January 15, 2016

FINDING OF NO SIGNIFICANT IMPACT

TO ALL INTERESTED AGENCIES AND PUBLIC GROUPS:

As required by the permanent rules of the Texas Water Development Board (TWDB), 31 Texas Administrative Code (TAC) § 371.41, the project described below has undergone an environmental review consistent with the National Environmental Policy Act (NEPA), 42 U.S. Code § 4321 *et seq*. This project is funded through the Drinking Water State Revolving Fund (DWSRF) and the Economically Distressed Areas Program (EDAP), which are administered by the TWDB.

City of Brady, McCulloch County, Texas
Radium Reduction Project
TWDB Project Numbers 62545 (DWSRF) and 10447 (EDAP)
Total DWSRF Loan Amount: $700,000 (L1000115 and LF1000116)
Total EDAP Grant Amount: $1,804,000 (G1000424)
Total TWDB Commitment: $2,504,000

The City of Brady (City) is located in central Texas approximately 115 miles northwest of Austin, the state capitol. Currently, the City provides potable water to approximately 5,366 residents at 2,036 connection sites. The City obtains and treats both groundwater and surface water, but the quality of its treated water does not meet state and federal standards. The existing treatment systems remove neither high concentrations of naturally occurring radionuclides and other contaminants from the groundwater supplies nor hazardous disinfection byproducts (DBPs) produced in the surface-water treatment process.

The City is proposing to address these deficiencies in its treatment systems, enhance its raw-water supply, and increase its pumping, storage, and transmission capacities. The project would entail: installation of radium and iron reduction systems to improve the quality of groundwater; upgrading the existing microfiltration and reverse osmosis cleaning systems to improve efficiency and reduce the potential for formation of DBPs in treated surface water; constructing a system for blending treated groundwater and the reverse osmosis permeate to further reduce DBPs; upgrading the existing system control and chemical feed systems, clearwell, and pumps throughout the system; constructing a total of four new elevated and ground storage tanks; installing a total of 32,500 feet of 14- and 24-inch finished water transmission piping; installing or modifying reduced pressure zone assemblies and associated piping and valves; demolishing and removing a total of four outmoded standpipes and elevated storage tanks. The proposed improvements would enable the City to comply with all applicable drinking water standards and fulfill demand within its service area through 2060.

To implement the proposed project, the City is utilizing a loan with a 30-year term and a loan with forgiveness from the DWSRF, each in the amount of $350,000, for a total DWSRF commitment of $700,000. These funds would cover the estimated cost of planning and contingency. The City intends to fund design activities with a $1,804,000 grant from the EDAP.

After conducting a comprehensive environmental review of the proposed project, the City prepared an Environmental Information Document (EID) characterizing the project area, the project's potential impact, and the measures needed to avoid, reduce, or mitigate those effects. The EID was reviewed by regulatory agencies, the general public, and the staff of the TWDB following provisions of 31 TAC Chapter 371, Subchapter E, thereby fulfilling requirements of the NEPA. This environmental review is documented in the accompanying Environmental Assessment (EA). To ensure that the proposed water system improvements will not have a significant adverse effect on the human environment or protected natural resources, the City must adhere to the following conditions.

Special Conditions

To ensure compliance with Section 404 of the Federal Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899:

- The proposed pipeline stream crossings (four) of Brady Creek and Post Oak Creek must be implemented by boring beneath the stream channels and 100-year floodplains. Equipment and material staging locations and other project related activity areas must be above the Ordinary High Water Marks of these streams at a minimum distance of 50 feet.

To ensure compliance with the Federal Migratory Bird Treaty Act (MBTA):

- Vegetation should not be cleared during the general bird nesting season, March through August. If vegetation clearing during this period cannot be avoided, the City must engage a permitted biologist to survey the area proposed for disturbance for the presence of bird nests with eggs or young. Any vegetation (trees, shrubs, and grasses) where occupied nests are located must not be disturbed until the eggs have hatched and the young have fledged.

To ensure compliance with the Endangered Species Act:

- The City must monitor the listing status of the Spot-tailed Earless Lizard and the Smooth Pimpleback and Texas Pimpleback mussels throughout project planning, design, and construction. If one or more of these species are listed by the United States Fish and Wildlife Service (USFWS) for protection under the Endangered Species Act, the City must undertake additional consultation with the USFWS, and permitting and mitigation measures as needed.

To ensure compliance with Texas Parks and Wildlife Code, Section 68.015:

- The City must retain a permitted biologist to monitor vegetation clearing and construction in order to detect the presence of protected species and remove them or take other action as necessary.
- The City must inform construction workers and other field personnel regarding the potential for the protected Texas Horned Lizard, Spot-tailed Earless Lizard, Conch River Water Snake, Bald Eagle, Zone-tailed Hawk, Burrowing Owl, and Llano Pocket Gopher to occur in the area. If these species are encountered, the biological monitor must be notified and contact with the animals must be avoided. If the monitor is not present, the animals should be allowed to leave the area safely.
- The City must install exclusion fencing around trenches, or trenches must be covered at night and checked for the presence of protected reptiles or other species in the morning. Any animals present must be removed to suitable habitat nearby or allowed to leave the area safely.

To ensure compliance with other provisions of the Texas Parks and Wildlife Code:

- The City must avoid removal or disturbance of vegetation, particularly mature native trees, riparian vegetation, and native shrubs, to the greatest extent practicable. If native vegetation must be removed, the City must implement in-kind, on-site replacement/restoration of the vegetation with native species wherever practicable. If trees greater than 12 inches in diameter at breast height are removed they must be replaced at a ratio of three tress for every one lost (3:1 ratio), either on-site or off-site. Smaller trees should be replaced at a 1:1 ratio. Replacement trees should have equal or superior wildlife quality to those removed and be regionally adapted native species. The City must develop and implement a three to five year maintenance plan that ensures 85% survival of the replacement trees.
- The City must implement practices to prevent the establishment of invasive species and sustain existing native species.
- The City must implement Best Management Practices to reduce storm water runoff with the potential to enter water features within the project area, including installation of erosion and sediment control barriers (e.g., earth dikes, silt fences, sediment traps, and sediment retention basins), temporary seeding with native plants, and mulching.

To ensure compliance with local construction permitting requirements:

- The City must obtain all required permits prior to construction in the floodplains of Brady Creek and Post Oak Creek.

<u>Standard Emergency Discovery Conditions</u>

- Standard emergency condition for discovery of threatened or endangered species.

- Standard emergency condition for discovery of cultural resources.

