 inch in the ground. No roots or parts of the roots will be showing after the seedling has been planted. When planting seedlings, all roots will be pointing down and not curled up (j-curled) or around each other.

2.7 MITIGATION SUCCESS CRITERIA

On-Channel Impoundment Removal. Successful removal of the on-channel impoundment and the re-contouring of the stream channel and banks will be based on the ability of the stream to regenerate natural stream conditions and functions. Professional judgment by a qualified biologist will be used to determine the successfulness of the stream channel and bank establishment and function at the end of a 5-year reporting/monitoring program.

During the 5-year reporting/monitoring program, Brazos will evaluate the general condition and functionality of the re-contoured stream channel and banks during each monitoring episode. Evaluations will be made on stream channel and bank establishment and on the connectivity of the stream channel to ensure the flow of water is uninhibited and natural regeneration of stream conditions are occurring. During the monitoring period, if water flow is inhibited by any man-made alterations or actions, Brazos will take appropriate measures to remediate the situation. If necessary, Brazos will conduct additional earth moving activities as remedial efforts to ensure successful stream channel and bank establishment. Naturally occurring debris such as leaf litter, sticks, logs, etc. will not be removed, as such debris provides habitat diversity.

Tree Planting. Mitigation success of tree planting areas in the tributary riparian zones will be based on trees planted and natural regeneration of woody vegetation. A 5-year reporting/monitoring program will be implemented to determine whether a minimal survival rate of 150 stems per acre criterion has been attained. The survival rate of 150 stems per acre will include both trees planted and natural regenerating woody vegetation.

During each monitoring episode, a survey of planted living and dead trees will be conducted in each planted area, as well as a survey for natural regeneration of woody vegetation. For best results, the survey will be conducted at or near the end of each growing season following planting of the area. Photographs showing all representative areas of the mitigation site will be taken after initial planting and during each monitoring exercise. The permittee will replant (if necessary) until the minimum survival rate of 150 stems per acre is achieved.

2.8 PERFORMANCE STANDARDS

The following criteria shall be used to determine the minimum level of success of the mitigation effort:

1. A deed restriction for the mitigation site will be recorded in Jack County that will perpetually restrict the site from development, artificial alteration of natural habitat, etc.
2. The tract must exhibit the characteristics of a viable forested riparian community commensurable with the age of the stand and site conditions. These characteristics include canopy cover, density and diameter of trees, species diversity (woody and herbaceous), and vertical stratification. Success will be measured by seedling survival rates measured after five growing seasons.
3. The re-contoured stream channel must exhibit the process of regenerating natural stream conditions and functions. These conditions and functions include the development of an established stream channel, stream banks, vegetated riparian zone, and natural flow and distribution of hydrology. Success will be determined based on the previously mentioned goals after a 5-year monitoring period.

2.9 ECOLOGICAL BENEFITS

The purpose of compensatory mitigation is to replace those aquatic ecosystem functions that will be lost or impaired because of an USACE authorized activity. The amount and type of compensatory mitigation

proposed for the proposed power plant facility is commensurable with the nature and extent of the proposed power plant facility adverse impacts.

The proposed mitigation site will protect approximately 4,800 linear feet of intermittent tributary and the associated riparian community. Through tree planting and natural succession the riparian community will, in time, be expected to develop into a mature forested riparian community. Forested riparian communities serve as buffers to aquatic habitats and generally support greater wildlife diversity. This area will enhance wildlife diversity and habitat, prevent destruction of existing habitat, while providing for both consumptive and non-consumptive use of wildlife.

The removal of the on-channel impoundment and re-contouring the stream channel will restore hydrology and aquatic resources to approximately 2,500 linear feet of intermittent stream channel. Hydrology and aquatic resources will be naturally redistributed throughout the stream channel, based on the contours of the channel. Restoring hydrology and natural stream conditions will allow for the continued development of riparian vegetation communities. Restoration activities will also allow for aquatic organisms to develop and diversify along various hydrology gradients.

This future forested riparian community and the renewal of aquatic resources will provide direct habitat benefits by helping to improve overall water quality of the tributaries. The forested riparian community will buffer the tributary, therefore creating a forested mesic community supported by hydrology of the tributary. Indirect benefits of these mitigation activities provided wildlife with watering holes, special feeding sites, and travel corridors.

2.10 THREATENED AND ENDANGERED SPECIES

PBS&J has reviewed the U.S. Fish and Wildlife Service's (FWS) latest published version of threatened, endangered, and candidate species and the Texas Parks and Wildlife Department's Biological and Conservation Database (TXBCD) to determine if any state or federally protected species have the potential to occur within the proposed mitigation site. According to the TXBCD, 12 threatened, endangered, or candidate species have the potential to occur within Jack County, Texas. These species are the American peregrine falcon (*Falco peregrinus anatum*), Artic peregrine falcon (*Falco peregrinus tundrius*), bald eagle (*Haliaeetus leucocephalus*), eskimo curlew (*Numenius borealis*), interior least tern (*Sterna antillarum athalassos*), black-capped vireo (*Vireo atricapillus*), whooping crane (Grus *americana*), gray wolf (*Canis lupus*), red wolf (*Canis rufus*), Texas kangaroo rat (*Dipodomys elator*), black-tailed prairie dog (*Cynomys ludovicianus*), and Texas horned lizard (*Phrynosoma cornutum*). Results from the TXBCD review shows no elements of recorded occurrences of any federal and/or state listed species located within one mile of the proposed mitigation site. No observations were made of any of the above listed species or potential habitat.

2.11 AFFECT OF ENVIRONMENTALLY SENSITIVE AREAS

The Texas Archeological Research Laboratory (TARL) and Texas Historical Commission (THC) were consulted regarding known cultural and historical resource sites that may be located within or near the proposed mitigation site. The files at TARL revealed no previously recorded archaeological sites within the above project area or within 1,000 feet of the above project area. The files at the THC did not show any known National Register listed or determined eligible properties, State Archeological Landmarks, or State Historical Markers within the above project area or within 1,000 feet of the above project area.

2.12 PROTECTIVE ACTIONS

At this time, the need to construct a fence around the perimeter of the mitigation site is not necessary. The property on which the mitigation site is located is completely fenced from adjacent properties, therefore protecting the mitigation site from grazing livestock. Cattle that were previously on the site have been removed. If in the future, grazing livestock have access to the mitigation site Brazos will construct a perimeter fence to protect the mitigation site.

2.13 LIENS AND ENCUMBRANCES

Not applicable.

2.14 OPERATION AND MANAGEMENT PLAN

Brazos will dedicate in perpetuity the 18.8 acres mitigation site as a waters of the U.S. preserve. The site will not be disturbed, except by those USACE-approved activities that would not adversely affect the intended purpose, condition, and function of the site. Brazos will record a deed restriction with the Jack County Clerk and provide a copy of the recorded deed restriction to the Regulatory Branch, USACE, Fort Worth District within 90 days after the compensatory mitigation plan is executed. The deed restriction will not be removed or modified without written approval of the USACE. Conveyance of any interest in the property will be subject to the deed restriction.

2.15 MONITORING AND REPORTING

Brazos will conduct monitoring, reporting and remedial action in accordance with the following:

Brazos will provide an annual report to the USACE by October 1 of each year for the first 5 years after the agreement is signed by the USACE (2004--2008) or until the minimum success criteria are met. Each report will document the following:

1. The species, height class, and diameter at breast height of trees and shrubs (as applicable) located within the mitigation site.

2. The general condition of the area, including the condition and the general vigor of the vegetation, evidence of increase of the habitat value, and the vegetative communities developing within the site.
3. An assessment of the general quality and functionality of the re-contoured stream channel.
4. Any additional information concerning hydrology, soils, vegetation, fish and wildlife use of the site, or any other pertinent or anecdotal information or events that occurred on the area, such as unusual weather, flooding, or activities at the tract.
5. Proposals for any additional contingency or remedial measures.

In the event Brazos does not comply with the compensatory mitigation plan or deed restriction, Brazos will take all appropriate actions to bring the mitigation site into compliance.

2.16 PROTECTIVE COVENANTS

Brazos shall dedicate in perpetuity by deed restriction the approximately 18.8-acre mitigation site located in Jack County, Texas. The mitigation site shall not be disturbed. The permittee shall survey the mitigation site, develop an appropriate deed restriction for the surveyed site, submit the deed restriction to the USACE for review and approval, and record the USACE approved deed restriction with the County Clerk. **The permittee shall provide a copy of the recorded deed restriction to the USACE 90 days after the Compensatory Mitigation Plan has been executed** The restriction shall not be removed from the deed or modified without written approval of the USACE and conveyance of any interest in the property must be subject to the deed restriction.

2.17 QUALIFICATION OF MITIGATION SPECIALIST

PBS&J has assisted dozen of clients in various industries with waters of the U.S. delineation, removal, permitting and mitigation throughout the state. PBS&J is responsible for establishing three mitigation banks within the USACE Fort Worth District, including the district's first privately owned commercial mitigation bank.

PBS&J has the largest staff of waters of the U.S. delineators, mitigation planners, and permitting specialists in the state of Texas (69). From this large staff, PBS&J has established a project team with the experience and capability to complete the project efficiently and effectively. The project team has vast experience in all aspects of the project. Further, PBS&J maintains Certified Foresters and Certified Wildlife Biologists on staff to oversee reforestation and other mitigation activities.

PBS&J also has vast experience in evaluating waters of the U.S. mitigation opportunities and developing/implementing waters of the U.S. mitigation plans. The project team has developed compensatory wetland plans that involve on-site and off-site waters of the U.S. enhancement, restoration, creation and preservation.

3.0 REFERENCES

Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Mississippi.

Natural Resources Conservation Service (NRCS). 1973. Soil survey of Jack County, Texas. U.S. Department of Agriculture.

U.S. Geological Survey. 1976. Gibtown, Jack County, Texas. 7.5 Minute Topographic Quadrangle.

Appendix

Mitigation Site Photographs

MITIGATION SITE PHOTOGRAPHS

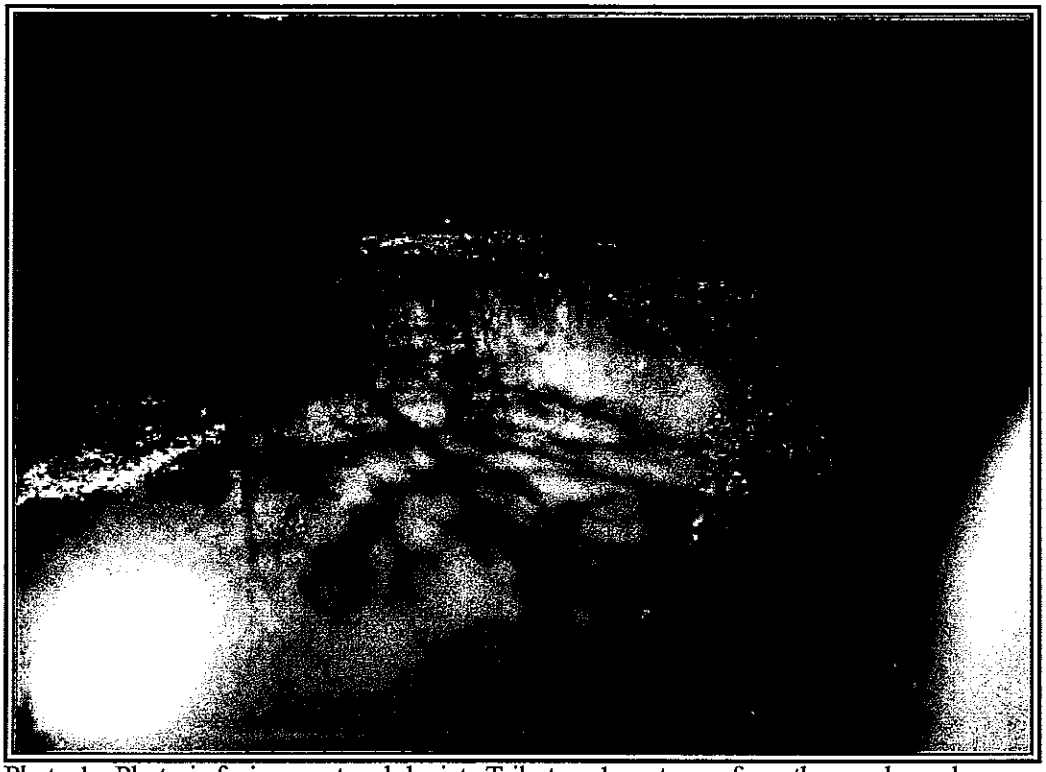


Photo 1: Photo is facing west and depicts Tributary 1 upstream from the on-channel impoundment.

Photo 2: Photo is facing west and depicts Tributary 1 just upstream from the on-channel impoundment (behind camera).

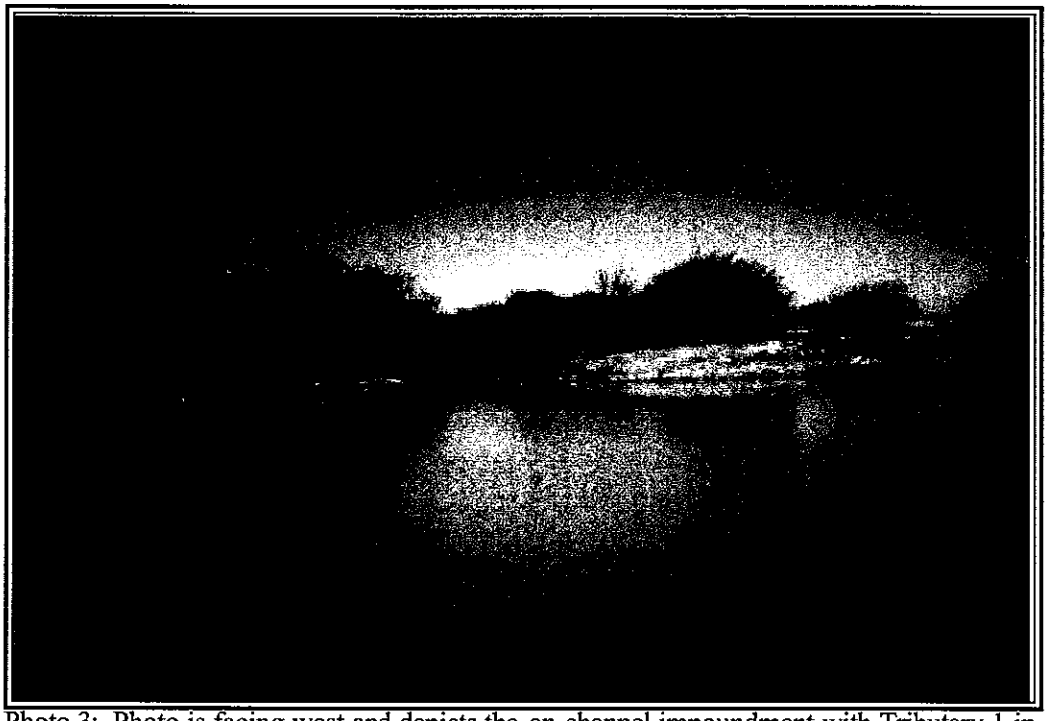


Photo 3: Photo is facing west and depicts the on-channel impoundment with Tributary 1 in the background.

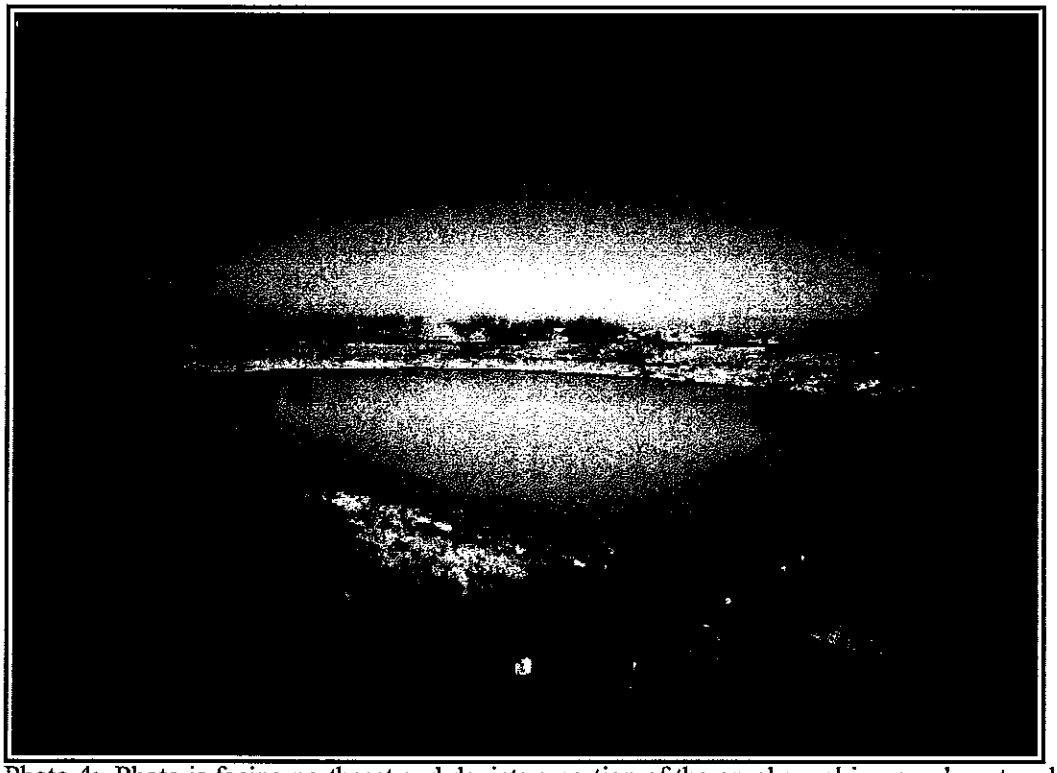


Photo 4: Photo is facing northeast and depicts a portion of the on-channel impoundment and surrounding vegetation.