Finding of No Significant Impact
City of Brady, McCulloch County
DWSRF 62545

Records supporting this determination are on file in the office of the Regional Water Planning and Development Division, TWDB, and are available for public inspection upon request. Comments regarding this preliminary environmental determination may be submitted to the Director, Regional Water Planning and Development, Texas Water Development Board, P.O. Box 13231, Austin, Texas 78711-3231. After evaluating all comments, the Executive Administrator will make a final assessment of the project; however, no action regarding the provision of additional federal financial assistance for the project will be taken for at least thirty (30) calendar days after release of this Finding of No Significant Impact.

Sincerely,

Jessica Zuba, Director
Regional Water Planning and Development

Enclosures

JZ:SCC:

City of Brady, McCulloch County
Drinking Water State Revolving Fund, Project Number 62545
Economically Distressed Areas Program, Project Number 10447
Radium Reduction Project

ENVIRONMENTAL ASSESSMENT

INTRODUCTION[1]

The proposed project area is located within the City of Brady (City) in McCulloch County, approximately 115 miles northwest of the city of Austin, Texas (see attached maps). To finance improvements in its water system, the City proposes to use funds from a $350,000 loan (L1000115) and a $350,000 loan with forgiveness (LF1000116) from the State Fiscal Year 2015 Drinking Water State Revolving Fund (DWSRF), and a $1,804,000 grant from the Economically Distressed Areas Program (EDAP). The City received a commitment from the Texas Water Development Board (TWDB) for the DWSRF loans on May 16, 2013, and closed these loans on November 25, 2013, in the full amount of the commitment. The TWDB committed the EDAP grant on June 16, 2015, and the City closed the grant on July 22, 2015. At present, TWDB's total commitment for this project is $2,504,000.

PURPOSE AND NEED

The City is the sole provider of both water and wastewater services to approximately 2,036 connections and 5,366 residents throughout the community. To meet its potable water needs, the City obtains raw water from two sources: groundwater from the Hickory Aquifer; and surface water from Brady Reservoir on Brady Creek, a tributary of the San Saba River in the Colorado River drainage system. The City treats the water from these sources separately, but the existing treatment facilities are unable to remove high concentrations of naturally occurring radionuclide (radium) and iron contaminants in the groundwater, and hazardous disinfection byproducts (DBPs) produced in its surface-water treatment and distribution systems. As a result, the City has received numerous administrative orders and citations from the United States Environmental Protection Agency (USEPA) and the Texas Commission on Environmental Quality (TCEQ) for violation of safe drinking water standards. In addition, the Texas Department of State Health Services has determined that because of these violations, a public health nuisance exists within the City. The City also lacks adequate capacity to pump, store, and transmit water efficiently and satisfy future demand. By 2060, the population is projected to grow from 5,366 to 6,108, a 13.8% increase. The City anticipates and is planning for a comparable rise in demand for potable water. Implementation of the proposed water system improvements is expected to bring the water quality into regulatory compliance and satisfy current and projected needs.

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[1] City of Brady (September, 2015). *Environmental Information Document—Proposed Radium Reduction Project*, City of Brady, McCulloch County, Texas (Prepared by Enprotec/Hibbs & Todd,). Received by TWDB on October 1, 2015.

EVALUATION OF ALTERNATIVES

The City identified and evaluated a large number of alternatives regarding each component of its water system, including the raw-water supplies, treatment methods, and finished water transmission and storage capacities. Because the existing system is in serious violation of drinking water standards, a "no-action" alternative was not available. In all, the City compared eleven groundwater treatment alternatives, nine alternatives for surface-water treatment, and twenty-four transmission/distribution alternatives. Each was assessed in terms of its performance, reliability, initial expense, annual costs of operation and maintenance, and cumulative cost over ten years. The result of this comprehensive review indicated that Groundwater Alternative Number 11, Surface Water Alternative Number 9, and Transmission/Distribution Alternative Number 3D provided the best combination of improved treatment and lowest cost. The selected project elements are described below.

PROJECT DESCRIPTION

After considering all options, the City is proposing a series of infrastructure enhancements to address deficiencies in its existing groundwater and surface-water treatment systems, enhance its raw-water supply, and increase its pumping, storage, and transmission capacities. The project would entail: installation of radium and iron reduction systems to improve the quality of groundwater; upgrading the existing microfiltration and reverse osmosis cleaning systems to improve efficiency and reduce the potential for formation of DBPs in treated surface water; constructing a system for blending treated groundwater and the reverse osmosis permeate to further reduce DBPs; upgrading the existing system control and chemical feed systems, clearwell, and pumps throughout the system; constructing a total of four new elevated and ground storage tanks; installing a total of 32,500 feet of 14- and 24-inch finished water transmission piping; installing or modifying reduced pressure zone assemblies and associated piping and valves; demolishing and removing a total of four outmoded standpipes and elevated storage tanks. These improvements would enable the City to meet state and federal drinking water standards as well as current and projected demand for potable water within its service area through 2060.

SOCIAL AND ENVIRONMENTAL CONTEXT

The social and environmental context of the proposed project area is defined by socioeconomic, physical, ecological, and historical/archeological conditions and characteristics of the affected community and surrounding region. Factors relevant to the present assessment are summarized below. Potentially adverse impact to the social and environmental fabric of the project area falls under the authority of various regulatory agencies. These agencies reviewed the project and addressed questions concerning the proposed construction. The results of the City's coordination with agencies and other stakeholders are discussed herein (see Agency Coordination, below).

Location, Economy, and Demography

The proposed project area is located in McCulloch County, central Texas, and includes the City, nearby well fields and storage tank sites, and Brady Reservoir. This location is very close to the state's geographic center, and as a consequence, the City has adopted the moto "The Heart of Texas." The City is the county seat and a regional center for commerce, farming, and ranching. Manufacturing, health and hospital services, mining, and tourism also drive the local economy. In 2010, approximately 5,366 persons resided within the City and received utility services. The population is projected to grow to 6,108 by 2060, a 13.8% increase. Approximately 20% of residents are aged 65 and older (2010). The unemployment rate was 2.6% compared to 4.1% in the state as a whole. Annual median household income was $30,892 (2008-2012), which is well below 75% of the statewide average, $50,740, in 2012. The City's poverty rate is 55%, compared to 17.9% statewide (2012).

Landforms

The City lies along the northern edge of the Edwards Plateau region of the Great Plains physiographic province. This region is characterized by low-relief to hilly terrain and a moderately dense, well incised drainage network. Brady Creek traverses the project area, generally from west to east. Brady Reservoir, an artificial lake constructed on this stream in 1963, is located 2.2 miles west of the City. The entire project area lies in the valley of Brady Creek. Landforms within the project area are depicted on the United States Geological Survey's Brady North, Brady South, Brady Southwest, and West Sweden 7.5-minute topographic quadrangle maps. Elevation in the proposed construction footprint ranges from approximately 1660 to 1820 feet above mean sea level, such that total topographic relief is 160 feet.

Climate

Climatic conditions in the proposed project area are subtropical subhumid with a mean annual air temperature of 64.4 degrees Fahrenheit (°F). Summers are hot and humid and winters are cool and dry. The average daily low and high temperatures range from approximately 51 to 78°F, respectively. Maximum daily temperatures of 100°F and higher are common and freezes are frequent, but of short duration. Precipitation is seasonally variable, peaking in May and September, and averaging approximately 24 inches per year. The wettest year of record was 1919, when the precipitation totaled 41.40 inches; whereas the driest year was 1954, when the cumulative precipitation was 8.71 inches. Predominant winds are southerly in all seasons, but with a significant northerly component in winter and autumn and a southeasterly component in spring and summer. The average gross lake surface evaporation is 73 inches.

Air quality is measured in relation to the United States Environmental Protection Agency (EPA) primary and secondary standards, known as the National Ambient Air Quality

Standards (NAAQS). Standards have been established for six criteria pollutants: carbon monoxide, ozone, nitrogen dioxide, lead, sulfur dioxide, and particulate matter 10 and 2.5 micrometers or less in diameter. The air quality in McCulloch County is currently unclassified or in attainment of the NAAQSs.

Geology, Groundwater, and Soils

The geological substrate beneath proposed construction sites varies across the project area. Limestone and sandstone of the Lower Cretaceous Fort Terrett and Antlers formations, respectively, crop out at the highest elevations. In the inner valley of Brady Creek, the stream has eroded through the Cretaceous strata, exposing the underlying Pennsylvanian Thrifty-Graham (undivided), Home Creek, Colony Creek, Ranger, Placid, Winchell, and Adams Branch formations, comprising interbedded limestones and shales. These formations are locally overlain along the stream by Quaternary fluviatile channel and terrace deposits of Brady Creek, consisting of gravel, sand, silt, and clay. The thickness of these deposits in the project area is not reported, but may exceed 20 feet locally.

There are several potential sources of groundwater in this area. Terrace and alluvial deposits are often porous and permeable and may contain groundwater at shallow depth. Groundwater is probably perched above the relatively impermeable Pennsylvanian shales, but the amount of shallow groundwater is small and this source is not utilized by the City. Similarly, none of the Pennsylvanian formations contains appreciable quantities of groundwater. The Fort Terrett and Antlers formations are part of the Edwards-Trinity (Plateau) Aquifer, a major source of high-quality groundwater in some parts of the state, although the aquifer is too thin locally to provide significant water yields. For its groundwater supply, the City must instead rely on the Hickory Member of the Riley Formation, lying at depths of 2,100 feet. The Hickory Member is composed of permeable sandstone and constitutes the Hickory Aquifer. Currently, the City Water operates seven wells producing from the Hickory Aquifer throughout the City. Water yields are moderately high, but the quality of groundwater is compromised by concentrations of radionuclides and iron in excess of state and federal drinking water standards. Effective treatment of this water is one of the objectives of the City's proposed water project.

Soil series recognized within the project area include: Owens and Tarrant (undivided), Speck and Tarrant (undivided), and Tarrant-Kavett (undivided) in the uplands; Mereta and Tobosa in the middle slopes; and Frio, Nukrum, and Rowena in the floodplains and along stream channels. These soils range from very shallow to very deep. All are well drained, moderately to highly calcic, occupy slopes of 1 to 3 percent or less, and consist of clays, silty clay loams, and clay loams. Most of the soils are Mollisols, but the Owens and Tobosa series are Inceptisols and Vertisols, respectively. Of these soils, the Owens, Nukrum, Rowena, and Tobosa are classified as prime farm land as recognized by the Natural Resource Conservation Service (NRCS). The results of coordination with this agency are discussed below (see Agency Coordination).

Surface Water, Floodplains, and Wetlands

The entire project area is located within the drainage basin of Brady Creek. Brady Creek is a high-order, low gradient (0.125%) tributary of the San Saba River in the Colorado River drainage system. Brady Reservoir, on Brady Creek upstream from the City, is the source of the City's surface water and the site of the existing surface-water treatment facility. In the project area, Post Oak Creek and Live Oak Creek, both low-order tributaries, enter Brady Creek from its right (southern) and left (northern) banks, respectively, and there are smaller, unnamed tributaries as well. Bear Creek, another low-order tributary, drains into Brady Reservoir directly. Proposed construction areas lie along the channel of Brady Creek and some of its tributaries and on the slopes and uplands on both sides of the main channel.

The proposed finished water transmission line would transect the Zone AE Special Flood Hazard Areas (100-year floodplains) of Brady Creek and Post Oak Creek at four locations. Based on data from the United States Fish and Wildlife Service's National Wetlands Inventory and from a survey commissioned by the City, both of these streams are wetlands designated Waters of the United States. Within the construction area, there are no water bodies or adjacent wetlands outside of the stream banks above the Ordinary High Water Mark. The City has proposed construction practices to avoid adverse impact on the streams and floodplains (see Agency Coordination, below).

Flora and Fauna

In the proposed project area, sites north of Brady Creek are located within the Limestone Plains subregion of the Central Great Plains ecological region, whereas those to the south are in the Edwards Plateau Woodland subregion of the Edwards Plateau ecological region. The natural floral habitats of the Limestone Plains primarily consist of mixed grass prairies of Little Bluestem, Yellow Indiangrass, and Buffalograss, and shrublands dominated by xeric species including Lotebush, Agarita, Tree Cholla, Ephedra, and Honey Mesquite, with scattered Plateau Live Oak. Along the stream bottoms, Pecan and various elms and hackberries are common. Riparian woodlands covered bottomlands throughout the project area before the removal of most woody vegetation for tillage agriculture prior to the 1940s. Construction of Brady Reservoir in 1963, commercial and industrial development, and the project area's close proximity to highways and an active railway line also fragmented and reduced the viability of the land as a natural habitat.

Because of habitat disruption in the proposed project area, wildlife likely to be found there would primarily include species tolerant of human activity and/or highly mobile species. The most common mammals in McCulloch County are white-tailed deer, raccoon, opossum, striped skunk, fox squirrel and other small rodents, several species of bats, armadillo, grey fox, ringtail, coyote, and bobcat, although only a few of the smaller mammals are likely found in the project area today. Numerous small songbirds and birds of prey occupy riparian woodlands, brushlands, and grasslands, as do many reptiles.