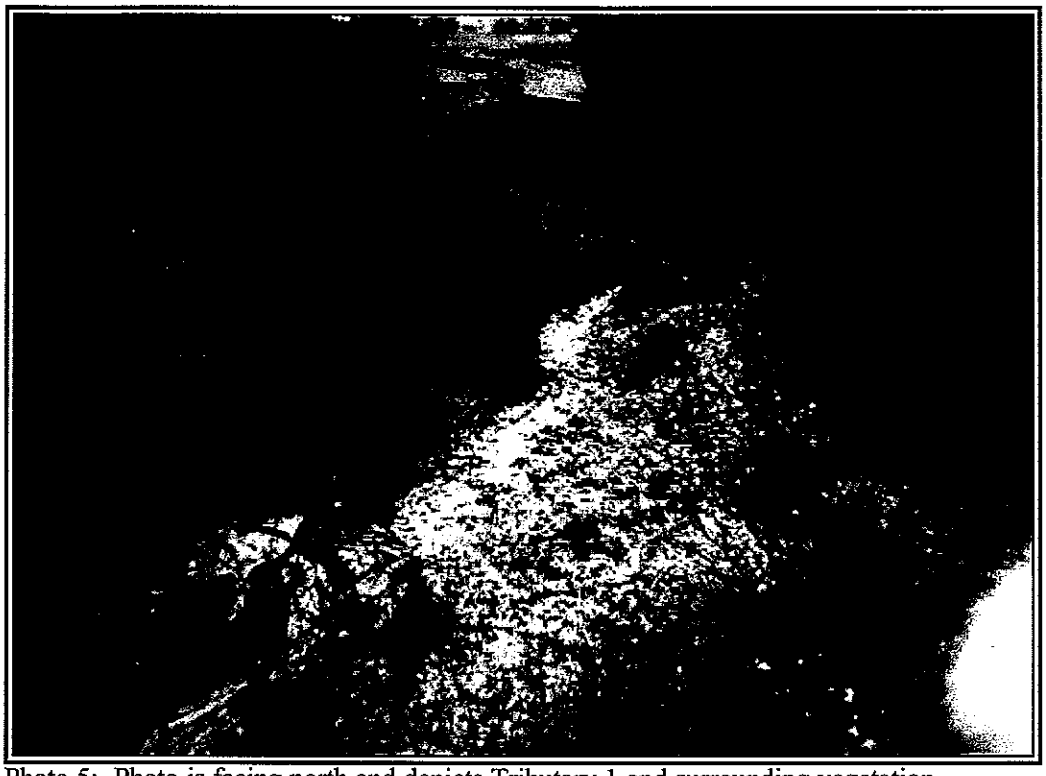


Photo 5: Photo is facing north and depicts Tributary 1 and surrounding vegetation.

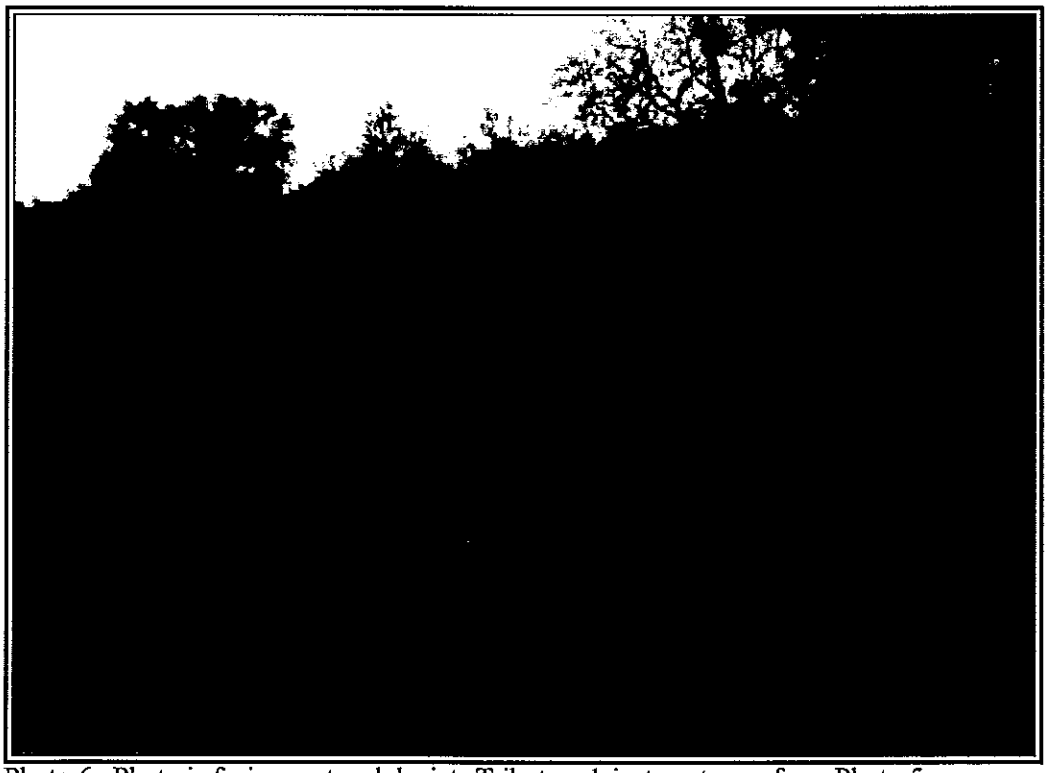


Photo 6: Photo is facing east and depicts Tributary 1 just upstream from Photo 5.

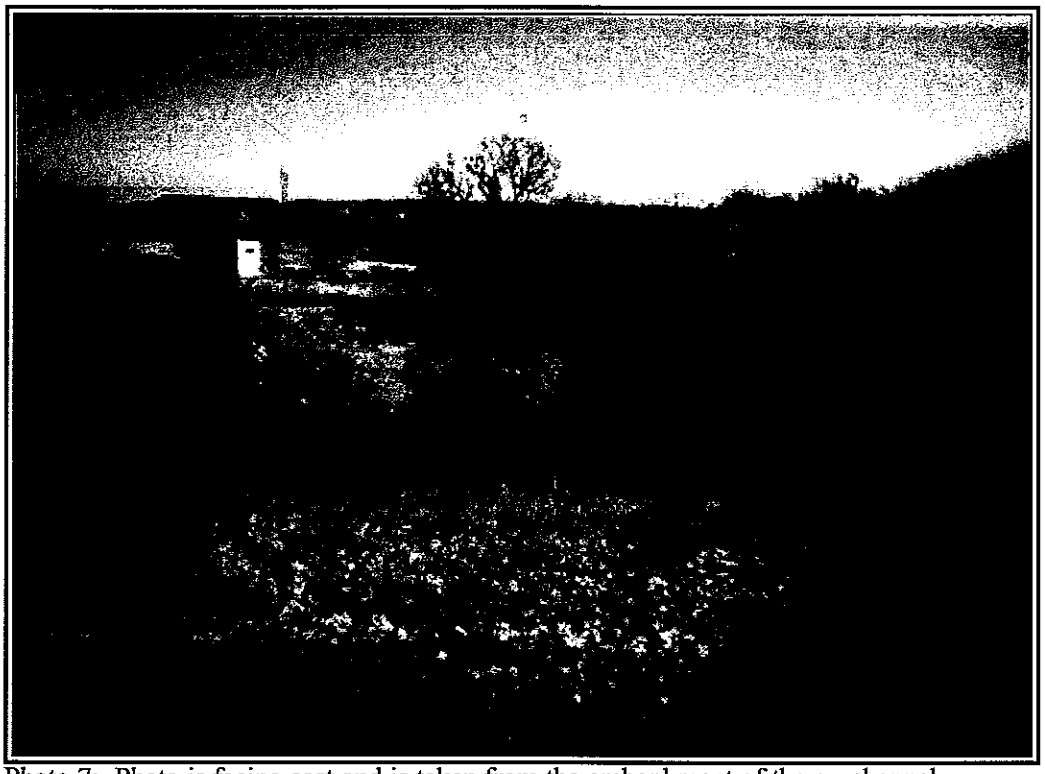


Photo 7: Photo is facing east and is taken from the embankment of the on-channel impoundment. Photo depicts a portion of Tributary 3 and surrounding vegetation.

Photo 8: Photo is facing east and depicts Tributary 3.

Photo 9: Photo is facing east and depicts Tributary 3 near an on-channel impoundment on the adjacent property.

Photo 10: Photo is facing north and depicts Tributary 4 near Tributary 1.

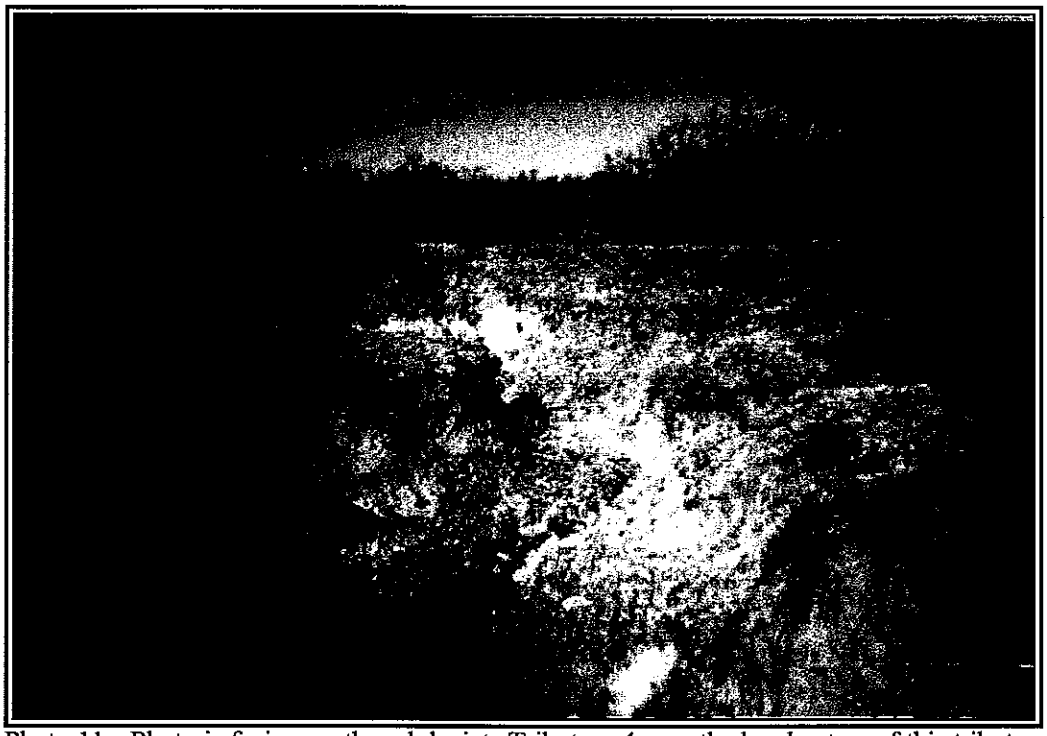


Photo 11: Photo is facing north and depicts Tributary 4 near the headwaters of this tributary.

Photo 12: Photo is facing north and depicts Tributary 4 and surrounding vegetation.

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

October 9, 2003

Planning, Environmental, and Regulatory Division
Regulatory Branch

SUBJECT: Project Number 200300162

Mr. L. Christopher Miller, CWB, CF
Project Manager - Ecology Program
PBS&J
206 Wild Basin Road, Suite 300
Austin, Texas 78746

Dear Mr. Miller:

Thank you for your letter of March 10, 2003, concerning a proposal by Brazos Electric Power Cooperative, Inc. to construct a new power plant, associated raw water and natural gas pipelines, and remove an existing earthen dam near Joplin in Jack County, Texas. This project has been assigned Project Number 200300162. Please include this number in all future correspondence concerning this project. Failure to reference the project number may result in a delay.

We have reviewed this project in accordance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. Under Section 404, the U. S. Army Corps of Engineers (USACE) regulates the discharge of dredged and fill material into waters of the United States, including wetlands. Our responsibility under Section 10 is to regulate any work in, or affecting, navigable waters of the United States. Based on your description of the proposed work, and other information available to us, we have determined that this project will not involve activities subject to the requirements of Section 10. However, this project will involve activities subject to the requirements of Section 404. Therefore, it will require Department of the Army authorization.

We have reviewed this project under the preconstruction notification (PCN) procedures of Nationwide Permit General Condition 13 (Federal Register, Vol. 67, No. 10, Tuesday, January 15, 2002, Vol. 67, No. 30, Wednesday, February 13, 2002, and Vol. 67, No. 37, Monday, February 25, 2002). We have determined that the power plant and dam removal projects are authorized by nationwide permit 39 for Residential, Commercial, and Institutional Developments. We have also determined that the raw water and natural gas pipelines are authorized by nationwide permit 12 for Utility Line Activities. To use these permits, the person responsible for the project must ensure that the work is in compliance with the specifications and

conditions listed on the enclosures and the special conditions listed below. The special conditions for these permits are as follows:

1. The permittee shall implement and abide by the mitigation plan titled "Compensatory Mitigation Plan for the Brazos Electric Power Cooperative Proposed Power Plant Facility, Jack County, Texas" by PBS&J, Inc., dated September 2003. The permittee shall implement the mitigation plan concurrently with the construction of the project and complete the initial construction and plantings associated with the mitigation work prior to completion of construction of the project. Completion of all elements of this mitigation plan is a requirement of this permit.

2. The permittee shall dedicate in perpetuity by deed restriction, as a stream mitigation area, the approximately 18.8-acre mitigation area identified in the mitigation referenced in special condition 1 above. The only exceptions to the deed restriction shall be easements in existence on October 9, 2003. The mitigation area shall not be disturbed, except by those activities that would not adversely affect the intended extent, condition, and function of the mitigation area. Unless otherwise specified, livestock grazing, mowing, and similar activities are not allowed. The permittee shall survey the mitigation area, develop an appropriate deed restriction for the surveyed area, submit the draft deed restriction to the USACE for review and approval, and record the USACE approved deed restriction with the County Clerk. The permittee shall provide a copy of the recorded deed restriction to the USACE by February 1, 2004. The restriction shall not be removed from the deed or modified without written approval of the USACE and conveyance of any interest in the property must be subject to the deed restriction.

3. The permittee shall conduct cultural resources compliance work in accordance with Section 106 of the National Historic Preservation Act in the raw water and natural gas pipeline permit areas. As defined in 33 CFR 325, Appendix C, the permit area shall include all crossings of waters of the United States and adjacent upland areas spanning from first terrace to first terrace. The permittee shall identify historic properties within the permit area. The permittee shall compile the results of this work in a report and forward to the USACE for approval and the State Historic Preservation Officer (SHPO) for review and comment. After site identification, the USACE will select sites potentially eligible for the National Register of Historic Places (NRHP) in consultation with the SHPO for testing. The permittee shall test these sites according to a research design to be developed prior to this phase of field work. The permittee shall forward the research design to the SHPO for review and comment and to the USACE for approval prior to implementation of testing. After testing is completed, the permittee shall forward a testing report to the SHPO for review and comment and the USACE for approval. The permittee shall develop a plan for data recovery if NRHP eligible properties are identified during the testing phase. The permittee shall forward this plan to the SHPO for review and comment and to the USACE for approval. The permittee shall compile and forward a completed report of the data recovery phase of work to the SHPO for review and comment and the USACE for approval. The cultural resources work shall be undertaken by qualified personnel. The work to be accomplished shall be in conformance with Council of Texas Archeologists Guidelines for

Field Investigations and Reporting, and the Department of the Interior's "Archeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines" (FR, Vol. 48, No. 190). All sites shall be assigned trinomial numbers and be assessed according to the criteria for the NRHP contained in 36 CFR 60.4. The permittee shall not initiate any construction for this undertaking that would affect an eligible NRHP property until the significance of the property and the effects of the undertaking on the property are determined and any necessary treatment is complete. The permittee shall not begin work in the permit areas until the USACE has verified compliance with 33 CFR Part 325, Appendix C and 36 CFR Part 800. If a previously unknown cultural resource site is encountered during work authorized by this permit, the permittee shall immediately contact the USACE and avoid further impact to the site until assessment by State and Federal cultural resource specialists is complete and the USACE has verified that the requirements of 33 CFR Part 325, Appendix C, have been met.

We have determined that the proposed power plant activity would comply with all of the terms and conditions of nationwide permit 39 and that adverse environmental effects of the proposed project would be minimal both individually and cumulatively. Therefore, we are waiving the 300-linear foot limit for loss of intermittent stream bed in this case.

Failure to comply with these specifications and conditions invalidates the authorization and may result in a violation of the Clean Water Act.