Both migratory and non-migratory waterfowl, amphibians, fish, and aquatic invertebrates continue to utilize the lake, lakefront, and streams,

Databases maintained by the United States Fish and Wildlife Service and Texas Parks and Wildlife Department were reviewed to identify the state and/or federally listed threatened or endangered species that might occur or have occurred historically in McCulloch County. Some of the species included here are migrants or are considered extirpated in the county. The City commissioned a biological survey of the project area. The survey identified habitats of four of these species in the project area (denoted with an asterisk below).

Federal- and/or State-Listed Endangered, Threatened, or Rare Species in McCulloch County

	Birds	Federal Status	State Status
American Peregrine Falcon	*Falco peregrinus anatum*	DL	T
Artic Peregrine Falcon	*Falco peregrinus tundrius*	DL	T
Peregrine Falcon	*Falco peregrinus*	DL	T
Whooping Crane	*Grus americana*	LE	E
Bald Eagle	*Haliaeetus leucocephalus*	DL	T
Black-capped Vireo	*Vireo atricapilla*	LE	E
Golden-cheeked Warbler	*Setophaga chrysoparia*	LE	E
Interior Least Tern	*Sterna antillarum athalassos*	LE	E
Sprague's Pipit	*Anthus spragueii*	C	
Western Burrowing Owl	*Athene cunicularia hypugaea*		
Baird's Sparrow	*Ammodramus bairdii*		
Mountain Plover	*Charadrius montanus*		
Zone-tailed Hawk*	*Buteo albonotatus*		T
	Fishes		
Guadalupe Bass	*Micropterus treculii*		
	Mammals		
Llano Pocket Gopher	*Geomys texensis texensis*		
Cave Myotis	*Myotis velifer*		
Gray Wolf	*Canis lupus*	LE (extirpated)	E
Red Wolf	*Canis rufus*	LE (extirpated)	E
	Mollusks		
Texas Fawnsfoot	*Truncilla macrodon*	C	T
Smooth Pimpleback*	*Quadrula houstonensis*	C	T
Texas Pimpleback*	*Quadrula petrina*	C	T
Texas Fatmucket	*Lampsilis bracteata*	C	T
Falso Spike Mussel	*Quadrula mitchelli*		T
Creeper (Squawfoot)	*Strophitus undulatus*		
	Reptiles		
Texas Horned Lizard*	*Phrynosoma cornutum*		T
Concho Water Snake	*Nerodia paucimaculata*	DL	
Spot-tailed Earless Lizard	*Thamnophis sirtalis annectens*		T

Source: Texas Parks and Wildlife Department

Status Codes

LE – Federally Listed Endangered
LE (extirpated) – Federally Listed Endangered, but historically extirpated from county
C – Federal Candidate for Listing (formerly Category 1 Candidate)
DL – Federally Delisted
E, T – State Listed Endangered/Threatened
"Blank"- Rare, but with no regulatory listing status

Archeology and History

The Brady area was the focus of both prehistoric and historic occupation. To determine whether the proposed project might affect any known archeological or historical sites, the City reviewed the Texas Historical Commission's (THC's) Texas Archeological Sites Atlas. The Atlas disclosed the presence of no known sites in the proposed project area. Except for the location of the proposed 100,000-gallon elevated storage tank north of the City, all proposed construction areas had been disturbed previously. As a result of coordination with the THC, neither the tank site nor the disturbed areas were considered likely to encompass potentially significant cultural resources (see Agency Coordination, below). The THC did, however, express concern regarding the proximity of the proposed alignment of the finished water transmission line to the historic Rest Haven Cemetery on the southwestern side of US Highway 87 northwest of the City. Construction near historic cemeteries is subject to special regulatory requirements. To avoid potential impact on unrecorded graves outside the formal boundaries of the cemetery, the City chose to move the transmission line to the opposite side of highway.

Environmental Justice Analysis

The City is a growing community in the largely rural area of central Texas between Austin and San Angelo. In 2010, the City's population was approximately 5,366, and the population is projected to grow to 6,108 by 2060, a 13.8% increase. The total areal extent of the City is 93.5 square miles, indicating an average population density of 57.4 persons per square mile. The number of persons per household is 2.6. Approximately 20% of the population is 65 years old or older and the fraction younger than 18 years is 24%. More than 34% of the population was Hispanic in 2010, whereas the comparable figure for the state as a whole was 37.6%. Minorities and mixed races compose 40% of the City's households.

The unemployment rate in 2010 was 2.6% compared to 4.1% in the state as a whole. Annual median household income was $30,892 (2008-2012), which is well below 75% of the statewide average, $50,740, in 2012. Per capita income was $18,770 in 2010, which was less than the mean for the state, $26,019. The City's poverty rate is 55%, compared to 17.9% statewide (2012).

Area	Population (2010)	% Minority* (2010)	Poverty Rate (2012), Median Household Income (year)
State	25,145,561	46.0%	17.9%, $51,900 (2013)
City	5,366	40%	55%, $30,892 (2012)

* Including Hispanics.

Although the proposed project area encompasses the entire City, the land within the actual construction footprint is essentially non-residential. Most of the construction would occur at the existing water treatment plant site and within previously disturbed easements. Therefore, project implementation is not expected to be incompatible with current land use or to affect low-income or minority populations disproportionately.

POTENTIAL IMPACTS AND MITIGATIVE MEASURES

In general, the potential environmental impact of the City's proposed water system improvements is comparable in type, areal extent, and duration to that of most other utility projects of comparable scope. To ensure due consideration of these effects, the City conducted a full environmental assessment of the project, prepared an Environmental Information Document (EID) detailing the results of this study, held an open meeting to familiarize the community with the project and solicit public comment, and coordinated with regulatory agencies and other interested parties to define measures needed to avoid, minimize, or mitigate adverse impact. The City has provided assurance that these measures will be implemented in a manner consistent with the requirements of state and federal regulatory agencies and rules of the TWDB.

"Cross-Cutter" Compliance

In accordance with procedures provided in 31 Texas Administrative Code (TAC) § 371.41, the proposed project has been reviewed for potential adverse effects on the quality of the human environment and protected natural resources. Authority for this review ultimately derives from the federal statutes, executive orders, and implementing regulations ("cross-cutters") listed below, as identified by the United States Environmental Protection Agency.