Our verification for the construction of this activity under this nationwide permit is valid for two years from the date of this letter, unless prior to that date the nationwide permit is suspended, revoked, or modified such that the activity would no longer comply with the terms and conditions of the nationwide permit on a regional or national basis. The USACE will issue a public notice announcing the changes when they occur. Furthermore, if you commence, or are under contract to commence, this activity before the date that this verification expires, or the date that this nationwide permit is suspended, modified, or revoked, whichever is earlier, you will have until March 18, 2008, to complete the activity under the present terms and conditions of the nationwide permit. Continued confirmation that an activity complies with the specifications and conditions, and any changes to the nationwide permit, is the responsibility of the permittee.

Our review of this project also addressed its effects on endangered species. Based on the information provided, we have determined that this project will not affect any species listed as threatened or endangered by the U.S. Fish and Wildlife Service within our permit area. However, please note that you are responsible for meeting the requirements of general condition 11 on endangered species.

The permittee must sign and submit to us the enclosed certification that the work, including any required mitigation, was completed in compliance with the nationwide permit. You should submit your certification within 30 days of the completion of work.

This permit should not be considered as an approval of the design features of any activity authorized or an implication that such construction is considered adequate for the purpose intended. It does not authorize any damage to private property, invasion of private rights, or any infringement of federal, state, or local laws or regulations.

Thank you for your interest in our nation's water resources. If you have any questions concerning our regulatory program, please contact Mr. Ken Laterza at the address above or telephone (817)886-1735. If you would like more information about our nationwide permit program, please contact us and we will furnish you with a copy of the nationwide permit regulations.

Sincerely,

Jennifer R. Walker
for
Wayne A. Lea
Chief, Regulatory Branch

Enclosures

Copy Furnished:

Mr. Mark Fisher
Manager, Water Quality Assessment Section (MC-150)
Water Quality Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Appendix B

Agency Correspondence

Agency Contact List

Jack County - BEPC
December 2007

Mr. F. Lawerence Oaks
State Historic Preservation Officer
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711

Ms. Kathy Boydston
Wildlife Habitat Assessment Program
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

Mr. William Mullican
Deputy Executive Administrator for Planning
Texas Water Development Board
1700 N. Congress Avenue
Austin, Texas 78701

Ms. Linda Howard
Manager, Planning & Programming
Texas Department of Transportation
Department of Aviation
125 East 11th Street
Austin, Texas 78701-2483

Mr. Mike Nicely
Branch Manager
Texas Airport Development Office
Federal Aviation Administration
2601 Mecham Boulevard
Fort Worth, Texas 73137-4298

Mr. Donald W. Gohmert
State Conservationist
Natural Resources Conservation Service
101 South Main
Temple, Texas 76501-7682

Mr. Richard Greene
Regional Administrator
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

Ms. Kyle M. Mills, P.E.
Regional Environmental Officer
Federal Emergency Management Agency
Region VI
Federal Center, 800 N. Loop 288
Denton, Texas 76209-3698

Ms. Dianna Noble
Director, Environmental Affairs Division
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701-2483

Mr. Michael Mocek
Chief, Programs & Project Management Division
U.S. Army Corps of Engineers
Fort Worth District (CESWF-PER-R)
P.O. Box 17300
Fort Worth, Texas 76102-0300

Ms. Chris Turk
Planning and Environmental Quality
Intermountain Regional Support Office
National Park Service
P.O. Box 25287
Denver, CO 80225-0287

Mr. Steve Parris, Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services
711 Stadium Drive, Suite 252
Arlington, Texas 76011

Bureau of Indian Affairs
Southern Plains Region
WCD Office Complex
P.O. Box 368
Anadarko, Oklahoma 73005

Mr. Glenn Shankle
Executive Director
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

Mr. Dennis Wilde

Executive Director
Nortex Regional Planning Commission
P.O. Box 5144
Wichita Falls, TX 76307-5144

Jack County

Honorable Mitchell G. Davenport
Jack County Judge
100 Main St., Ste. 206
Jacksboro, TX 76458

Honorable Bryson Sewell
Jack County Commissioner
Precinct 2
965 S. Main Street
Jacksboro, TX 76458

January 16, 2008

Subject: Proposed Jack County Power Plant Expansion Jack County, Texas

Dear: PBS&J Project No. 441998

Brazos Electric Power Cooperative, Inc. (BEPC) is proposing to expand their existing power plant facilities near Joplin, in Jack County, Texas. PBS&J will be updating the Environmental Assessment (EA) that was prepared in 2003 for the construction of the power plant and would appreciate your assistance and input as we gather information.

Specifically, BEPC is proposing to expand the generation capacity within the existing Jack County Power Plant Site, which currently operates a 600-megawatt (MW) gas-fired, combined-cycle electric generation station located within a 50-acre portion of an approximately 200-acre tract near Joplin, in Jack County Texas (see attached figure). The proposed expansion will include the addition of one 600 MW natural gas-fired combined cycle generator and ancillary equipment located entirely within the 50-acre power generation site. No additional excavation or alteration to the landscape is required, as the proposed expansion was planned and permitted during the initial construction phase in 2004.

PBS&J is updating the EA prepared in June 2003 in order to evaluate the impact of the proposed construction and operation on the area's resources. PBS&J is currently in the process of gathering data on the existing environment of the study area, and is therefore requesting that your office provide information concerning sensitive natural resources in the study area. Your comments will be an important consideration in assessing those impacts. In addition, would you please let us know of any permits or other approvals required by your office?

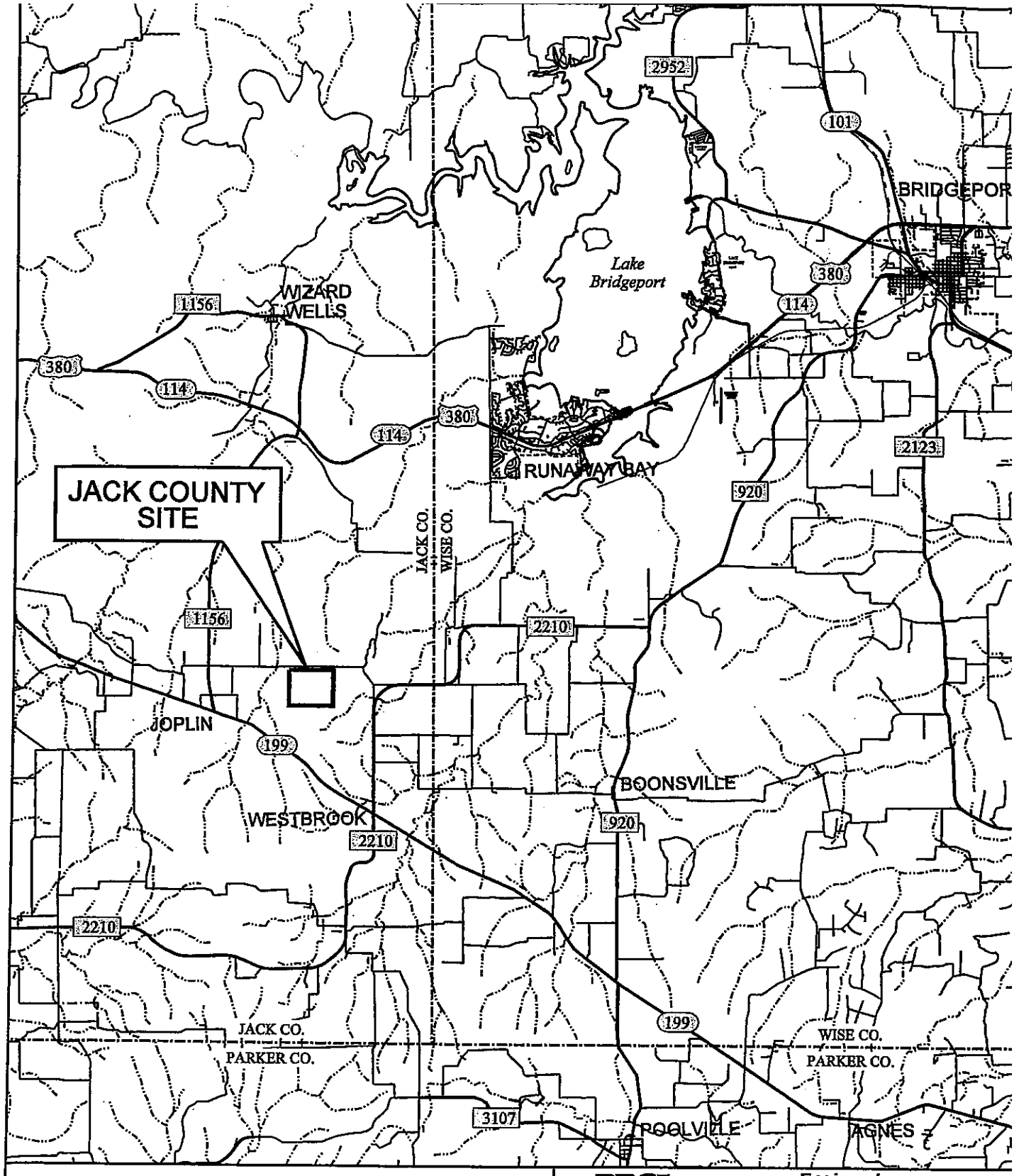
The Rural Utilities Service (RUS), an Agency delivering the United States Department of Agriculture (USDA) Rural Development Utilities Programs, intends to hold a public scoping meeting and prepare an EA related to possible financial assistance to BEPC of Waco, Texas. RUS will hold a scoping meeting in an open house format in order to provide information and solicit comments for the preparation of an EA. The meeting will be held on January 31, 2008, from 5:00 to 8:00 p.m. at the Twin Lakes Community Center, 420 Highway 59, Jacksboro, Texas. An Alternative Evaluation/Site Selection Study is available for public review at USDA Rural Development offices at 1400 Independence Avenue, SW., Washington, DC 20250–1571 and at the following web site http://www.usda.gov/rus/water/ees/ea.htm.

Thank you for your assistance with this project. Please contact me at (512) 327-6840 (ext. 3370), if you have any questions or require additional information. Your earliest reply will be appreciated.

Sincerely,

Rob R. Reid
Project Manager

Enclosure
cc: R. Chambers, BEPC
D. Rankin, RUS
T. Ademski, PBS&J



north

0 1 2 3 4 5 miles

Base Map: TxDOT General Highway Maps; Jack, Parker, and Wise Counties, Texas

PBSJ

• Engineering
• Environmental Consulting
• Surveying

PROJECT AREA LOCATION
JACK COUNTY POWER PLANT SITE

I:\projects\hc1\bepc\441998\cad\project area.dgn

TEXAS WATER DEVELOPMENT BOARD

January 22, 2008

Rob R. Reid
Vice President/Principal Project Director
PBS&J
6504 Bridge Point Parkway, Suite 200
Austin, TX 78730

Re: PBS&J Job No. 441998

Dear Mr. Reid:

Please note that the scope of this request goes beyond our current program responsibilities. Please feel free to call me at (512) 936-0813 if you have any questions.

Sincerely,

William F. Mullican, III
Deputy Executive Administrator
Planning

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

January 18, 2008

Planning, Environmental, and Regulatory Division
Regulatory Branch

SUBJECT: Project Number SWF-2008-00036, Jack County Power Plant Expansion

Mr. Rob R. Reid
PBS&J
6504 Bridge Point Parkway
Suite 200
Austin, Texas 78730

Dear Mr. Reid:

Thank you for your letter dated January 16, 2008. Your request has been assigned Project Number SWF-2008-00036.

Mr. Elliott Carman has been assigned as the regulatory project manager for your request and will be evaluating it as expeditiously as possible. However, because of our permit workload it will take a while for us to respond.

You may be contacted for additional information about your request. For your information, please reference the Fort Worth District Regulatory Branch homepage at http://www.swf.usace.army.mil/regulatory/ and particularly guidance on submittals at http://www.swf.usace.army.mil/pubdata/environ/regulatory/introduction/submital.pdf, and mitigation at http://www.swf.usace.army.mil/pubdata/environ/regulatory/permitting/mitigation/fwmitguid.pdf that may help you supplement your current request or prepare future requests.

If you have any questions about the evaluation of your submittal or would like to request a copy of one of the documents referenced above, please contact Mr. Carman at the address above or telephone (817)886-1662 and refer to your assigned project number. Please note that it is unlawful to start work without a Department of the Army permit if one is required.

Wayne A. Lea
Chief, Regulatory Branch

Texas Department of Transportation

DEWITT C. GREER STATE HIGHWAY BLDG. • 125 E. 11TH STREET • AUSTIN, TEXAS 78701-2483 • (512) 463-8585

January 24, 2008

Mr. Rob R. Reid
Project Manager
PBS&J
6504 Bridge Point Parkway, Suite 200
Austin, Texas 78730

RE: Proposed Jack County Power Plant Expansion
Project No. 441998

Dear Mr. Reid:

The Texas Department of Transportation (TxDOT), Environmental Affairs Division, is in receipt of your letter regarding the above referenced project submitted to our office on January 16, 2008. TxDOT is not aware of any sensitive environmental resources in the proposed project area. However, during proposed construction, oversized loads could potentially cause damages to state roadways. An oversized load permit obtained from TxDOT should address this concern. Thank you for the opportunity to participate in this review.

Sincerely,

James P Barta Jr

James P. Barta, Jr., P.E.
Director, Project Management Section
Environmental Affairs Division

Texas Department of Transportation

AVIATION DIVISION
125 E. 11TH STREET • AUSTIN, TEXAS 78701-2483 • 512/416-4500 • FAX 512/416-4510

Mr. Robert R. Reid / PBS&J
6504 Bridge Point Parkway
Suite 200
Austin, Texas 78730

January 22, 2008

Dear Mr. Reid,

I received your letter dated January 16, 2008 concerning the proposed expansion of the Jack County power plant site, PBS&J job # 441998.

Title 14, US Code, Part 77 of the Federal Aviation Administration's (FAA) Federal Aviation Regulations (FAR) requires notice to the FAA if the facility to be constructed fits either of the below listed conditions:

77.13(1) Any construction or alteration of more than 200' above the surface of the ground at its location.

77.13 A 2 (i) Any vertical obstruction, temporary or permanent, that penetrates a 100 to 1 slope for a horizontal distance of 20,000 feet from the nearest point of the nearest runway, starting at the surface at the edge of that runway, for each airport with at least one runway more than 3,200 feet in actual length, excluding heliports. (ii) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport specified in paragraph (a)(5) of this section with its longest runway no more than 3,200 feet in actual length, excluding heliports. (iii) 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of each heliport specified in paragraph (a)(5) of this section.

There are no public use airports or heliports in the study area.

If the criteria of FAR 77.13(1) is met, the FAA must be notified in four copies using FAA Form 7460-1, "Notice of Proposed Construction or Alteration". This form and supporting documents are available at <www.faa.gov/arp> - forms - construction. If you have any questions, please feel free to contact me at (512) 416-4507 or <wgunn@dot.state.tx.us>

Sincerely,

William B. Gunn

United States Department of Agriculture
NRCS
Natural Resources Conservation Service

101 S. Main Street
Temple, TX 76501-6624
Phone: 254-742-9960
FAX: 254-742-9859

January 24, 2008

PBS&J
6504 Bridge Point Parkway
Suite 200
Austin, Texas 78730

Attention: Rob Reid, Project Manager

Subject: LNU-Farmland Protection-Brazos Electric
Jack County Power Plant Expansion
Jack County, Texas, PBS&J Project 441998

We have reviewed the information provided concerning the proposed Brazos Electric Cooperative (BEPC) Power Plant Expansion in Jack County, Texas as outlined in your letter of January 16, 2007. This is part of NEPA evaluation for United States Department of Agriculture, Rural Utilities Service. We have evaluated the proposed area as required by the Farmland Protection Policy Act (FPPA).

We reviewed this site in 2003 when the original power plant site was determined. We determined that the proposed site did not contain soils classified as Important Farmland and the site would be exempt from the FPPA law. We have completed an AD-1006 form indicating the exemption. I have attached a copy of the letter for the original evaluation dated March 20, 2003. We urge you to use accepted erosion control methods during construction.

I have attached an AD-1006 (Farmland Conversion Impact Rating) form for this site indicating the approval status. Thanks for the resource materials you submitted to evaluate this project. If you have any questions please call James Greenwade at (254)-742-9960, Fax (254)-742-9859.

Thanks,

James M. Greenwade
Soil Scientist
Soil Survey Section
USDA-NRCS, Temple, Texas

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 1-16-2008
Name of Project Brazos Electric Jack County Power Plant Expansion	Federal Agency Involved USDA-Rural Utilities
Proposed Land Use Electric Power Generation	County and State Jack County, Texas
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 1-18-2008 / Person Completing Form: James Greenwade

Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES ☐ NO x☐	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land in Govt. Jurisdiction Acres: %	Amount of Farmland As Defined in FPPA Acres: %	
Name of Land Evaluation System Used LESA	Name of State or Local Site Assessment System NONE	Date Land Evaluation Returned by NRCS	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site				
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide Important or Local Important Farmland				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)				

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)				
2. Perimeter In Non-urban Use	(10)				
3. Percent Of Site Being Farmed	(20)				
4. Protection Provided By State and Local Government	(20)				
5. Distance From Urban Built-up Area	(15)				
6. Distance To Urban Support Services	(15)				
7. Size Of Present Farm Unit Compared To Average	(10)				
8. Creation Of Non-farmable Farmland	(10)				
9. Availability Of Farm Support Services	(5)				
10. On-Farm Investments	(20)				
11. Effects Of Conversion On Farm Support Services	(10)				
12. Compatibility With Existing Agricultural Use	(10)				
TOTAL SITE ASSESSMENT POINTS	160				
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100				
Total Site Assessment *(From Part VI above or local site assessment)*	160				
TOTAL POINTS *(Total of above 2 lines)*	260				

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES ☐ NO ☐

Reason For Selection:

Name of Federal agency representative completing this form:	Date:

NRCS
Natural Resources Conservation Service
101 South Main Street
Temple, Texas 76501-7602

copy of 2003 letter

March 20,2003

PBS&J
206 Wild Basin Road, Suite 300
Austin, Texas 78746

Attention: L. Christopher Miller, CWB,CF, Project Manager-Ecology

Subject: LNU-Farmland Protection-Brazos Electric Power Cooperative
Jack County, Texas
PBS&J Project No. 441159.00

We have reviewed the information concerning the proposed Brazos Electric Power Cooperative- Jack County Power Plant in Jack County, Texas as outlined in your letter of March 10, 2003. This is part of an Environmental Evaluation for the Rural Utilities Service. We have rated this project as required by the Farmland Protection Policy Act (FPPA).

We have evaluated the soils at the preferred power plant site in Jack County. The soils of the project area as mapped in the Soil Survey of Jack County are not classified as Important Farmlands. The exact location of power lines and pipelines are not known at this time. Although power lines and pipelines may cross Important Farmland, we do not consider the construction of powerlines or pipelines a permanent conversion of Important Farmland and would be exempted from the Farmland Protection Policy Act (FPPA). If you plan some substations or other structures we will be happy to evaluate those when the location is known. Most of the soils in this project are not classified as Important Farmland. We know of no other environmental concerns that this project would impact. We have completed an AD-1006 for the preferred power plant site indicating the approval status. Since the soils at the preferred site are not classified as Important Farmland we did not rate the other sites.

Thanks for the quality resource materials you submitted to evaluate this project. If you have any questions please call James Greenwade at (254)-742-9960 or Fax (254)-742-9859.

Thanks,

James M. Greenwade
Soil Scientist
Soil Survey Section
USDA-NRCS, Temple, Texas

PBS&J

An employee-owned company

January 16, 2008

Ms. Chris Turk
Planning and Environmental Quality
National Park Service Intermountain Regional Support Office
P.O. Box 25287
Denver, CO 80225-0287

Subject: Proposed Jack County Power Plant Expansion Jack County, Texas

Dear Ms. Turk: PBS&J Project No. 441998

Brazos Electric Power Cooperative, Inc. (BEPC) is proposing to expand their existing power plant facilities near Joplin, in Jack County, Texas. PBS&J will be updating the Environmental Assessment (EA) that was prepared in 2003 for the construction of the power plant and would appreciate your assistance and input as we gather information.

Specifically, BEPC is proposing to expand the generation capacity within the existing Jack County Power Plant Site, which currently operates a 600-megawatt (MW) gas-fired, combined-cycle electric generation station located within a 50-acre portion of an approximately 200-acre tract near Joplin, in Jack County Texas (see attached figure). The proposed expansion will include the addition of one 600 MW natural gas-fired combined cycle generator and ancillary equipment located entirely within the 50-acre power generation site. No additional excavation or alteration to the landscape is required, as the proposed expansion was planned and permitted during the initial construction phase in 2004.

PBS&J is updating the EA prepared in June 2003 in order to evaluate the impact of the proposed construction and operation on the area's resources. PBS&J is currently in the process of gathering data on the existing environment of the study area, and is therefore requesting that your office provide information concerning sensitive natural resources in the study area. Your comments will be an important consideration in assessing those impacts. In addition, would you please let us know of any permits or other approvals required by your office?

The Rural Utilities Service (RUS), an Agency delivering the United States Department of Agriculture (USDA) Rural Development Utilities Programs, intends to hold a public scoping meeting and prepare an EA related to possible financial assistance to BEPC of Waco, Texas. RUS will hold a scoping meeting in an open house format in order to provide information and solicit comments for the preparation of an EA. The meeting will be held on January 31, 2008, from 5:00 to 8:00 p.m. at the Twin Lakes Community Center, 420 Highway 59, Jacksboro, Texas. An Alternative Evaluation/Site Selection Study is available for public review at USDA Rural Development offices at 1400 Independence Avenue, SW., Washington, DC 20250–1571 and at the following web site http://www.usda.gov/rus/water/ees/ea.htm.

Thank you for your assistance with this project. Please contact me at (512) 327-6840 (ext. 3370), if you have any questions or require additional information. Your earliest reply will be appreciated.

Sincerely,

Rob R. Reid

Rob R. Reid
Project Manager

Enclosure
cc: R. Chambers, BEPC
D. Rankin, RUS
T. Ademski, PBS&J

The National Park Service reviewed this project, and determined that no parks will be affected; therefore, we have no comments.

Signed: Date: 1/28/0

TEXAS HISTORICAL COMMISSION

The State Agency for Historic Preservation

RICK PERRY, GOVERNOR

JOHN L. NAU, III, CHAIRMAN

F. LAWERENCE OAKS, EXECUTIVE DIRECTOR

February 18, 2008

Rob R. Reid
Senior Manager/Vice President
PBS&J
6504 Bridge Point Parkway, Suite 200
Austin, Texas 787430

Re: Project review under the Antiquities Code of Texas, Study Map for Brazos Electric Power Cooperative's proposed expansion at the Jack County Power Plant, Jack County, Texas (PUC)

Dear Mr. Reid:

Thank you for your correspondence describing the above referenced project. This letter presents the comments of the Executive Director of the Texas Historical Commission, the state agency responsible for administering the Antiquities Code of Texas.

The review staff, led by Debra L. Beene, has completed its review. Portions of the study area may have a moderate to high probability of containing significant cultural resources. However, we cannot conduct our review with the general area map submitted; please plot the project area on a USGS 7.5' topographic quad map and resubmit for our review.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your assistance in this state review process, and for your efforts to preserve the irreplaceable heritage of Texas. **If you have any questions concerning our review or if we can be of further assistance, please contact Debra L. Beene at 512/463-5865.**

Sincerely,

for
F. Lawerence Oaks, State Historic Preservation Officer

FLO/dlb

PBS&J

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RECEIVED
MAR 11 2008
TEXAS HISTORICAL COMMISSION

March 11, 2008

Subject: Proposed Jack County Power Plant Expansion Jack County, Texas

PBS&J Project No. 441998

Dear Debra:

We spoke this afternoon about the above-referenced project, and you requested a letter summarizing the previous archaeological survey for the project. As per our consultation letter of January 16, 2008, Brazos Electric Power Cooperative, Inc. (BEPC) is proposing to expand the capacity of their existing power plant facilities near Joplin, in Jack County, Texas. PBS&J will be updating the Environmental Assessment (EA) that was prepared in 2003 for the construction of the power plant and would appreciate your assistance and input as we gather information.

Specifically, BEPC is proposing to expand the generation capacity within the existing Jack County Power Plant Site, which currently operates a 600-megawatt (MW) gas-fired, combined-cycle electric generation station located within a 50-acre portion of an approximately 200-acre tract near Joplin, in Jack County Texas (see attached figure). The proposed expansion will include the addition of one 600 MW natural gas-fired combined cycle generator and ancillary equipment located entirely within the 50-acre power generation site. No additional excavation or alteration to the landscape is required, as the proposed expansion was planned and permitted during the initial construction phase in 2004.

PBS&J archaeologists surveyed the entire 200-acre tract in 2003 and submitted a draft report for the Texas Historical Commission's review in July, 2003 (*Cultural Resources' Survey for the Brazos Electric Power Cooperative Proposed Power plant in Jack County, Texas*). A total of 125 shovel tests were excavated during the survey, exceeding the minimum survey standards established by the THC. One archeological site, site 41JA17 was identified and was recommended for further documentation if construction of the power plant would impact the site. The THC concurred with PBS&J's recommendations on August 13th, 2003. The power plant has been constructed and site 41JA17 was not impacted by the construction. The current project will involve no new impacts to the previously surveyed 200-acre tract as it involves only the addition of new equipment to the power station.

Please find attached a USGS 7.5' topographic map showing the 200-acre property that was surveyed in 2003 and the location of the existing 50-acre generation site containing the Jack County Power Plant.

We request your concurrence that the addition of new equipment to the power plant, which will require no new excavation or landscape alteration, will have no affect on historic properties.

Thank you for your assistance with this project. Please contact me at (512) 529-3366 if you have any questions or require additional information. Your earliest reply will be appreciated.

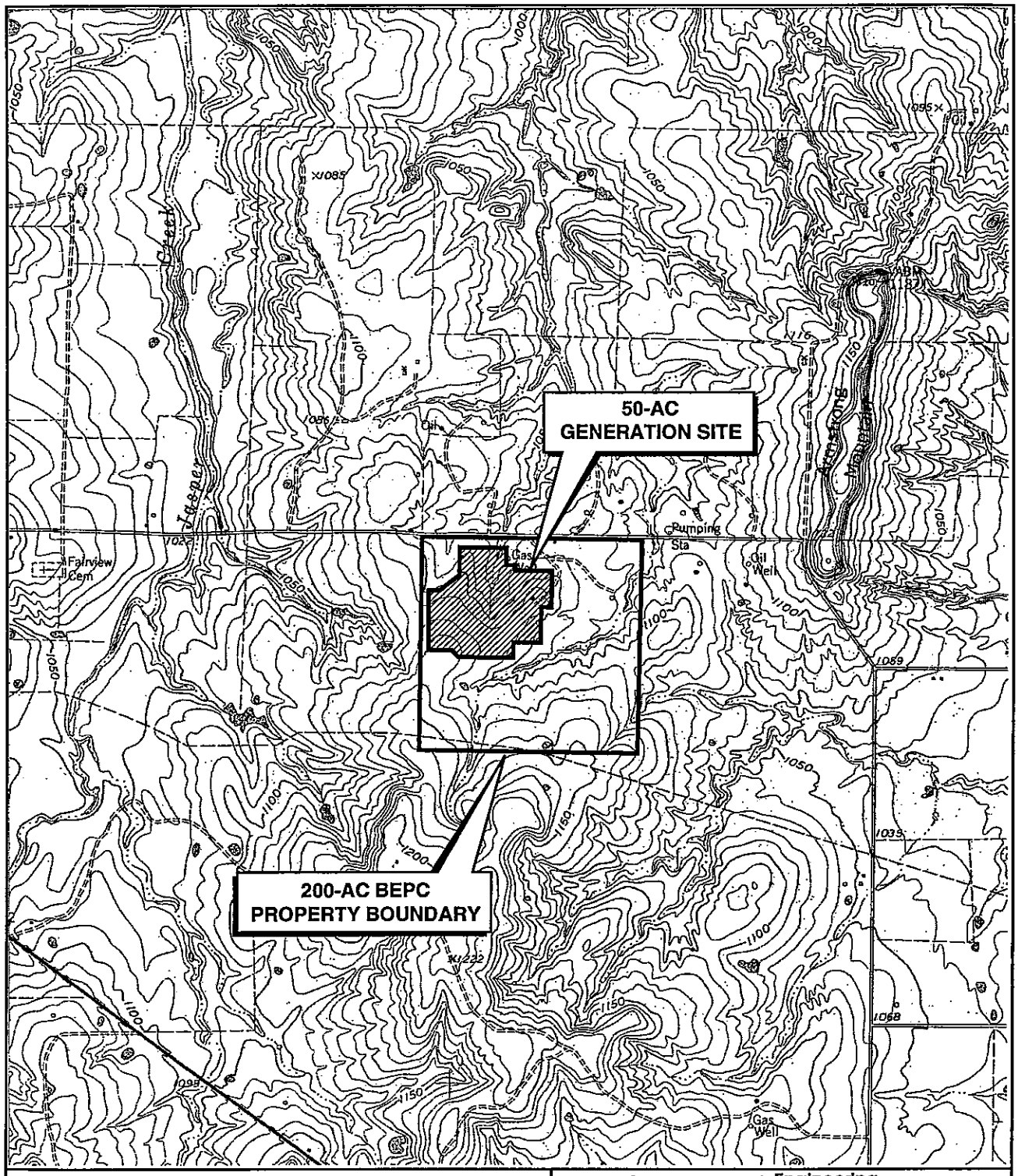
Sincerely,

John Fulmer
Group Manager

Enclosure
cc: R. Chambers, BEPC
D. Rankin, RUS
T. Ademski, PBS&J

NO HISTORIC
PROPERTIES AFFECTED
PROJECT MAY PROCEED.
By _____
for F. Lawerence Oaks
State Historic Preservation Officer
Date 3/12/08
Track# _____

6504 Bridge Point Parkway • Suite 200 • Austin, Texas 78730 • Telephone: 512.327.6840 • Fax: 512.327.2453 • www.pbsj.com



north

0 500 1000 meters

0 2000 4000 feet

Base Map: USGS 7.5' Quadrangle; Gibtown

PBSJ

- Engineering
- Environmental Consulting
- Surveying

PROJECT AREA LOCATION

JACK COUNTY POWER PLANT EXPANSION

I:\projects\bepc\441998\cad\cul_project_area.ai

TEXAS PARKS & WILDLIFE

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Carter P. Smith
Executive Director

March 27, 2008

Mr. Rob R. Reid
PBS&J
6504 Bridge Point Parkway, Suite 200
Austin, TX 78730

RE: Proposed Power Plant Expansion (PBS&J Job No. 441998), Jack County

Dear Mr. Reid:

Texas Parks and Wildlife Department (TPWD) received the preliminary coordination letter regarding the proposed expansion referenced above located near Joplin. TPWD staff has reviewed the information provided and offers the following comments concerning this project.

Project Description

The proposed project entails the expansion of the existing power plant facilities by adding one 600 MW natural gas-fired, combined-cycle electric generation station within the existing power generation site located on a 50-acre portion of a 200-acre tract. The information provided state that no excavation or alteration to the landscape is required, as the proposed expansion was planned and permitted during the initial construction phase in 2004. Because the project would take place within an area that was previously disturbed by construction of the power plant, additional impacts to fish and wildlife resources should be minimal. TPWD provided comments and recommendations on the Environmental Assessment (EA) written for the construction of the power plant site in May 2003. Please review the attached copy of that letter, as the recommendations provided remain applicable to the expansion project.

Rare and Protected Species

Based on a review of the Texas Natural Diversity Database (TXNDD), no records of rare or protected species have been documented within 1.5 miles of the study area. However, absence of information in an area does not imply that a species is absent from that area. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presence, absence or condition of special species, natural communities, or other significant features within your project area. The TXNDD is intended to assist

4200 SMITH SCHOOL ROAD
AUSTIN, TEXAS 78744-3291
512.389.4800
www.tpwd.state.tx.us

users in avoiding harm to rare species or significant ecological features. These data are not inclusive and **cannot be used as presence/absence data**. They represent species that could potentially be in your project area. This information cannot be substituted for on-the-ground surveys. The TXNDD is updated continuously; as your project progresses and for future projects, please contact Dorinda Scott at (512) 912-7023 or dorinda.scott@tpwd.state.tx.us for the most current and accurate information.

Recommendation: The Jack County Annotated List of Rare and Protected Species has been updated since the Environmental Assessment was prepared in 2003. Please review the updated county list, as rare species could be present in the area depending upon habitat availability. These lists are now available on-line at http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered_species.phtml. If during construction, the project area is found to contain rare species, natural plant communities, or special features, TPWD recommends that precautions be taken to avoid impacts to them. The U.S. Fish and Wildlife Service (USFWS) should be contacted for additional species occurrence data, guidance, permitting, survey protocols, and mitigation for federally listed species. For the USFWS rare species lists please visit http://www.fws.gov/southwest/es/EndangeredSpecies/lists/.

Because specific details about project activities were not provided in the preliminary information request, TPWD cannot provide specific comments on potential impacts to threatened and endangered species or general fish and wildlife resources. I appreciate the opportunity to provide preliminary input on this project. Please contact me at (512) 389-4579 if you have any questions.

Sincerely,

Julie C. Wicker

Julie C. Wicker
Wildlife Habitat Assessment Program
Wildlife Division

JCW:gg.12929

Attachment

May 27, 2003

L. Christopher Miller
PBS&J
206 Wild Basin Road, Suite 300
Austin, TX 78746

RE: Proposed Brazos Electric Power Cooperative Power Plant Site, Jack and Wise Counties

Dear Mr. Miller:

Thank you for coordinating with this agency in your planning activities regarding the proposed Brazos Electric Power Cooperative (BEPC) power plant located east of the Community of Joplin. Texas Parks and Wildlife Department (TPWD) staff has reviewed the project and offer the following comments.

The project entails the construction of a power plant on a 200-acre tract of land in Jack County. The proposed power plant would encompass 50 acres of the project site. Two other sites were considered as alternatives to the Jack County site, one near the intersection of SH 101 and U.S. Highway 380/SH 114 west of the City of Bridgeport and the other along SH 199. In association with the power plant, the proposed project would entail the construction of a water intake structure at Lake Bridgeport and approximately 10 miles of natural gas and water pipeline to support the proposed power plant.