(1) National Environmental Policy Act of 1969, PL 91-190;
(2) Archeological and Historic Preservation Act of 1974, PL 93-291;
(3) Clean Air Act, 42 USC 7506(c);
(4) Coastal Barrier Resources Act, 16 USC 3501 *et seq.*;
(5) Coastal Zone Management Act of 1972, PL 92-583, as amended;
(6) Endangered Species Act, 16 USC 1531, *et seq.*;
(7) Executive Order 11593, Protection and Enhancement of the Cultural Environment;
(8) Executive Order 11988, Floodplain Management;
(9) Executive Order 11990, Protection of Wetlands;
(10) Farmland Protection Policy Act, 7 USC 4201 *et seq.*;
(11) Fish and Wildlife Coordination Act, PL 85-624, as amended;

(12) National Historic Preservation Act of 1966, PL 89-665, as amended;
(13) Safe Drinking Water Act, § 1424(e), PL 92-523, as amended;
(14) Wild and Scenic Rivers Act, PL 90-542, as amended;
(15) The Wilderness Act, 16 USC 1131 *et seq*.;
(16) Environmental Justice, Executive Order 12898;
(17) Flood Insurance Reform Act of 2004, PL 108-264;
(18) National Flood Insurance Reform Act of 1994, PL 103-325;
(19) Flood Disaster Protection Act of 1973, as amended, PL 93-234; and;
(20) Clean Water Act, PL 92-500, as amended.

Agency Coordination

Requirements of the DWSRF and federal and state regulations include coordination with state and federal regulatory agencies and other stakeholders and interested parties regarding a project's potential impact. The environmental review of the City's proposed water system improvement project included coordination with twelve agencies and others, all but two of which responded directly. Below is a summary and discussion of comments and recommendations from these entities and conditions that will pertain to the project during construction.

The City coordinated with the following federal and state regulatory agencies and other entities:

- United States Army Corps of Engineers, Regulatory Branch, Fort Worth District, Fort Worth;
- United States Department of the Interior, Fish and Wildlife Service, Ecological Services, Arlington Field Office, Arlington;
- United States Department of the Interior, National Park Service, Intermountain Region External Review Team, Denver, Colorado;
- United States Department of Agriculture, Natural Resources Conservation Service, Temple;
- United States Department of Agriculture, Forest Service, Atlanta, Georgia;
- Federal Emergency Management Agency, Denton;
- City of Brady Floodplain Administrator, Brady
- Texas Parks and Wildlife Department, Wildlife Habitat Assessment Program, Austin;
- Texas Historical Commission, State Historic Preservation Officer, Austin;
- McCulloch County Historical Commission, Brady;
- Texas Commission on Environmental Quality, Austin;
- Concho Valley Council of Governments, San Angelo.

<u>United States Army Corps of Engineers</u>
On January 28, 2015, the City asked the United States Army Corps of Engineers (USACE) to review the proposed project. Under Section 404 of the Clean Water Act, the

USACE regulates the discharge of dredged and fill material in waters of the United States, including wetlands. USACE responsibility under Section 10 of the Rivers and Harbors Act of 1899 includes regulation of activities in, or affecting, navigable waters of the United States. In its initial response on February 9, 2015, the USACE assigned the project number SWF-2015-00060. On March 10, 2015, the USACE requested additional information regarding the project. Following further discussion with the USACE, the City provided a Wetland Delineation Report concerning the proposed pipeline stream crossings. On June 24, 2015, the USACE determined that if the City implements its proposed plan to bore under the streams, floodplains, and wetlands, the project would not require authorization under Section 404 or Section 10.

United States Department of the Interior, Fish and Wildlife Service

On February 17, 2015, the City asked the United States Fish and Wildlife Service (USFWS) to review the proposed project, but the USFWS did not respond. Nor did the USFWS respond when the City provided notification of the change in the project description on April 28, 2015.

The City's DWSRF loan is conditioned that if threatened or endangered species are discovered during construction, work will cease immediately in that part of the project area and the City will notify the USFWS, TPWD, and the TWDB of the discovery. The USFWS and TPWD will then determine what actions may be necessary.

United States Department of the Interior, National Park Service

On April 24, 2015, the City asked the National Park Service (NPS) to review the proposed project. The NPS responded on May 11, 2015, stating that it had no comment on the project at that time.

United States Department of Agriculture, Natural Resources Conservation Service

On February 18, 2015, the City asked the Natural Resources Conservation Service (NRCS) to review the proposed project. The NRCS conducted its review in accordance with the Farmland Protection Policy Act (FFPA), and on March 11, 2015, stated that because all construction would occur within existing rights-of-way and easements, the project is exempt from FPPA regulations. The City notified the NRCS regarding revision of the project description on April 28, 2015, and on May 13, 2015, the NRCS responded, stating that the additional construction site is not considered prime Farmland and is therefore exempt from provisions of the FFPA.

United States Department of Agriculture, Forest Service

On June 1, 2015, the City asked the Forest Service (FS) to review the proposed project, but the FS did not respond.

Federal Emergency Management Agency and City of Brady Floodplain Administrator

On January 28, 2015, the City asked the Federal Emergency Management Agency (FEMA) to review the proposed project. The FEMA responded on February 6, 2015,

requesting that the City contact the local floodplain administrator, and that the project comply with Executive Orders (EOs) 11988 and 11990, concerning floodplain management and protection of wetlands, respectively. The City contacted the City of Brady Floodplain Administrator (CBFPA) on February 5, 2015. On June 12, 2015, the CBFPA stated that he had no comment on the proposed project "…except that all Permits be obtained prior to starting the project."

Texas Parks and Wildlife Department

On January 28, 2015, the City asked the Texas Parks and Wildlife Department (TPWD) to review the proposed project. The TPWD responded on March 3, 2015, providing a series of comments and recommendations. The City notified the TPWD regarding revision of the project description on April 28, 2015, and on June 15, 2015, the TPWD responded, confirming the applicability of its previous recommendations. Following additional dialog, the City sent an electronic message dated July 17, 2015, stating that the City agreed to implement all of the TPWD's recommendations. The TPWD accepted this response in an electronic message sent later the same day.

The TPWD provided the following recommendations:

1) Reduce removal or disturbance of vegetation, particularly mature native trees, riparian vegetation, and native shrubs to the greatest extent practicable, and implement in-kind, on-site replacement/restoration of the native vegetation wherever practicable. If trees greater than 12 inches in diameter at breast height are removed they must be replaced at a ratio of three tress for every one lost (3:1 ratio), either on-site or off-site. Smaller trees should be replaced at a 1:1 ratio. Replacement trees should have equal or superior wildlife quality to those removed and be regionally adapted native species. The City must develop and implement a three to five year maintenance plan that ensures 85% survival of the replacement trees.

2) Implement practices to prevent the establishment of invasive species and sustain existing native species.