For your information, I have attached lists of rare, threatened, and endangered species that may occur in Jack and Wise Counties. Although these lists should prove useful as background material, they are not intended as a substitute for comprehensive on-site evaluations by competent biologists. Determination of the actual presence of a species in a given area depends on a number of variables such as daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency, and population density (both wildlife and human). Absence of a species can be demonstrated only with great difficulty and then only with repeated negative observations, taking into account all of the variable factors contributing to the lack of observability. Information regarding known locations and potential adverse impacts to sensitive species and natural communities near the proposed project area can be obtained by contacting Celeste Brancel at 3000 IH-35, Suite 100, Austin, TX 78704 or at (512) 912-7021.

4200 SMITH SCHOOL ROAD
AUSTIN, TEXAS 78744-3291
512-389-4800

www.tpwd.state.tx.us

Migratory birds receive protection under the Migratory Bird Treaty Act (MBTA), which implicitly prohibits intentional and unintentional take of migratory birds, including their nests and eggs, except where permitted. If migratory bird species are found nesting on or adjacent to the project area, they must be dealt with in a manner consistent with the MBTA. The U.S. Fish and Wildlife Migratory Bird Office should be contacted at (505) 912-7021 for more information on potential impacts to migratory birds.

The Clean Water Act (CWA) sets the basic regulatory framework for regulating discharges of pollutants to U.S. waters. The U.S. Army Corps of Engineers (COE) and the Environmental Protection Agency (EPA) are primarily responsible for making jurisdictional determinations and regulating wetlands under Section 404 of the CWA. The January 9, 2001 decision of the U.S. Supreme Court case "*Solid Waste Agency of Northern Cook County* v. *United States Army Corps of Engineers et al.*" removed the regulation of isolated wetlands from the COE permitting process. However, isolated wetlands, as well as jurisdictional wetlands, provide valuable habitat for aquatic and terrestrial wildlife. Wetlands produce and support plant and invertebrate populations that provide food for a wide variety of waterfowl, wading, and other birds. In addition, these wetlands protect water quality by filtering and retaining water runoff. TPWD recommends identifying all wetland areas within the project area and minimizing any adverse impacts to isolated wetlands to the same extent as jurisdictional wetlands.

The proposed pipelines could cross several water bodies between the proposed power plant site and Lake Bridgeport. Disturbance of State-owned streambeds and removal of streambed materials may require a permit from this Department under Chapter 86 of the Parks and Wildlife Code. Application forms and additional information can be obtained by contacting Rollin MacRae at the letterhead address or by phone at (512) 389-4639.

TPWD recommends routing the natural gas and water pipelines along existing utility and road right-of-ways and easements whenever feasible. In addition, TPWD recommends locating the proposed power plant in a previously disturbed area or within a tract of land which holds little wildlife value. By utilizing existing utility corridors and previously disturbed areas, adverse impacts to fish and wildlife resources are mitigated by avoiding and/or minimizing the impacts.

In order to enhance the stabilization of exposed soils resulting from project activities, disturbed areas should be seeded or sodded with native grasses. Natural

buffers contiguous to any wetlands and aquatic systems should remain undisturbed, to preserve wildlife cover, food sources, and travel corridors.

Additional information on minimizing project impacts on fish and wildlife resources can be found in the enclosed ***"TPWD Recommendations for Construction of Underground Pipelines"***.

I appreciate the opportunity to review and comment on this project. Please contact me at (512) 389-4579 if we may be of further assistance. I apologize for the lateness of our reply.

Sincerely,

Danny Allen
Wildlife Habitat Assessment Program
Wildlife Division

Attachments

DLA:dg.9753

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 23, 2008

Mr. Rob Reid
Project Manager
6504 Bridge Point Parkway, Suite 200
Austin, TX 78730

Re: TCEQ Grant and Texas Review and Comment System (TRACS) #8862, Brazos Electric Power Cooperative Plant Expansion Jack County, Texas, PBS7J Project No. 441998

Dear Mr. Reid:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above-referenced project and offers following comments:

A review of the project for General Conformity impact in accordance with 40 CFR Part 93 and Title 30, Texas Administrative Code § 101.30 indicates that the proposed action is located in Jack County, which is currently unclassified or in attainment of the National Ambient Air Quality Standards for all six criteria air pollutants. Therefore, general conformity does not apply.

Although any demolition, construction, rehabilitation or repair project will produce dust and particulate emissions, these actions should pose no significant impact upon air quality standards. Any minimal dust and particulate emissions should be easily controlled by the construction contractors using standard dust mitigation techniques.

We recommend the environmental assessment addresses actions that will be taken to prevent surface and groundwater contamination.

Thank you for the opportunity to review this project. If you have any questions, please call Ms. Betty Thompson at (512) 239-1627.

Sincerely,

Thomas W. Weber, Manager
Water Programs, Chief Engineer's Office

Appendix C

Public Involvement Information

RURAL DEVELOPMENT - UTILITIES PROGRAMS
PUBLIC MEETING HANDOUT
BRAZOS ELECTRIC POWER COOPERATIVE, INC.
Jack County Power Plant Expansion Project

WHAT IS THE RURAL UTILITIES SERVICE?

The Rural Utilities Service (RUS) is an agency that administers the U.S. Department of Agriculture's Rural Development Utilities Programs (RDUP). It is a Federal financing agency within the U.S. Department of Agriculture. Its mission is to provide financing assistance in the form of direct loans, loan guarantees, and grants to rural cooperatives, corporations, and public entities for the installation, expansion and modernization of rural electric, telecommunication, and water and waste systems throughout the United States, Puerto Rico, the Virgin Islands, and American Samoa.

RUS does not construct, operate, or manage electric, telecommunications, or water and waste systems nor is RUS involved in obtaining right-of-way easements or property acquisitions.

WHAT IS THE PURPOSE OF THE OPEN HOUSE?

The purpose of this open house is to provide information regarding Brazos Electric Power Cooperative's proposed Jack County Power Plant Expansion Project, answer questions, and identify public concerns regarding the potential environmental impacts that may result from construction and operation of the project. Information from this open house will be incorporated into RUS' Environmental Assessment for this project. This open house is intended to fulfill RUS' public scoping meeting requirements pursuant to RUS Environmental Policies and Procedures, 7 CFR Part 1794.

HOW SHOULD COMMENTS BE SUBMITTED FOR THE RECORD?

Comments concerning the potential environmental impacts and related review of this project are encouraged. Written comments will be accepted at this open house and should be left with the RUS representative at this meeting. Written comments will also be accepted for 30 days following this meeting. Written comments should be sent to:

Mr. Dennis Rankin
Rural Development - Utilities Programs
1400 Independence Ave, SW
Washington, DC 20250-1571
FAX # (202) 690-0649
E-mail: dennis.rankin@wdc.usda.gov

Once RUS has a satisfactory Environmental Assessment for the project, it will make the Environmental Assessment available for public review and comment for a 30-day period. Based on the Environmental Assessment and comments received, RUS will either prepare a Finding of No Significant Impact or make a decision to prepare an Environmental Impact Statement. There will be public notification of RUS' decision.

Comment Form
Brazos Electric Power Cooperative, Inc.
Jack County Power Plant Expansion Project

Jacksboro, Texas (January 31, 2008)

Name: _____

Address: _____

_____

_____

Phone Number: _____

Fax Number: _____

E-Mail: _____

Submit to RUS representative at this meeting or send to RUS within 30 days to:

Dennis Rankin
Rural Development - Utilities Programs
Stop 1571, Room 2244
1400 Independence Ave, SW
Washington DC 20250-1571
Fax (202) 690-0649
E-mail:
dennis.rankin@wdc.usda.gov

Comments

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Brazos Electric Power Cooperative, Inc.
Jack County Power Plant Expansion Project
January 31, 2008 Attendees

David Murphy	V.P. Generation BEPC
Billy Helpert	Manager Power Supply BEPC
Dave McDaniel	Manager Project Services BEPC
Richard Chambers	Project Regulatory Coordinator BEPC
Chuck Estes	Jack County Plant Manager BEPC
Tommy Ademski	PBS&J
Cliff Buris	RDUP Area Rep.
Dennis Rankin	RDUP Env. Specialist???
Katie Brisky	Burns & McDonnell

JACK COUNTY GENERATION PLANT EXPANTION PROJECT
PUBLIC MEETING
January 31, 2008

ATTENDEES:

NAME (PLEASE PRINT)	ADDRESS	PHONE NO.
Bryson Sewell	965 S. Main	940 567 1162
Greg Lowery	P.O. Box 56, Paradise	940-969-2929
Jacksboro Newspapers [illegible]	212 N Church	940-567-2616
[illegible]	22371 Fm 2127 Bowie	940-567-3051
[illegible]	101 Shepard [illegible] Rd Bridgeport	940/374-5700
Joe Paul Nichols	301 Chuch Rd	940-567-2779
Mitchell Davenport	223 Prairie	940 567-3269

BRAZOS ELECTRIC COOPERATIVE

QUESTIONNAIRE

EXPANSION OF JACK COUNTY GAS-FIRED GENERATION STATION

This is not just an expansion— it is doubling the size of the existing power plant.

In an effort to better evaluate community concerns, we would appreciate it if you would take a moment to answer the following questions:

1. Do you understand the need for the project?
   Yes ____ No ✓

2. Several factors are considered when siting an additional unit at an existing generation facility, including
   - Residences, businesses, schools, churches, hospitals, nursing homes
   - Cemeteries, parks, and/or recreational areas, aesthetics
   - Airports, runways
   - Historical and archeological sites
   - Environmentally sensitive areas, endangered species
   - Agricultural & urban areas
   - Gas lines and transmission lines
   - Water sources

   Do you believe that all relevant factors are being considered? Are you aware of any features not depicted correctly or not shown on the map? (The aerial photography was taken around 2006; therefore some data will not be depicted on the aerial photographs.)
   No – There are already two power plants within a 3 mile Radius. This will be a third plant. Negative impact on surrounding area for Residents.

3. Please list any additional concerns that you believe need to be addressed.
   Light Pollution, excessive noise - decibel Levels already exceed projected Levels stated in 2003 for existing plant. Air Pollution of sulphuric particles and Black Ash or soot already falling on my home & cars. Property values are already in jeopardy 3 are on the market (1 was abandoned) - can not sell others because of power plants.

4. Approximately how far is your property in relation to the existing Jack County generation site? Less than one mile

Do you live on this property?
yes

5. Would you like a follow-up contact to discuss the project in more detail?

yes

7. Please provide the following information:

Name David & Cathy LaFountain

Street 701 Shepard Trail Road

City Bridgeport, TX 76426

E-mail davidrob@wccs.net

Phone Number
Home: 940/374-3700

Office: 817/475-7137 (cell)

THANK YOU FOR YOUR COMMENTS

Please mail to:
Richard Chambers
Brazos Electric Power Cooperative, Inc.
P.O. Box 2585
Waco, Texas 76702-2585
Phone: 888/751-6500 (toll free)
Richard Chambers 254/750-6369 (direct)

PLEASE DROP THIS IN THE BOX OR RETURN WITHIN A FEW DAYS.

BRAZOS ELECTIC POWER COOPERATIVE, INC.
PROPOSED GENERATION PLANT PROJECT

PUBLIC MEETING DATES: JANUARY 31st 2008

Thank you for taking time to become involved in the proposed Brazos Electrics Additional Unit to the existing Jack County Gas-fired Generation Facilities. The generation project is planned to help meet existing electrical load within the project area and throughout the Brazos System covering approximately 67 counties in Texas. Brazos Electric in conjunction with the USDA Rural Utility Service will post notice within local newspapers and provide the public with an additional comment period.

Please visit the different stations and gather information about the project. Some of the stations available are:

Station No. 1: Purpose & Need - This station contains a Brazos Electric System Map, which shows the electric transmission lines, and substations, which Brazos serves and is staffed by persons that can answer your questions regarding the purpose and need for the facilities.

Station No. 2: Environmental - Persons that can answer your questions regarding environmental and permitting requirements for the proposed facilities staff this station.

Station No. 3: Design/Construction - This station contains photographs and drawings of the proposed generation facility and is staffed by persons that can answer your questions about design and construction of the generation facility.

Station No. 4: Land Issues - Persons that can answer your questions regarding rights-of-way for future gas, water, and transmission lines staff this station.

Drop-Off/Questionnaire Refreshments - To ensure your comments are taken into consideration, please fill out your questionnaire at one of the available tables and drop it in the collection box. If you want to take the questionnaire home, please mail it to us within a few days. Self-addressed stamped envelopes have been provided for your convenience.

If you have additional comments or questions, contact Dennis Rankin with the Rural Utilities Service at 202-720-1953 or Richard Chambers with Brazos Electric at 254-750-6369 or toll free at 1-888-751-6500 or write to: Brazos Electric, P.O. Box 2585, Waco, Texas 76702-2585, Attention: Richard Chambers.

Thank you for your time and participation!

BRAZOS ELECTRIC COOPERATIVE

QUESTIONNAIRE

EXPANSION OF JACK COUNTY GAS-FIRED GENERATION STATION

In an effort to better evaluate community concerns, we would appreciate it if you would take a moment to answer the following questions:

1. Do you understand the need for the project?
   Yes ____ No ___

2. Several factors are considered when siting an additional unit at an existing generation facility, including
   - Residences, businesses, schools, churches, hospitals, nursing homes
   - Cemeteries, parks, and/or recreational areas, aesthetics
   - Airports, runways
   - Historical and archeological sites
   - Environmentally sensitive areas, endangered species
   - Agricultural & urban areas
   - Gas lines and transmission lines
   - Water sources

   Do you believe that all relevant factors are being considered? Are you aware of any features not depicted correctly or not shown on the map? (The aerial photography was taken around 2006; therefore some data will not be depicted on the aerial photographs.)

3. Please list any additional concerns that you believe need to be addressed.

4. Approximately how far is your property in relation to the existing Jack County generation site?

   Do you live on this property?

5. Would you like a follow-up contact to discuss the project in more detail?

7. Please provide the following information:

Name_____

Street_____ Phone Number
Home:_____

City_____ Office:_____

E-mail_____

THANK YOU FOR YOUR COMMENTS

Please mail to:
Richard Chambers
Brazos Electric Power Cooperative, Inc.
P.O. Box 2585
Waco, Texas 76702-2585
Phone: 888/751-6500 (toll free)
Richard Chambers 254/750-6369 (direct)

PLEASE DROP THIS IN THE BOX OR RETURN WITHIN A FEW DAYS.

Newspapers that Jack County #2 Generation Plant notices will be published in.

Daily Paper:

Fort Worth Star-Telegram
P.o. Box 1870
Fort Worth, Texas 76101-1870
400 W. 7th Street
Fort Worth, Texas 76101-4799
817-390-7400

Contact: Janice Gregory (jfgregory@star-telegram.com)

Weekly Paper:

Jack Co. Herald
P.O. Box 70
Jacksboro, Texas 76458-0070
200 W. Belknap
Jacksboro, Texas 76458-2328
940-567-2616

admGR @ Jacksboro newspapers.com
ATTN: Chris.

Contact: Shawn Easter – Ad Director
Published and delivered each Friday

940-567-2071

Re: Brazos Electric Power Coop

Affidavit of Publication

STATE OF TEXAS
COUNTY OF JACK

Before me, the undersigned authority, on this day personally appeared Roy Robinson who on his oath stated: I am the Publisher of The Jack County Herald, a newspaper published in Jack County, Texas, and know the facts herein stated to be true and correct: attached is a printed copy of publication of (notice) (citation) of which it purports to be a copy, as the same appeared in such newspaper in the respective issues of _____, _____, 18, & 25 days of January 20 08; the fee for such publication is $ 304.80.

Roy L. Robinson

Sworn to before me this
25th day of January 20 08

Linda McDougal
Notary Public in and for Jack County, Texas

NOTARY PUBLIC STATE OF TEXAS
LINDA McDOUGAL
Notary Public, State of Texas
My Commission Expires 05-02-2011

01/18

DEPARTMENT OF AGRICULTURE

Rural Utilities Service

Brazos Electric Power Cooperative, Inc.; Notice of Intent to Hold Public Workshop and Prepare An Environmental Assessment

AGENCY: Rural Utilities Service, USDA.

ACTION: Notice of Intent to Hold A Public Workshop and Prepare An Environmental Assessment.

SUMMARY: The Rural Utilities Service (RUS) intends to hold public scoping workshop and prepare an environmental assessment (EA) in connection with possible impacts related to the construction and operation of an additional 600 MW gas unit at the existing Jack County Generating Facility. The project is proposed by Brazos Electric Power Cooperative, Inc. (Brazos), of Waco, Texas. RUS may provide financing assistance for the project. RUS will hold a public scoping workshop for the proposed generation addition. The workshop is scheduled for Thursday, January 31, 2008, from 5:00 p.m. until 8:00 p.m. at the Twin Lakes Community Center. The Twin Lakes Community Center is located at 420 Highway 59, Jacksboro, Texas.

FOR FUTHER INFORMATION CONTACT: Dennis E. Rankin, Environmental Protection Specialist, RUS, Engineering and Environmental Staff, Stop 1571, 1400 Independence Avenue, SW, Washington, DC 20250-1571, telephone: (202) 720-1953 or e-mail: drankin@rus.usda.gov, or Richard Chambers, Project Regulatory Coordinator, Brazos Electric at (254) 750-6369 or e-mail: rchambers@brazoselectric.com.

SUPPLEMENTARY INFORMATION: Brazos is proposing to construct an additional 600 MW gas fired combustion turbine at its Jack County Generation Station. The site is located northeast of State Highway 199 and FM 1156 in Jack County and southeast of the intersection of Shepard Road/Henderson Ranch Rd. and FM 1156.