3) Construct transmission lines across all water crossings, including intermittent and ephemeral streams, by boring beneath the streams. If boring beneath a particular stream is not practicable, trenching or other construction methods should occur only when the stream is dry. Regarding construction along Brady and Post Oak creeks, contractors should be required to locate all stock piles, staging areas, and other project related sites in previously disturbed areas outside of the riparian corridor. These recommendations are consistent with the conditions imposed, by reference, by the USACE (see above).

4) Implement Best Management Practices to reduce storm water runoff with the potential to enter water features within the project area, including installation of erosion and sediment control barriers (e.g., earth dikes, silt fences, sediment traps, and sediment retention basins), temporary seeding with native plants, and mulching.

5) Protect migratory bird species found nesting on or adjacent to the project area in a manner consistent with the Migratory Bird Treaty Act (MBTA), by excluding vegetation clearing activities during the general bird nesting season, March through August, to avoid adverse impacts to this group. If clearing vegetation during the migratory bird nesting season is unavoidable, the City must survey the area proposed for disturbance to ensure that no nests with eggs or young will be disturbed by operations. Any vegetation (trees, shrubs, and grasses) where occupied nests are located should not be disturbed until the eggs have hatched and the young have fledged.

6) Notify construction crews that Bald Eagles may be found in the area during the winter months, and that disturbance of the Bald Eagles must be avoided, consistent with TPWD guidelines.

7) Retain a permitted biologist to survey the proposed project area for the presence of the Texas Horned Lizard and its habitat (this recommendation has already been implemented). The survey must be performed during the warm months of the year when these lizards are active. If lizards or their habitat are found, a permitted biologist must be present as a monitor during clearing and construction in that area to relocate any lizards present to a nearby, off-site location affording similar habitat by a permitted biologist. In addition, the City must install and maintain exclusion fences (consistent with TPWD guidelines) to prevent lizards or other reptiles from entering trenches, or covering trenches and checking them the next day for any reptiles that may have been trapped. When feasible, contractors should be trained to recognize the Texas Horned Lizard and other protected species and to avoid or protect them as needed. Contractors should also avoid disturbance of the nests of Harvester Ants, which are the principal food of the Texas Horned Lizard.

8) Retain a permitted biologist to survey the proposed project area for the presence of protected freshwater mussels (this recommendation has already been implemented). The areas surveyed must include channels segments that would be disturbed by construction or sediment washed downstream from construction areas. Protected mussels found in these areas should be relocated in a manner consistent with TPWD guidelines. Two of the mussel species are candidates for federal listing for protection under the Endangered Species Act. Should listing occur, additional coordination with the USFWS would be necessary prior to construction in those parts of the project area.

9) Retain a permitted biologist to survey the proposed project area for the presence of prairie dogs or burrows of other mammals; and if burrows or suitable habitat are found, the area should also be surveyed for the presence of Burrowing Owls (these recommendations have already been implemented). If nesting owls are found, disturbance must be avoided until the eggs have hatched and the young have fledged.

10) Retain a permitted biologist to survey the proposed project area for the presence of the Spot-tailed Earless Lizard or its habitat (this recommendation has already been

implemented). If this species is found it must not be disturbed. The listing status of the Spot-tailed Earless Lizard must be monitored throughout project planning, design, and construction. If this species is listed by the USFWS for protection under the Endangered Species Act, the City must undertake additional consultation with the USFWS, and permitting and mitigation measures as needed.

11) Inform personnel involved in vegetation clearing and construction of the potential for the rare Concho River Water Snake to occur in the project area. Personnel must avoid contact with this nonvenomous species if encountered and allow the snake to safely leave the area.

12) Avoid disturbance of the rare Llano Pocket Gopher if found in the project area.

13) Although not specifically mentioned by the TPWD, the presence of habitat suitable for the state-listed threatened Zone-tailed Hawk was confirmed by the City's biological survey of the project area. The hawk itself was not observed, but prudence dictates that measures intended to recognize and protect other species should apply to the Zone-tailed Hawk as well.

The City's DWSRF loan is conditioned that if threatened or endangered species are discovered during construction, work will cease immediately in that part of the project area and the City will notify the TPWD, USFWS, and the TWDB of the discovery. The TPWD and USFWS will then determine what actions may be necessary.

Texas Historical Commission

On January 28, 2015, the Texas Historical Commission (THC) was asked to review the proposed project. The THC did so on March 3, 2015, in accordance with Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas. Following its initial review, the THC determined that the proposed alignment of the finished water transmission pipeline along U.S. Highway 87 on the northwestern side of the City would lie very close to the historic Rest Haven Cemetery. The THC therefore directed the City to conduct an archeological survey of that part of the project area if the construction would occur within 15 feet from the cemetery boundary. On April 28, 2015, the City stated that "…we are moving the proposed transmission line to the north side of U.S. Hwy 87 to avoid potential impacts to derelict graves that may be in the south right-of-way." In the same letter, the City noted that a project element not included in the original coordination had been added, and requested a determination of potential effects on cultural resources. The additional project element was the 100,000-gallon elevated storage tank to be built along Texas Highway 377 north of the City. The THC responded on May 29, 2015, indicated that no historic properties would be affected by the proposed construction and that the project could proceed.

The City's DWSRF loan is conditioned that if cultural resources are discovered during construction, work will cease immediately in that part of the project area and the City will notify the THC and the TWDB of the discovery. The THC and TWDB will then proceed

in accordance with the regulations of the Advisory Council on Historic Preservation (36 CFR Part 800) prior to taking any action which might affect the cultural resources.

McCulloch County Historical Commission
On January 28, 2015, the McCulloch County Historical Commission (MCHC) was asked to review the proposed project. The MCHC responded on March 3, 2015, stating that "…no known significant cultural resources will be affected [by the proposed construction]." The City notified the MCHC regarding revision of the project description on April 28, 2015, and on May 28, 2015, the MCHVC responded, confirming its previous determination.

Texas Commission on Environmental Quality
On January 28, 2015, the City asked the Texas Commission on Environmental Quality (TCEQ) to review the proposed project. The TCEQ designated the coordination as NEPA Request #2015-031, and stated that a review of the project for general conformity impact in accordance with 40 CFR Part 93 indicates that McCulloch County is currently unclassified or in attainment of the National Ambient Air Quality Standards for all six criteria air pollutants. Therefore, general conformity rules do not apply. The TCEQ stated that any construction debris or waste should be discarded at an appropriately authorized disposal facility.

Concho Valley Council of Governments
On February 3, 2015, the City asked the Concho Valley Council of Governments (CVCG) to review the proposed project, in accordance with EO 12372. The CVCG responded on February 5, 2015, stating that the project was in compliance with the EO.