Comments regarding the proposed project may be submitted in writing at the public workshop or in writing no later than March 5, 2008 to RUS at the address provided above.

An environmental assessment (EA) will be prepared for the proposed project. Based on a review of the Environmental Assessment, and other relevant information, RUS will determine if the preparation of an environmental impact statement is necessary. Should RUS determine that the preparation of an environmental impact statement is not necessary, it will prepare a Finding of No Significant Impact.

Any final action by RUS related to the proposed project will be subject to, and contingent upon, compliance with all relevant Federal, State and local environmental laws and regulations and completion of the environmental review procedures as prescribed by RUS's Environmental Policies and Procedures.

ack from rent, cheap. 54) 631-0116 or (817) 26.

e person spa, reduced for le. Call (254) 631-0116 219-0426.

2 acres of land, CH/A, orage bins and small pen. $40,000. Call (940) 9. Olney.

acksboro papers.com

COMPANY

MILLS
ow Officer
TAGUE COUNTIES
1 Sanders Street
wie, Texas 76230
ffice: (940) 872-1788
ax: (940) 872-4418

xchange

X 76450
940) 507-0482
0) 521-1632

y remodeled, new paint, use on property (rental), ed at.....$89,500

l (large rooms), 2bath, tility area, new C H/A e, 15x30 above ground $69,500

e with water well, 3-1/3 vestment opportunities, ...$85,000

e on large lot, new metal $29,500

y, with 2 story A-frame trees, wonderful hunting $3,500/ac

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USED HOME SUPER CENTER

28x60	Fleetwood	3/2	Stk.#:0457	$26,900
28x58	Redman	3/2	Stk.#:2029	$28,900
32x60	Clayton	4/2	Stk.#:8150	$31,900
42x56	Fleetwood	3/2	Stk.#:[illegible]	$39,900
28x80	Oak Creek	5/3	Stk.#:8236	$45,900
32x72	Oak Creek	4/2	Stk.#:030	$45,900
32x80	Palm Harbor	4/2	Stk.#:3763	$47,900

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K&P HOMES, INC.

4272 E. Hwy 199 • Springtown, TX 76082 lic# RI-35875

40186

640 FOR SALE-MOBILE HOMES

Manufactured Home Liquidation
3.2 Fleetwood 16x76, $14,900; 3/2 Redman 28x52, $19,900; 4/2 Palm Harbor 28x76, $44,500. Prices include delivery (817) 946-7685.

650 FOR SALE-FARMS

148 Acres 6 miles north of Graham on Turtle Hole Road. 3 ponds, utilities available. Good hunting. Will divide. (940) 549-5285.

660 FOR SALE-LOTS

P.K. lake house: by owner. Beautiful lake view on peninsula, 2BR/2B, updated, furnished, covered deck. **$44,950, (817) 994-3250.**

IT PAYS TO ADVERTISE

BRAZOS COUNTRY REAL ESTATE

REALTOR® MLS

1245 WEST BELKNAP -3/1 newly remodeled home! New roof in June of '07, new central H/A in July '07. Nice sized fenced backyard! New kitchen, ceramic tile, and carpet. Must see! $84,900

535 N. STEWART ST. -Beautiful, well kept home with wood floors, laminate, ceramic tile, and carpet. Custom cabinets, large master bed and bath, lots of closet space, and large living room and laundry room. Metal shop with RV shed and another small shed for storage. OWNER/AGENT $145,000

61 TACK RD., MINERAL WELLS -New construction, 3/2 on 2 acres, outside city limits. Just 3 miles south of Mineral Wells and 10 miles north of I-20. This magnificent home boasts gorgeous vaulted ceilings in every room. Large master suite with huge walk in closet. This place has it all: crown molding, ceramic tile, wood floors, triple garage, outdoor kitchen, stainless steel appliances, and a concrete drive! OWNER/AGENT $269,900

109 & 111 N. MAIN STREET -2 commercial units, one is leased, one is empty. Both have store front and are located across from the courthouse. Empty unit has barnwood floors and leased unit has carpet. Great income potential & a great place to have your business ..... $89,500 each or $174,900 for both

LOCAL, 18-YEAR-OLD SOUND BUSINESS FOR SALE. Great income potential w/capabilities of growing & expanding. ..... Call or come by office for more details!

CONVENIENCE STORE with full operating grill, motel, RV Park, 2-2/2 mobile home rent houses and a 3/2 DW with metal carport located across from the Palo Pinto County Courthouse. This is a small town business in a great location with very heavy traffic! $425,000

LOT 10 IN OAK CREST SUBDIVISION, MINERAL WELLS -4.87 beautiful, heavily treed acres with great building site. Some restrictions. Located 3 miles south of Mineral Wells and just 10 miles north of I-20. OWNER/AGENT $60,000

LOT 18 IN OAK CREST SUBDIVISION, MINERAL WELLS -1.56 beautifully treed acres with highway frontage along US Hwy 281. Outside city limits, great building site, and located only minutes from town. OWNER/AGENT $20,500

Mandy Fallin, REALTOR®

720 FOR RENT-HOMES

For rent 4BR/1B house, near school, washer/dryer connection & newly decorated. (940) 567-5334.

1, 2, 3 BEDROOMS
FOR SALE by owner or rent with option to buy.
Call (940) 567-1015

800

PUBLIC NOTICE

The USDA Rural Utilities Service (RUS) will be holding a public workshop for a proposed expansion of the Brazos Electric Power Cooperative's existing Jack County Gas-fired Electrical Generation Station. The meeting is scheduled for Thursday, January 31st, 2008 between the hours of 5:00 p.m. and 8:00 p.m. at the Twin Lakes Community Center. The Twin Lakes Community Center is located at 420 Highway 59, Jacksboro, Texas. This will be a "come and go" meeting in which you can meet and discuss the project with representatives of the Rural Utilities Service and Brazos Electric.

The purpose of this meeting is to better acquaint you with Brazos Electric's proposed expansion of the existing Jack County Gas-fired Electrical Generation Station and identify public and environmental concerns. The Jack County Station is located southeast of the intersection Shepard Road/Henderson Ranch Rd. and FM 1156 in Jack County, Texas.

For additional information, please review the RUS notice located within the legal section of this publication, or please contact Brazos Electric Power Cooperative, Inc., 2404 LaSalle Avenue, Waco, Texas 76702, Attention: Richard Chambers or you may call Richard Chambers at 254-750-6369 or call toll free at 1-888-751-6500.

Affidavit of Publication

STATE OF TEXAS
COUNTY OF JACK

Before me, the undersigned authority, on this day personally appeared Roy Robinson who on his oath stated: I am the Publisher of The Jack County Herald, a newspaper published in Jack County, Texas, and know the facts herein stated to be true and correct: attached is a printed copy of publication of (notice) (citation) of which it purports to be a copy, as the same appeared in such newspaper in the respective issues of ____, ____, 18, & 25 days of January 2008; the fee for such publication is $124.30.

Roy G. Robinson

Sworn to before me this
25th day of January 2008

Christy Garcia

Notary Public in and for Jack County, Texas

NOTARY PUBLIC STATE OF TEXAS
CHRISTY GARCIA
Notary Public, State of Texas
My Commission Expires 04-03-2010

DEPARTMENT OF AGRICULTURE

Rural Utilities Service

Brazos Electric Power Cooperative, Inc.; Notice of Intent to Hold Public Workshop and Prepare An Environmental Assessment

AGENCY: Rural Utilities Service, USDA

ACTION: Notice of Intent to Hold A Public Workshop and Prepare An Environmental Assessment

SUMMARY: The Rural Utilities Service (RUS) intends to hold public scoping workshop and prepare an environmental assessment (EA) in connection with possible impacts related to the construction and operation of an additional 600 MW gas unit at the existing Jack County Generating Facility. The project is proposed by Brazos Electric Power Cooperative, Inc. (Brazos), of Waco, Texas. RUS may provide financing assistance for the project. RUS will hold a public scoping workshop for the proposed generation addition. The workshop is scheduled for Thursday, January 31, 2008, from 5:00 p.m. until 8:00 p.m. at the Twin Lakes Community Center. The Twin Lakes Community Center is located at 420 Highway 59, Jacksboro, Texas.

FOR FUTHER INFORMATION CONTACT: Dennis E. Rankin, Environmental Protection Specialist, RUS, Engineering and Environmental Staff, Stop 1571, 1400 Independence Avenue, SW, Washington, DC 20250-1571, telephone: (202) 720-1953 or e-mail: drankin@rus.usda.gov.; or Richard Chambers, Project Regulatory Coordinator, Brazos Electric at (254) 750-6369 or e-mail: rchambers@brazoselectric.com.

SUPPLEMENTARY INFORMATION: Brazos is proposing to construct an additional 600 MW gas-fired combustion turbine at its Jack County Generation Station. The site is located northeast of State Highway 199 and FM 1156 in Jack County and southeast of the intersection of Shepard Road/Henderson Ranch Rd. and FM 1156.

Comments regarding the proposed project may be submitted in writing at the public workshop or in writing no later than March 5, 2008, to RUS at the address provided above.

An environmental assessment (EA) will be prepared for the proposed project. Based on a review of the Environmental Assessment and other relevant information, RUS will determine if the preparation of an environmental impact statement is necessary. Should RUS determine that the preparation of an environmental impact statement is not necessary, it will prepare a Finding of No Significant Impact.

Any final action by RUS related to the proposed project will be subject to, and contingent upon, compliance with all relevant Federal, State and local environmental laws and regulations and completion of the environmental review procedures as prescribed by RUS's Environmental Policies and Procedures.

THE JACK COUNTY HERALD
212 N. Church St. • (940) 567-2616 • Fax (940) 567-2071 • editor@jacksboronewspapers.com
A MediaNews Group Newspaper
USPS 271-720

For rent 4BR/1B house, near school, washer/dryer connection & newly decorated. (940) 567-5334.

1, 2, 3 BEDROOMS

FOR SALE by owner or rent with option to buy.

Call (940) 567-1015

HOUSE FOR RENT

3 bedroom, 2 bath, 2 car garage, wood burning fireplace, large fenced yard, 221 Hillcrest, $1,000/mo.

(940) 507-1154

1,300 sq.ft. commercial building for lease on the square in Jacksboro. 107 E. Archer. Please call (940) 389-9711.

Furnished cabins for rent, utilities paid, located between Jacksboro and Springtown off Hwy. 199. (817) 304-0954, (940) 374-3804. $850 month, no pets, horse boarding available. RV parking $300 month, water provided.

NOTICE TO ALL PERSONS HAVING CLAIMS AGAINST THE ESTATE OF CHARLOTTE A. SPURLOCK, **DECEASED**

Notice is hereby given that original Letters Testamentary for the Estate of CHARLOTTE A. SPURLOCK, were issued on January 16, 2008, in Case No. 5242, pending in the County Court of Jack County, Texas to: SUSAN ARMONTROUTT.

Claims may be presented in care of the attorney for the estate. The attorney's name and address for all claims is:

Scott A. Spiller
Spiller & Spiller
P.O. Drawer 447
Jacksboro, Texas 76458

All persons having claims against this Estate which is currently being administered are required to present them within the time and in the manner prescribed by law.

Dated January 16, 2008.

Respectfully submitted,

SPILLER & SPILLER
P.O. Drawer 447
Jacksboro, Texas 76458
(940) 567-6644 Telephone
(940) 567-3999

By: /s/ Scott A. Spiller
Scott A. Spiller
State Bar No. 00791710

ATTORNEYS FOR THE ESTATE

PUBLIC NOTICE

The USDA Rural Utilities Service (RUS) will be holding a public workshop for a proposed expansion of the Brazos Electric Power Cooperative's existing Jack County Gas-fired Electrical Generation Station. The meeting is scheduled for Thursday, January 31st, 2008 between the hours of 5:00 p.m. and 8:00 p.m. at the Twin Lakes Community Center. The Twin Lakes Community Center is located at 420 Highway 59, Jacksboro, Texas. This will be a "come and go" meeting in which you can meet and discuss the project with representatives of the Rural Utilities Service and Brazos Electric.

The purpose of this meeting is to better acquaint you with Brazos Electric's proposed expansion of the existing Jack County Gas-fired Electrical Generation Station and identify public and environmental concerns. The Jack County Station is located southeast of the intersection Shepard Road/ Henderson Ranch Rd. and FM 1156 in Jack County, Texas.

For additional information, please review the RUS notice located within the legal section of this publication, or please contact Brazos Electric Power Cooperative, Inc., 2404 LaSalle Avenue, Waco, Texas 76702, Attention: Richard Chambers or you may call Richard Chambers at 254-750-6369 or call toll free at 1-888-751-6500.

Stopping Advertising to Save Money is Like Stopping Your Watch to Save Time

Notice of Sale of Real Property

The State of Texas
County of Jack

By virtue of a Writ of Execution issued out of the County Court at Law Number 2 of Angelina County, Texas, on a judgment rendered in said court on the 28th day of September, 2007 in favor of Salty's Management, LLC, plaintiff against Jeffery E. Jackson and James M. Jackson defendants, d/b/a Jackson Tank Trucks, cause number 15046 in said court, the undersigned did on the **27th** day of **December, 2007** at **11:50 A.M.** levy upon the following real property situated in Jack County, Texas, to-wit:

All rights and interest of Jackson Tank Trucks and Jeffery E. Jackson and James M. Jackson in the following real property located at 2240 FM 4, Jacksboro, Texas which consist of approximately 197.50 acres of land situated in the AB 489 T Robbins survey and recorded in Volume 149 Page 949.

You are further notified that on the first Tuesday of the month, which is the **5th** day of **February, 2008**, at **10:00 A.M.** at the West Door of the Jack County Courthouse at 100 Main, Jacksboro, Jack County, Texas, all or part of the above described real estate will be sold for cash to satisfy a judgment rendered in the above numbered cause.

STATE OF TEXAS

COUNTY OF TARRANT

Before me, a Notary Public in and for said County and State, this day

personally appeared Christine Lopez, Advertising Representative for the Star-Telegram, published by the Star-Telegram, Inc. at Fort Worth, in Tarrant County, Texas and distributed in other surrounding Counties; and who, after being duly sworn, did depose and say that the following clipping of an advertisement was published in the above named paper on the following dates:

Wed January 16, 2008

Wed Jan 23, 2008

Signed Christine Lopez

Subscribed and sworn to before me, this the 19 day of February 2008

Notary Public Debra W. Morris
Tarrant County, Texas

DEBRA W. MORRIS
MY COMMISSION EXPIRES
MARCH 2, 2012

May was fatally shot early Monday near a restaurant in central Arlington.


May

A woman who identified herself as May's girlfriend said she spent Tuesday morning finalizing funeral arrangements. A relative said that a wake or memorial will be held Thursday and that May will be buried next to his parents in Kansas.

Police found May's body near a blue truck in the 2000 block of South Cooper Street at 5:30 a.m. May had been restocking a vending machine with *The Dallas Morning News* when he was shot.

May had delivered papers for more than 20 years, first the *Dallas Times Herald* with his parents and later *The Dallas Morning News*.

"He was both a reliable and

soft drink or a pack of cigarettes, Cathey said. May was not collecting from the machines, he added.

"Working those hours you tend to look over your back, but you know not to carry cash money," Cathey said.

On Tuesday, the newspaper offered another $10,000 reward for information that leads to the arrest of May's killer. Schepps Dairy has offered a $10,000 reward, bringing the total to $20,000.

NATHANIEL JONES, 817-548-5414

Notice is hereby given that, acting under and pursuant to the Ordinances of the City of Fort Worth, Texas, on the 10th day of February, 2008, Chesapeake Operating, Inc. intends to file with the Gas Inspector of the City of Fort Worth, an application to drill, complete and operate one Urban Class Well for gas upon property located at approximately North of Centreport Boulevard, Mapsco 56L, Tarrant County, Fort Worth, Texas, more particularly shown per Tax Tract Number A 681-2B02, 2B03, and 2E05 Tarrant County, Texas. A public informational meeting on gas drilling and permitting will be held at the Hillside Community Center, 1201 E Maddox Avenue, Mapsco 90R, on the 28th day of February, 2008 at 6:30 pm.

Public Notice

The USDA Rural Utilities Service (RUS) will be holding a public workshop for a proposed expansion of the Brazos Electric Power Cooperative's existing Jack County Gas-fired Electrical Generation Station. The meeting is scheduled for Thursday, January 31st 2008 between the hours of 5:00 p.m. and 8:00 p.m. at the Twin Lakes Community Center. The Twin Lakes Community Center is located at 420 Highway 59, Jacksboro, Texas. This will be a "come and go" meeting in which you can meet and discuss the project with representatives of the Rural Utilities Service and Brazos Electric.

The purpose of this meeting is to better acquaint you with Brazos Electric's proposed expansion of the existing Jack County Gas-fired Electrical Generation Station and identify public and environmental concerns. The Jack County Station is located southeast of the intersection Shepard Road/Henderson Ranch Rd. and FM 1156 in Jack County, Texas.

For additional information, please review the RUS notice located within the legal section of this publication, or please contact Brazos Electric Power Cooperative, Inc. 2404 LaSalle Avenue, Waco, Texas 76702, Attention: Richard Chambers or you may call Richard Chambers at 254-750-6369 or call toll free at 1-888-751-6500.