Public Participation

Public participation conducted during facilities planning included a public hearing held on September 14, 2015. A notice of the impending meeting was published more than 30 days earlier in the *Brady Standard-Herald* newspaper, a newspaper of general circulation in the service area. The notice, which was published on August 12, 2015, also contained information regarding the availability of planning documents, including the EID, for public review at the City of Brady City Hall during normal business hours. Separate written notices of the hearing and the availability of the documents for review were sent to selected state and federal agencies.

The public hearing was held at 6:30 P.M. on September 14, 2015, at the City of Brady Service Center. No adverse comments were voiced at the public hearing or received during the 30-day public review period.

RECOMMENDATIONS

The proposed project is consistent with local, regional, and statewide planning requirements. Coordination with the appropriate governmental agencies has been

completed and a public meeting was conducted to ensure awareness of the nature of the project. The regulatory agencies defined a series of measures intended to avoid, reduce, or mitigate environmental impact resulting from the proposed construction. No adverse comments have been received to date.

Based on a review of the Environmental Information Document and other records, the Radium Reduction Project proposed by the City of Brady is considered to be environmentally sound with the following recommended conditions.

Special Conditions

To ensure compliance with Section 404 of the Federal Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899:

- The proposed pipeline stream crossings (four) of Brady Creek and Post Oak Creek must be implemented by boring beneath the stream channels and 100-year floodplains. Equipment and material staging locations and other project related activity areas must be above the Ordinary High Water Marks of these streams at a minimum distance of 50 feet.

To ensure compliance with the Federal Migratory Bird Treaty Act (MBTA):

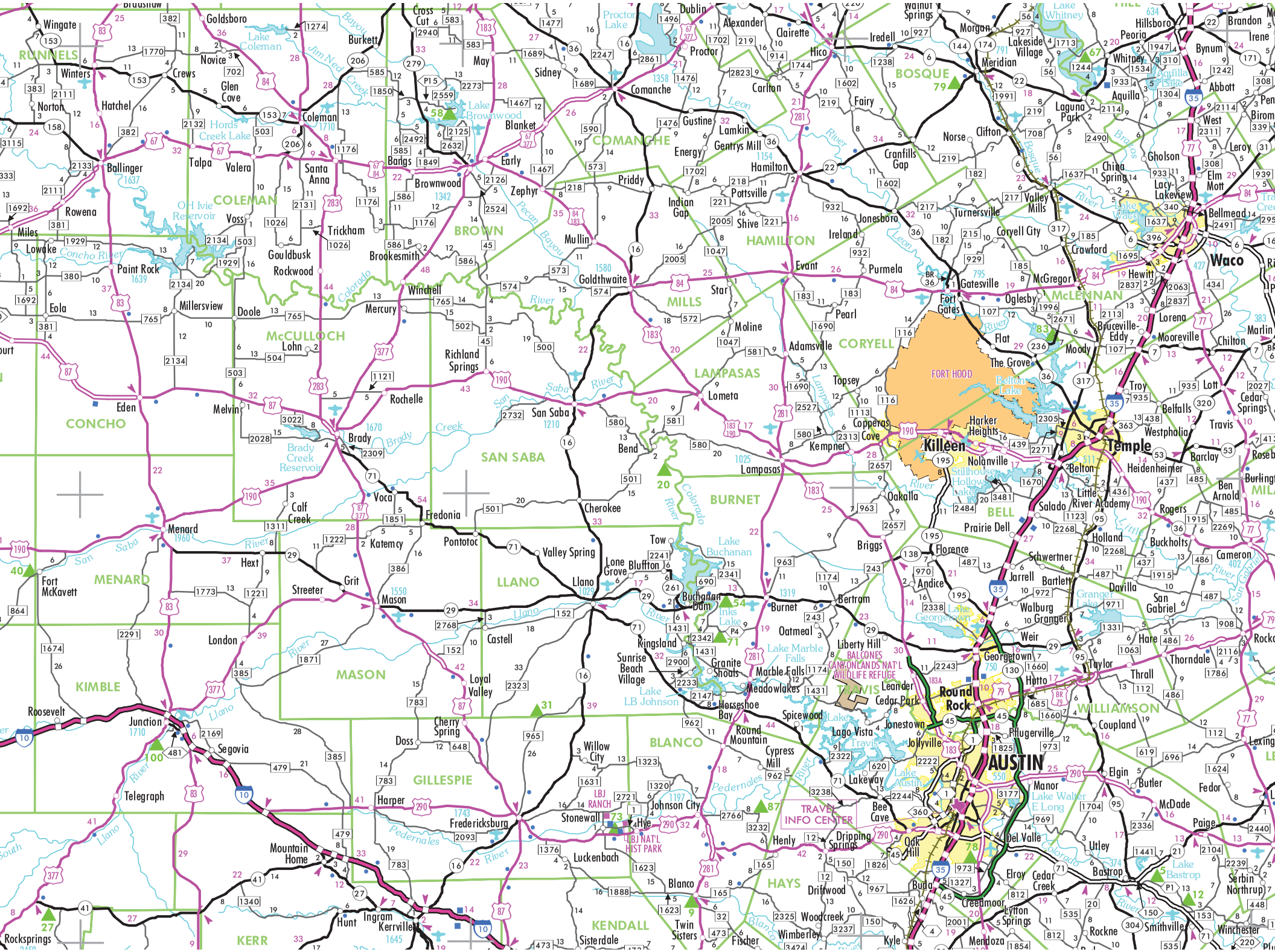
- Vegetation should not be cleared during the general bird nesting season, March through August. If vegetation clearing during this period cannot be avoided, the City must engage a permitted biologist to survey the area proposed for disturbance for the presence of bird nests with eggs or young. Any vegetation (trees, shrubs, and grasses) where occupied nests are located must not be disturbed until the eggs have hatched and the young have fledged.

To ensure compliance with the Endangered Species Act:

- The City must monitor the listing status of the Spot-tailed Earless Lizard and the Smooth Pimpleback and Texas Pimpleback mussels throughout project planning, design, and construction. If one or more of these species are listed by the United States Fish and Wildlife Service (USFWS) for protection under the Endangered Species Act, the City must undertake additional consultation with the USFWS, and permitting and mitigation measures as needed.

To ensure compliance with Texas Parks and Wildlife Code, Section 68.015:

- The City must retain a permitted biologist to monitor vegetation clearing and construction in order to detect the presence of protected species and remove them or take other action as necessary.
- The City must inform construction workers and other field personnel regarding the potential for the protected Texas Horned Lizard, Spot-tailed Earless Lizard, Conch River Water Snake, Bald Eagle, Zone-tailed Hawk, Burrowing Owls, and Llano Pocket Gopher to occur in the area. If these species are encountered, the biological monitor must be notified and contact with the animals must be avoided. If the monitor is not present, the animals should be allowed to leave the area safely.


RUNNELS
COLEMAN
BROWN
COMANCHE
BOSQUE
HAMILTON
MILLS
McLENNAN
McCULLOCH
CORYELL
LAMPASAS
CONCHO
SAN SABA
BURNET
BELL
MENARD
LLANO
MASON
KIMBLE
WILLIAMSON
BLANCO
GILLESPIE
HAYS
KENDALL
KERR
FORT HOOD
Waco
Killeen
Temple
Round Rock
AUSTIN
Fort McKavett
Lake Coleman
Hords Creek Lake
Lake Brownwood
Lake Buchanan
Inks Lake
Lake Marble Falls
Lake LB Johnson
Lake Austin
Lake Travis
Lake Waco
Belton Lake
Stillhouse Hollow Lake
Granger Lake
Lake Georgetown
Lake Walter E Long
Lake Bastrop
BALCONES CANYONLANDS NAT'L WILDLIFE REFUGE
LBJ RANCH
LBJ NAT'L HIST PARK
TRAVEL INFO CENTER

SOURCE OF MAP:
BRADY NORTH, TEX (1960), BRADY SOUTH, TEX (1970),
WEST SWEDEN, TEX (1960), BRADY SW, TEX (1963)

FIGURE 3

LEGEND

- CITY LIMITS
- EXISTING TRANSMISSION LINE
- PROPOSED TRANSMISSION LINE
- DISTRIBUTION LINES TO BE REPLACED

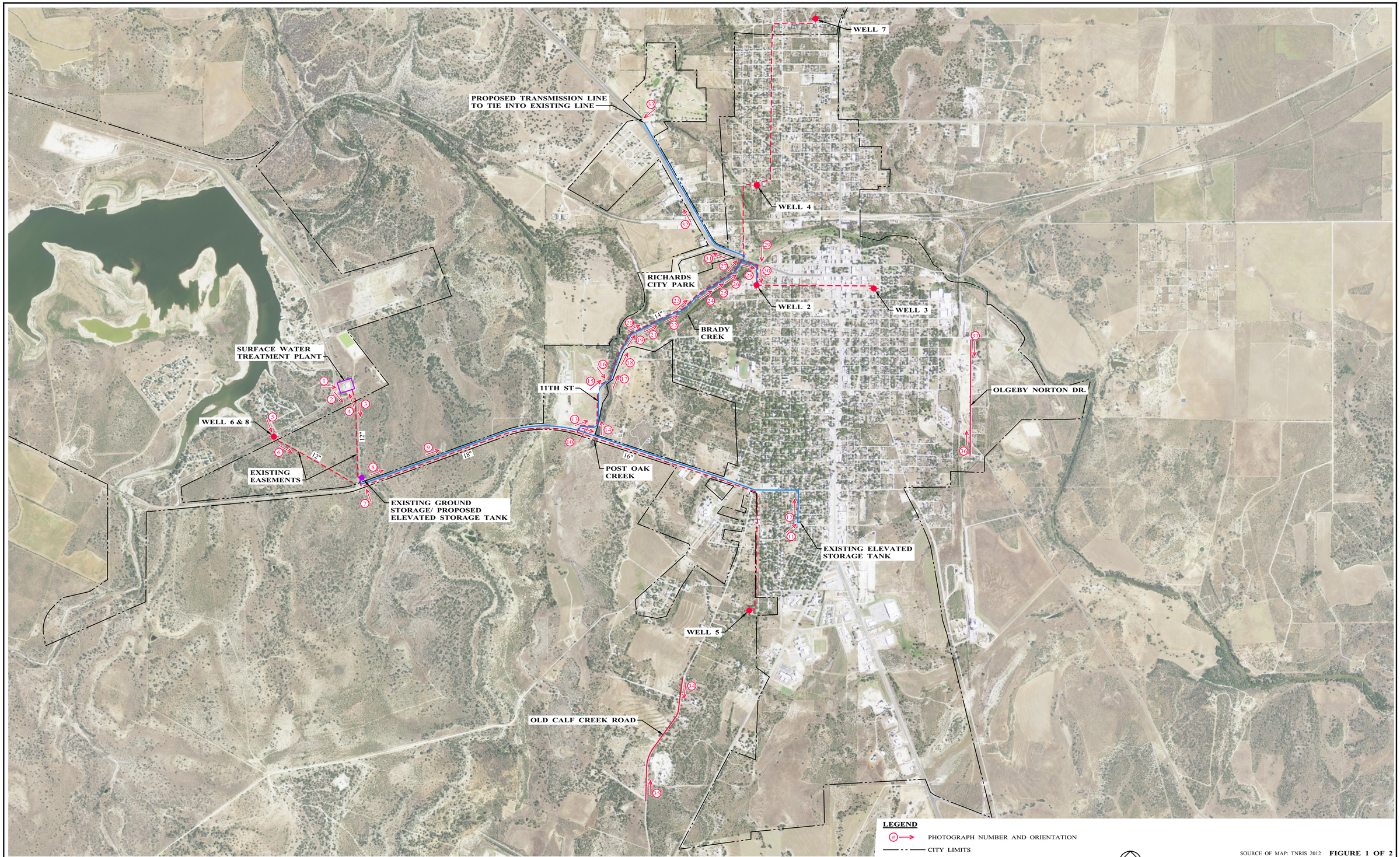
1000 0 2000
SCALE IN FEET

USGS TOPOGRAPHIC MAP

PROPOSED RADIUM REDUCTION PROJECT
BRADY, McCULLOCH COUNTY, TEXAS

14-6055 01/14/2015

ENPROTEC/HIBBS & TODD, INC.
ENVIRONMENTAL AND CIVIL ENGINEERING
402 Cedar Street
325-698-5560
Abilene, Texas 79601
PE Firm Registration No. 1151
PG Firm Registration No. 50103
RPLS Firm Registration Nos. 10011900 & 10007300



SOURCE OF MAP: TNRIS 2012 **FIGURE 1 OF 2**

AERIAL PHOTOGRAPH
(PHOTOGRAPH KEY)

PROPOSED RADIUM REDUCTION PROJECT
BRADY, McCULLOCH COUNTY, TEXAS
14-6055 01/14/2016

ENPROTEC/HIBBS & TODD, INC.
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402 Cedar Street Abilene, Texas 79601
325-698-5560
PE Firm Registration No. 50151
PG Firm Registration No. 50103
RPLS Firm Registration Nos. 10011900 & 10007300