Sell Off R

Repo Specialist Hyundai In Arl

"Repo Joe" and his team travel the Unit hosting events where repos and lease tern are sold direct to the public at discounte

Texas car, truck an buyers are getting ready to be expo new way to buy nearly new vehicles count. Through Saturday, with the he special sale, Vandergriff Hyundai w bank repossessed vehicles and lease tion vehicles for sale to the general pu

Having held repossessed vehic in the past that generated overw response, Vandergriff Hyundai kn were on to something. When they there was a special sale available market these vehicles to the gene lic, they knew they had to bring the Arlington.

The story of Repo Joe and his simple. After nearly two decades in business, they noticed there were alw types of vehicles that were far and a best bargains: repossessed vehicles a cles that had been leased. The probl they were often very hard to find.

Fast forward to 2008. Utilizing ships and contacts they made with re banks, credit unions and auto auctic the past twenty years, Joe and his experts travel the nation and help dea these vehicles and make them avai the public. In Texas, the exclusive lo Vandergriff Hyundai.

In addition to the initial Vandergriff Hyundai has secured fi that lets qualified buyers drive home b making a $27 down payment, then st ing the payments, some of which are a month.

Michael Manning, General Sales M of Vandergriff Hyundai explained his prepared for the expected crowds.

"We've got a fantastic selection of cars, but trucks, minivans, and yes, ev utilities." said Manning. "Plus, our sa sultants have been briefed with a bit o

STK# 4A107505, 2004 FORD TAURU AT 6.25% APR, SELLING PRICE $60 APPROVED CR

Bids & Proposals

PRE-BID CONFERENCE:
Thursday, January 31, 2008@ 10:00 a.m.
Arlington Convention Center Administration Offices
1200 Ballpark Way
Arlington, Texas 76011

The official bid or proposal document(s), specifications, terms of sale and other information is available for a nominal fee (if applicable), by calling DemandStar by Onvia at 800/ 711-1712 or by contacting the office of the Purchasing Agent, Municipal Office Tower, 101 S. Mesquite Street, 8th Floor, Suite 800, P.O. Box 90231, Arlington, Texas 76004-3231. The City of Arlington reserves the right to reject any or all bids and waive any and all informalities.
s/s Dr. Robert Cluck
Mayor
s/s Karen Barlar
Acting City Secretary

NOTICE TO BIDDERS
Beginning January 22, 2008 at 10:00 a.m., bids will be received by ReneÆ Bates Auctioneers, for the City of Arlington at www.renebates.com until 10:00 a.m. on January 31, 2008 for:
FLEET/EQUIPMENT INTERNET AUCTION ITEMS FOR THE CITY OF ARLINGTON
YEAR MAKE MODEL UNIT
2004 FORD Crown Victoria 105
2004 FORD Crown Victoria 107
2004 FORD Crown Victoria 111
2005 CHVRL Impala 204
2000 FORD Crown Victoria 672
2000 FORD Crown Victoria 693
2001 FORD Crown Victoria 770
2001 FORD Crown Victoria 773
2001 FORD Crown Victoria 792
2001 FORD Crown Victoria 797
2002 FORD Crown Victoria 881
2002 FORD Crown Victoria 882
2002 FORD Crown Victoria 885
2002 FORD Crown Victoria 889
2003 FORD Crown Victoria 981
2003 FORD Crown Victoria 989
2003 FORD Crown Victoria 992
1990 FORD Fire truck 1125
1995 KME Fire truck 1126
1980 FORD F- 700 1308
1994 FORD CF-7000 1589
2007 COT Utility Trailer 1653
1987 INTER Trailer 1710
1987 INTER Trailer 1711
1987 INTER Trailer 1712
1987 INTER Trailer 1714
1996 FORD CF-8000 1759
1995 CHVRL Lumina 1761
1995 CHVRL Astro cargo van 1763
1996 CHVRL Lumina 1860
1997 CHVRL S-10 pick up 1945
1997 PJ Trailer 2017
1998 CHVRL Lumina 2026
2001 Ferguson Roller 2514
2002 Vobromax Roller 2541
1992 JHNDR Tractor 2580
1986 JHNDR Main-

Legal Notices

DEPARTMENT OF AGRICULTURE

Rural Utilities Service

Brazos Electric Power Cooperative, Inc.; Notice of Intent to Hold Public Workshop and Prepare An Environmental Assessment

AGENCY: Rural Utilities Service, USDA

ACTION: Notice of Intent to Hold A Public Workshop and Prepare An Environmental Assessment

SUMMARY: The Rural Utilities Service (RUS) intends to hold public scoping workshop and prepare an environmental assessment (EA) in connection with possible impacts related to the construction and operation of an additional 600 MW gas unit at the existing Jack County Generating Facility. The project is proposed by Brazos Electric Power Cooperative, Inc. (Brazos), of Waco, Texas. RUS may provide financing assistance for the project. RUS will hold a public scoping workshop for the proposed generation addition. The workshop is scheduled for Thursday, January 31, 2008, from 5:00 p.m. until 8:00 p.m. at the Twin Lakes Community Center. The Twin Lakes Community Center is located at 420 Highway 59, Jacksboro, Texas.

FOR FUTHER INFORMATION CONTACT: Dennis E. Rankin, Environmental Protection Specialist, RUS, Engineering and Environmental Staff, Stop 1571, 1400 Independence Avenue, SW, Washington, DC 20250-1571, telephone: (202) 720-1953 or e-mail: drankin@rus.usda.gov; or Richard Chambers, Project Regulatory Coordinator, Brazos Electric at (254) 750-6369 or e-mail: rchambers@brazoselectric.com.

SUPPLEMENTARY INFORMATION: Brazos is proposing to construct an additional 600 MW gas-fired combustion turbine at its Jack County Generation Station. The site is located northeast of State Highway 199 and FM 1156 in Jack County and southeast of the intersection of Shepard Road/Henderson Ranch Rd. and FM 1156.

Comments regarding the proposed project may be submitted in writing at the public workshop or in writing no later than March 5, 2008, to RUS at the address provided above.

An environmental assessment (EA) will be prepared for the proposed project. Based on a review of the Environmental Assessment and other relevant information, RUS will determine if the preparation of an environmental impact statement is necessary. Should RUS determine that the preparation of an environmental impact statement is not necessary, it will prepare a Finding of No Significant Impact.

Any final action by RUS related to the proposed project will be subject to, and contingent upon, compliance with all relevant Federal, State and local environmental laws and regulations and completion of the environmental review procedures as prescribed by RUS's Environmental Policies and Procedures.

Any person, firm or corporation violating Section 54-166(a)(37) of the North Richland Hills Code of Ordinances shall be deemed guilty of a misdemeanor and upon final conviction thereof fined in an amount not to exceed Two Hundred Dollars ($200.00). Each day any such violation shall be allowed to continue shall constitute a separate violation and punishable hereunder.
Passed and Approved on this 10th day of December, 2007.
/s/Oscar Trevino
Oscar Trevino - Mayor
ATTEST:
/s/Patricia Hutson
Patricia Hutson - City Secretary
APPROVED AS TO FORM AND LEGALITY:
/s/George Staples
George Staples - City Attorney

CITY OF NORTH RICHLAND HILLS
ORDINANCE NO. 2976
An Ordinance amending Article XI of Chapter 98 of the North Richland Hills Code of Ordinances; revising restrictions applicable to certain Multi-Family Housing Units; defining and making hotels subject to licensing and inspection; providing a severability clause; providing a penalty for violations; providing for publication; and providing an effective date.
Any person, firm or corporation who violates, disobeys, omits, neglects or

Attorney

CITY OF NORTH RICHLAND HILLS
ORDINANCE NO: 2968
An Ordinance amending the Comprehensive Plan and the Comprehensive Zoning Ordinance of the City of North Richland Hills; amending the Zoning Map of the City of North Richland Hills, Texas, and rezoning a 1.409 acre tract of property from AG (agricultural) to CS (community services) zoning; establishing a penalty; providing for publication; and providing an effective date.
Any person, firm or corporation violating any provision of the Comprehensive Zoning Ordinance as amended hereby shall be deemed guilty of a misdemeanor and upon final conviction thereof fined in an amount not to exceed Two Thousand Dollars ($2,000.00). Each day any such violation shall be allowed to continue shall constitute a separate violation and punishable hereunder.
Passed and Approved on this 10th day of December, 2007.
/s/Oscar Trevino
Oscar Trevino - Mayor
ATTEST:
/s/Patricia Hutson
Patricia Hutson - City Secretary
APPROVED AS TO FORM AND LEGALITY:
/s/George Staples
George Staples - City Attorney

CITY OF NORTH

an effective date.
Any person, firm or corporation violating any provision of the Comprehensive Zoning Ordinance as amended hereby shall be deemed guilty of a misdemeanor and upon final conviction thereof fined in an amount not to exceed Two Thousand Dollars ($2,000.00). Each day any such violation shall be allowed to continue shall constitute a separate violation and punishable hereunder.
Passed and Approved on this 10th day of December, 2007.
/s/Oscar Trevino
Oscar Trevino - Mayor
ATTEST:
/s/Patricia Hutson
Patricia Hutson - City Secretary
APPROVED AS TO FORM AND LEGALITY:
/s/George Staples
George Staples - City Attorney

CITY OF NORTH RICHLAND HILLS
ORDINANCE NO. 2975
An Ordinance amending the Comprehensive Plan and the Comprehensive Zoning Ordinance of the City of North Richland Hills; Amending the Zoning Map of the City of North Richland Hills, Texas, and rezoning a 8.001 acre tract of property from AG (agricultural) to R-2 (single family residential) zoning; establishing a penalty; providing for publication; and providing an effective date.
Any person, firm or

Petition No. PT 78405
FLOYD ROGERS, alleged father of Ma'Kayla Ray Rogers
Elbony Jackson, Mother of the children died on 1-30-05
RESPONDENT
IN THE MATTER OF:

J'WAN MONTIEL JACKSON, D.O.B. 12/29/98
File No. 2019-56776
JA'NYAH NA'SHAY JACKSON, D.O.B. 6/30/01
File No. 2006-02539
MA'KAYLA RAY ROGERS, D.O.B. 12/18/04
File No. 2006-02541
Children Under Eighteen (18) Years of Age

ORDER OF PUBLICATION
In this cause, it appears to the court from the allegations of the Petition filed by the Tennessee Department of Children's Services seeking to terminate forever the parental rights of Floyd Rogers, a copy of which petition can be obtained at the office of the Juvenile Court Clerk of Davidson County Tennessee, at 100 Woodland Street, Nashville, Tennessee, 37213. The Court finds that the Petitioner has filed an affidavit of diligent search and the ordinary process cannot be served upon said Floyd Rogers.
IT IS, THEREFORE, ORDERED that an appearance hearing is scheduled on April 8, 2008 at 2:30 p.m. and a final hearing on April 15, 2008 at 2:30 p.m. A copy of these Orders shall be published for four (4) consecutive weeks in the Star-Telegram, a newspaper published in Tarrant County, Texas.
It is further ORDERED that if the Respondent, Floyd Rogers, does not appear for the appearance hearing on April 8, 2008 at 2:30 p.m. or for the final hearing on April 15, 2008 at 2:30 p.m. or enter an appearance or otherwise Answer the Petition, further personal service or service by further publication shall be dispensed with and service of any future notices, motions, orders or other legal documents in this matter may be made upon the Respondents by filing same with the Juvenile Court Clerk of Davidson County, Tennessee. The Respondent may view and obtain a copy of the Petition and any other subsequently filed legal documents at the Juvenile Court Clerk's Office, at 100 Woodland Street, Nashville, Tennessee, 37213.
Failure of the Respondent, Floyd Rogers, to appear at the appearance hearing on April 8, 2008 at 2:30 p.m. or for the final hearing on April 15th, 2008 at 2:30 p.m. will result in the loss of his right to contest the petition to terminate his parental rights to the child, Ma'Kayla Rogers, listed above.
Entered this the 8th day of January, 2008.
s/ Betty Adams Green
BETTY ADAMS

of record in Volume 2325, Page 0470, Ellis County, Texas.

NOTICE IS hereby given, that acting under and pursuant to the Ordinances of the City of Arlington, Texas on the 28th day of August, 2007, Quicksilver Resources, Inc. filed with the Inspector of the City of Arlington, an application for a Gas Well Permit to drill, complete and operate a well for gas upon property located at 5917 and 5851 West Pioneer Parkway, Tarrant County, Arlington, Texas, more particularly shown on the map of record in Volume 4512, Page 898, Plat records of Tarrant County, Texas. The City Council will conduct a public hearing on the request for said permit on the 5th day of February, 2008 at 6:30 o'clock p.m. in the City Council Chambers located at 101 West Abram Street, Arlington, Texas.

NOTICE IS hereby given that, acting under and pursuant to the Ordinances, of the City of Arlington, Texas on the 4th day of December 2007, Chesapeake Operating, Inc. filed with the Inspector of the City of Arlington, an application for a Gas Well Permit to drill, complete, and operate a well for gas upon property located at 2525 East Abram Street, Tarrant County, Arlington, Texas, and more particularly shown on the map of record in Volume 388-88, Page 49, Plat Records, Tarrant County, Texas. The City Council will conduct a public hearing on the request for said permit on the 12th day of February, 2008 at 6:30 o'clock p.m. in the City Council Chambers located at 101 West Abram Street, Arlington, Texas

NOTICE IS hereby given that, acting under and pursuant to the Ordinances, of the City of Arlington, Texas on the 10th day of October 2007, Chesapeake Operating, Inc. filed with the Inspector of the City of Arlington, an application for a Gas Well Permit to drill, complete, and operate a well for gas upon property located at 1101 West Harris Road, Tarrant County, Arlington, Texas, and more particularly shown on the map of record in Volume 10596, Page 188, Deed Records, Tarrant County, Texas. The City Council will conduct a public hearing on the request for said permit on the 12th day of February, 2008 at 6:30 o'clock p.m. in the City Council Chambers located at 101 West Abram Street, Arlington, Texas

NOTICE TO BIDDERS
Sealed bids received by the City of Arlington at the office of the Purchasing Agent, 101 S. Mesquite Street, Arlington, Texas, until 2:00 p.m. on the 31st of January, 2008 for:
BID NUMBER: 08-0081

Arlington Southeast for Sale ARL.

ARLINGTON 4BD, 2.5ba, $167,000.00, 817-915-4304

Arlington Southwest for Sale ARL.

$15K Equity
Must sell FSBO, like New 4/2/2
$0dn w/approved credit/$129K
4436 Newport St. Grand Prairie
Mark 817 905 1667

GOOD INCOME?
Bad Credit OK
Own a Home Today
Se Habla Espanol
817-319-3134

PRIVATE INVESTOR wants to buy properties. Any cond. 817-737-7777

CUST 3-3-3, 2liv, pool, lots xtras Open Hse 20 & 27, 12p-4p 6720 Ridge Estates Ct 817-478-3566, 988-4527

$0-$500 TOTAL Move in
New / Used
All Credit-All Areas
817-791-1011

$0 MOVE-IN
Just Make Payments
3&4 BR homes
Am Rlty 817-310-2100

BUYHUDVA.COM
ALL areas & prices.
Broker 817-291-0340

HUD/VA
MY SPECIALTY
817-706-4876 BJ Sloan

3-1½-2 BRICK, Completely Remod. $800/mo. 817-690-9659

ARL 2-1-1 $79.9k huge stge bldg,quiet cul-de-sac 817-909-3535

ARL 2-1-1 $79.9k huge stge bldg,quiet cul-de-sac 817-909-3535

Azle/Eagle Mountain for Sale

Want a new home in the country? New custom homes from the $260's. Only 20 min to Fort Worth. Ø down heavily treed 1 acre lots. No city taxes or utilities.
1 year maid service.
Autumn Homes
CALL 817-228-1846

IMMACULATE 3-2-2, in Timberlake Estate; 101 Lamplighter Ct. $163500 (817)237-7792

AZLE $89,900 3bd, 2ba, 2liv on ½ acre 0 dwn (817)903-5882

Bedford For Sale N.E.

$84,900 CASH
Worth $115K Approx. Great deal on fixer-upper. Nice brick 3-2-2. 1400sf. 972-414-5249

BUYHUDVA.COM
ALL areas & prices.
Broker 817-701-5355

BEDFORD MUST SEE FSBO 3bd2ba Pool (817)571-3932

Burleson/Joshua For Sale

THINKING ABOUT Moving To the Country? 30 Min. To Downtown Ft. Worth. E-Z Commute, Newly Contructed 3+2 Brick on 1 AC. Open Concept w/Computer Designed Floorplan;

STATE OF TEXAS

COUNTY OF TARRANT

Before me, a Notary Public in and for said County and State, this day personally appeared Christine Lopez, Advertising Representative for the Star-Telegram, published by the Star-Telegram, Inc. at Fort Worth, in Tarrant County, Texas and distributed in other surrounding Counties; and who, after being duly sworn, did depose and say that the following clipping of an advertisement was published in the above named paper on the following dates:

Wed January 16, 2008

Wed January 23, 2008

Signed Clopez

Subscribed and sworn to before me, this the 19 day of February 20 08

Notary Public Debra W. Morris
Tarrant County, Texas

DEBRA W. MORRIS
MY COMMISSION EXPIRES
MARCH 2, 2012

come in raising this child, being mother and a father, and shepherding him or her through this life." McConaughey met Alves, a Brazilian model whose family moved to L.A. when she was young, more than a year ago.

— Compiled from wire and Internet reports

Online exclusive
For more information celebrity news, check out our Pop Cultural District blog at **www.star-telegram.com**

CELEBRITY BIRTHDAYS

Moss

Country singer **Ronnie Milsap** is 65. Talk-show host **Dr. Laura Schlessinger** is 61. Director **John Carpenter** is 60. Actress-dancer **Debbie Allen** is 58. Singer **Sade** is 49. Singer **Maxine Jones** of En Vogue is 42. Supermodel **Kate Moss** is 34.

NOTABLE DEATH

2007 On this date, retired NASCAR race car driver **Benny Parsons** died at age 65.

son as the young sailor in love, Anthony). Meanwhile, Edmund Bagnell as Tobias, Lau-

MARK LOWRY, 817-390-7747

TV | SEASON DEBUT

'Idol' returns, moves to Dalla

Simon Cowell sniped with abandon, Paula Abdul found the positive in the most awkward performances, and Randy Jackson fought to keep a straight face — business as usual for the *American Idol* judges. And so began the wildly popular series' seventh season Tuesday night.

During the two-hour broadcast, which focused on the Philadelphia auditions, host Ryan Seacrest — who called the Philly crowd *Idol*'s largest ever — visited with hopefuls, including vocalists who traveled from Oregon and California for a shot at Hollywood. Overall, 29 singers were given "golden tickets" to Hollywood and the next round. Tonight, *American Idol* moves to Dallas and will spend two hours covering auditions held last summer at Texas Stadium and the W Hotel in Dallas.

— Preston Jones

Online exclusive
Join *Star-Telegram* entertainment writers tonight as they live-blog the good, the bad and the screechy on Pop Cultural District at **www.star-telegram.com/blogs.**

Katarzy among tants in

Public Notice

The USDA Rural Utilities Service (RUS) will be holding a public workshop for a proposed expansion of the Brazos Electric Power Cooperative's existing Jack County Gas-fired Electrical Generation Station. The meeting is scheduled for Thursday, January 31st 2008 between the hours of 5:00 p.m. and 8:00 p.m. at the Twin Lakes Community Center. The Twin Lakes Community Center is located at 420 Highway 59, Jacksboro, Texas. This will be a "come and go" meeting in which you can meet and discuss the project with representatives of the Rural Utilities Service and Brazos Electric.

The purpose of this meeting is to better acquaint you with Brazos Electric's proposed expansion of the existing Jack County Gas-fired Electrical Generation Station and identify public and environmental concerns. The Jack County Station is located southeast of the intersection Shepard Road/Henderson Ranch Rd. and FM 1156 in Jack County, Texas.

For additional information, please review the RUS notice located within the legal section of this publication, or please contact Brazos Electric Power Cooperative, Inc. 2404 LaSalle Avenue, Waco, Texas 76702, Attention: Richard Chambers or you may call Richard Chambers at 254-750-6369 or call toll free at 1-888-751-6500.

Garage Sales-Area 3

76008 76028 76031 76036 76103 76104 76105 76109 76110 76112 76115 76119 76123 76126 76132 76133 76134 76140

76112 - 6909 Robin Hood Lane Thurs-Fri, 7am-2pm, Furniture, household, clothing, Valentine Baskets, Jewelry, & Name Brand Purses

Golf Equipment

EZ GO w/side curtains & pickup bed $1500 (940) 389-7058

2 GOLF carts, does not run $350 ea (817) 717-2896

Guns

♦♦♦♦♦♦♦

Panther City Firearms Come in check out our Extensive Collection of AR15 308 223 260 243 6.8 Rem Starting $659 & up 817-731-2065

♦♦♦♦♦♦♦

WW II Collector Buys German military Items: *Daggers, *Helmets, *Medals, etc. 817-444-3732

PANTHER CITY FIREARMS End of Hunting Season 10% off Rifle & Shotguns cleaning 817-731-2065

SPRINGFIELD 1911-14, w/2 high caps $650 S & W 1917 w/extras $450. (817)268-6323

I WILL BUY Your Firearms: ANY-Type, ANY Condition (469) 446-6331

GUN PERMIT Best Price Police Instr 817-475-6413

RUGER M77 MkII, 270 w/ Simmons Scope $540 (817) 614-1583

SIGPRO 2340, 3 Mags, Kydec Holster & Case $525 (817) 614-1583

WE BUY new & used Guns Cabela's - Ft Worth 817-337-2421

Heavy Machinery

Equipment Financing & Refinancing Available - Low Rates All Credit Types 817-514-1750

CASE - Skid Steer 440, loaded, w/trailer, dual tandem, 10,000LB rating bumper pull, (817) 253-3331.

2005 LOBO, 37" Sander, single drum, $4500. Nocona, TX (940) 872-0058

Medical Supplies

EXTRA WIDE HD folding wheel chair $200 (817) 284-1811

ADULT-WHEEL-CHAIR, LIKE new! $100 (817) 877-1078

ADULT BEDSIDE Commode $25. (817)258-0107

Miscellaneous

GIANT NATURAL Stone Tile Sale Stone Distribution 4600 Airport Frwy. Just East of Beach St. Fri. 18th, Sat. 19th, 9am-4:30pm Amazing Selection Many Styles Sizes & Colors. Great Prices 817-546-2050

FIREWOOD - Oak Pecan Mix, Cord $250 Deliv & Stack, $220 Delivered, 20mi Mansfield Radius 817-689-5124 or 817 689-5225

MEDIUM & XL Adult Pull-ups $24/case, bed-pads $25/case, Fruit flavrd Eletrolyte $10/case (817) 694-2576

FULL PAINT ball set up $350 wah peddle $90 (817)938-9747 leave msgs

TOOLBOX FOR LB truck Like new Diamond plate $175 (817) 640-9001

2 55GAL. aquariums, wrought iron double stand & accessories (817) 535-2966

UGLY BUILDING WILL DELIVER 817-293-4162

COMPLETE CHURCH Fixtures PA, Drums, chairs 817-296-9462

CONCRETE FLOWER bed & tree edging 5c ea (817)301-3452

BIRD Cage XL only $175 (817) 640-9001

TOW BAR, Roadmaster Explorer, Gd Cond $200 (817) 498-4153

ALUM. FURN tubing $1.50each,7/8in & 3/4 O.D. (817)267-1212

POINTE CHACOTT Veronese C21½M -25 $35pr 817-692-5058

WICKER ETAGERE archtop very NICE! $75 817-692-5058

COWBOYSOFCOLOR 16X20" PRINTS 3/$150 817-692-5058

LADDER RACK for full size truck $75 (817) 501-0906

FULL SIZE pickup camper shell $100 (817) 501-0906

GRANDMA'S TRUNK, unique $75 (817) 485-8957

BROWN BOOK shelf $20 (817)473-6028

2 '00-'02 unused ½ ton Dodge rotors $35 (817) 295-8587

DEAR BORN Heater $60 good Cond. 817-536-6352

LRG DOG Kennel 6x6x12 Chain Link $195 817-946-4945

ANTIQUE CLAWFOOT tub, good cond. $400 (817) 800-4066

SHIATU BACK & seat Massaging cushion, $80 817-548-1938.

NINTENDO GAME Boy Advanced + 5 games, $75, 817-548-1938.

ANTIQUE 1949 Chevy, 4dr Car, $4400 obo (817) 401-8425

Miscellaneous Machinery

HEAT PRESS plotter & accessories (817)480-3488

Pianos & Organs

CHICKERING GRAND 6'5" blk 100yrs email photos 813 962 2227

Pools, Spas, Hot Tubs

Hot Tub/Spa BRAND NEW 2007 Model Seats 6 ChemFree Hydrotherapy Pkg Loaded w/features Worth: $7,700 Must Sell $4,200 **817-715-8973**

FREE - Sundance Hot-tub Fbrglss, Grt Shape, Frame needs replacement. Come get it (817) 329-2153

7 PERSON SPA NEVER USED CAN DELIVER $3200, 682-365-1870

PERSONAL SAUNA Free Delivery 817-293-4094

Portable Building & Houses To Be Moved

BUILT ON SITE
12X16 ....$1,995
12X24 ....$2,595
16X32 ....$3,995
(817) 516-0270

CABINS
1-story $6395
2-story $7695
817-284-4492

10X12X8 BARN style built on site $1195 817-501-7198

12X20 BLDG Scratch & Dent Free delivery 817-293-7836

Sewing Machine Sales & Service

Singer - Featherweight 221K w/ acces. $300 (817) 832-9554

Sporting & Excercise Equipment

ELLIPTICAL CENTER G2. Rated #2 by Consumer Report. New $2400, Sell for $1K (817) 498-8084

Elect. golf carts w/ chargers '98 Yamaha $1800 obo; '95 Club Car $1500 obo Good Cond. 817-988-5183

ELLIPTICAL CARDIO cross trainer 820 $300 (817)306-4712 after 6Pm

MARCY WEIGHT System. 4 station mach. Paid 1800 sell $500. 817 994 4864

HORIZON ELIPTICAL $300, Norditrack step through exercise bike $320 (972) 251-0106

CLUB CAR elec golf cart $1350 '03 EZ GO $1950 817-343-2813

WESLO CANDACE 450 treadill, like new, $425 817-781-5347

LADIES COBRA SS golf clubs, $200.00, 817-905-4891

PRECOR ELLITICAL Pd $2500 Sale $799 817-263-0013

WEIDER 550 complete gym $195 firm (817) 626-5112

STAIRMASTER 4000PT $300.00 will deliver 817-706-7068

GOLD'S GYM Wide Bench Set w/ Weights $200 (972) 251-0106

GOLF CLUBS, Drivers, Putters, Wedges $20 (817)923-2662

COMMERCIAL GYM eqp by the piece, (817)688-9499

Stamps & Coins

Bids & Proposals

AUTOMATED CUSTOMER TRACKING SYSTEM 01/31/08
RFP 07-0346 INFORMATION TECHNOLOGY SECURITY CONSULTING SERVICE 1/31/08
08-0002 DIRT WORK 01/31/08
08-0008 DIESEL FUEL 01/31/08
07-0345 CRIME MAPPING APPLICATIONS 02/14/08
Specifications may be obtained online at: www.fortworthgov.org

INVITATION FOR BIDS

The Fort Worth Housing Authority is accepting bids for Re-Roofing for Butler Place, Cavile Place and Fair Park Apartments in Fort Worth, Texas. Sealed Bids will be accepted until 11:00 a.m. (local time), on January 31, 2008 in the Conference Room of the Housing Authority located at 300 South Beach Street, Fort Worth, Texas 76105 at which time and place all bids will be publicly opened and read aloud.

A Pre-Bid Conference will be conducted at 9:00 a.m. on January 28, 2008 at 300 South Beach Street. For questions concerning the project, contact Morriss Johnson at (817)737-0725 ext. 13.

The drawing and project manual may be obtained from REPROGRAPHICS FORT WORTH, 2220 West Petersmith Street, Fort Worth, Texas 76102: Lucy Kusluch, (817) 332-9704, lucyk@reprofw.com with no deposit required.

The successful bidder will be required to furnish and pay for satisfactory performance and payment bonds. Attention is called to the Fort Worth Housing Authority Policy and Goals for Minority Participation on this project.

The Fort Worth Housing Authority reserves the right to reject any or all bids and to waive any informality in the bidding. No bid shall be withdrawn for a period of 90 days subsequent to the opening without the consent of the Fort Worth Housing Authority. For additional information, please contact Larry Frazier at (817) 333-2111.

PUBLIC NOTICE
North Texas Tollway Authority
Request for Qualifications for: MEDIA RELATIONS & GOVERNMENT AFFAIRS SERVICES
RFQ number 02348-NTT-00-CS-GA

The North Texas Tollway Authority (NTTA) is soliciting responses from highly qualified consultants/agencies to assist the NTTA in the development of a proactive, comprehensive communications and government affairs plan. This will include strategies and tactics to position the NTTA withing its

Legal Notices

DEPARTMENT OF AGRICULTURE

Rural Utilities Service

Brazos Electric Power Cooperative, Inc.; Notice of Intent to Hold Public Workshop and Prepare An Environmental Assessment

AGENCY: Rural Utilities Service, USDA

ACTION: Notice of Intent to Hold A Public Workshop and Prepare An Environmental Assessment

SUMMARY: The Rural Utilities Service (RUS) intends to hold public scoping workshop and prepare an environmental assessment (EA) in connection with possible impacts related to the construction and operation of an additional 600 MW gas unit at the existing Jack County Generating Facility. The project is proposed by Brazos Electric Power Cooperative, Inc. (Brazos), of Waco, Texas. RUS may provide financing assistance for the project. RUS will hold a public scoping workshop for the proposed generation addition. The workshop is scheduled for Thursday, January 31, 2008, from 5:00 p.m. until 8:00 p.m. at the Twin Lakes Community Center. The Twin Lakes Community Center is located at 420 Highway 59, Jacksboro, Texas.

FOR FUTHER INFORMATION CONTACT: Dennis E. Rankin, Environmental Protection Specialist, RUS, Engineering and Environmental Staff, Stop 1571, 1400 Independence Avenue, SW, Washington, DC 20250-1571, telephone: (202) 720-1953 or e-mail: drankin@rus.usda.gov.; or Richard Chambers, Project Regulatory Coordinator, Brazos Electric at (254) 750-6369 or e-mail: rchambers@brazoselectric.com.

SUPPLEMENTARY INFORMATION: Brazos is proposing to construct an additional 600 MW gas-fired combustion turbine at its Jack County Generation Station. The site is located northeast of State Highway 199 and FM 1156 in Jack County and southeast of the intersection of Shepard Road/Henderson Ranch Rd. and FM 1156.

Comments regarding the proposed project may be submitted in writing at the public workshop or in writing no later than March 5, 2008, to RUS at the address provided above.

An environmental assessment (EA) will be prepared for the proposed project. Based on a review of the Environmental Assessment and other relevant information, RUS will determine if the preparation of an environmental impact statement is necessary. Should RUS determine that the preparation of an environmental impact statement is not necessary, it will prepare a Finding of No Significant Impact.

Any final action by RUS related to the proposed project will be subject to, and contingent upon, compliance with all relevant Federal, State and local environmental laws and regulations and completion of the environmental review procedures as prescribed by RUS's Environmental Policies and Procedures.

for all other violations of this Ordinance. Each day that a violation is permitted to exist shall constitute a separate offense. Passed and approved on the 8th day of January, 2008.

IN THE DISTRICT COURT OF IOWA, IN AND FOR SCOTT COUNTY (JUVENILE DIVISION)

IN THE INTEREST OF MYA KAY MILLER, A Minor Child.

JUVENILE NO. 7628 ORIGINAL NOTICE [600A TERMINATION]

TO: RUBEN RODRIGUEZ AND ANY UNKNOWN PUTATIVE FATHERS OF MYA KAY MILLER BORN MAY 15, 2007 IN NORTH RICHLAND HILLS, TEXAS

You are hereby notified that there is now on file in the office of the clerk of the court of Scott County, Iowa, a Petition for Termination of Parental Rights in Case No. 7628, a copy of which is attached hereto, which prays for a termination of your parent-child relationship with the above-named children pursuant to Iowa Code Chapter 600A. The Petitioner is Lisa Sue Miller and whose attorney is John R. Aitken, 220 Emerson Place, Suite 101, Davenport, Iowa 52801.

You are notified that there will be a hearing to determine whether your pa-

8, 2008 at 2:30 p.m. and a final hearing on April 15, 2008 at 2:30 p.m. A copy of these Orders shall be published for four (4) consecutive weeks in the Star-Telegram, a newspaper published in Tarrant County, Texas.

It is further ORDERED that if the Respondent, Floyd Rogers, does not appear for the appearance hearing on April 8, 2008 at 2:30 p.m. or for the final hearing on April 15, 2008 at 2:30 p.m. or enter an appearance or otherwise Answer the Petition, further personal service or service by further publication shall be dispensed with and service of any future notices, motions, orders or other legal documents in this matter may be made upon the Respondents by filing same with the Juvenile Court Clerk of Davidson County, Tennessee. The Respondent may view and obtain a copy of the Petition and any other subsequently filed legal documents at the Juvenile Court Clerk's Office, at 100 Woodland Street, Nashville, Tennessee, 37213.

Failure of the Respondent, Floyd Rogers, to appear at the appearance hearing on April 8, 2008 at 2:30 p.m. or for the final hearing on April 15th, 2008 at 2:30 p.m. will result in the loss of his right to contest the petition to terminate his parental rights to the child, Ma'Kayla Rogers

Main Street, Southlake, Texas, and, during such meeting, the City Council will consider the passage of one or more ordinances authorizing the issuance of certificates of obligation in an amount not to exceed $14,185,000 for the purpose of paying contractual obligations to be incurred for (i) the construction of public works, to wit: (a) drainage improvements, (b) street improvements, including sidewalks and the acquisition of land and rights-of-way, (c) improvements and extensions to the City's combined Waterworks and Sewer System, and (d) park improvements, and (ii) professional services rendered in relation to such projects and the financing thereof; such certificates to be payable from ad valorem taxes and a limited pledge of the net revenues of the City's combined Waterworks and Sewer System. The certificates are to issued, and this notice is given, under and pursuant to the provisions of V.T.C.A., Local Government Code, Subchapter C of Chapter 271.

Lori Payne
City Secretary
City of Southlake, Texas

NOTICE TO Physicians and Providers

United HealthCare of Texas, Inc. and PacifiCare of Texas, Inc., basic service HMOs will accept