

PREPARER'S LIST

Environmental Assessment for Disposal and Reuse of
Lone Star Army Ammunition Plant and Red River Army Depot, Texas



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Key personnel involved in the development of this EA are presented below.

Name	Education and Experience	Primary Responsibilities
Sean Donahoe	B.S. Mathematics and Biology, summa cum laude; M.S. Biology; 19 years of experience in NEPA, natural resource management, and risk assessment; conducted over 100 NEPA studies primarily for Army actions including BRAC.	Program Manager; Description of Proposed Action and Alternatives; Alternatives Analysis; Technical Approach and Review.
Christy Herron	B.A. Environmental Studies and English Literature (with honors); M.C.R.P City and Regional Planning; AICP; 8 years experience in NEPA and CEQA, environmental planning, environmental permit compliance, and land use planning.	Project Manager; Description of Proposed Action and Alternatives; Alternatives Analysis; Aesthetics and Visual Analysis; Water Resources; Technical Approach and Review.
Mike Rushton	B.A. Geography; M.A. Physical Geography; 34 years experience with NEPA and natural resource management; project manager or director for over 200 NEPA/CEQA documents, including NEPA and other regulatory compliance for BRAC actions on 24 military facilities.	Peer Review and Technical Support - Description of Proposed Action; Air Quality; Noise; and Utilities.
Elizabeth Copley, AICP	B.A. Urban Studies; M.U.P. Urban Planning; certified planner with over 25 years experience in federal and state environmental planning and impact assessment, particularly associated with BRAC actions.	Resource Area Leader - Land Use and Visual Impact Assessment.
Sharon Crowland	B.S. Civil and Environmental Engineering; 14 years experience with environmental engineering, environmental planning, and project management, including 10 years of experience with the federal government.	Resource Area Leader - Transportation and Infrastructure.
Mary Kaplan	B.S. Meteorology; M.S. Environmental Science (Atmospheric Concentration); 6 years experience in air quality modeling and emissions inventories.	Resource Area Leader - Air Quality.
George Luz	Ph.D. in Psychology; 35 yrs experience with the effects of military noise on health, safety & welfare of individuals, animals and communities. Luz Social & Environmental Associates.	Resource Area Leader - Noise
Darlene Stringos-Walker	B.S. Civil/Mining Engineering; M.S. Environmental Engineering; 21 years experience in environmental engineering, site assessments and investigations, remedial design of waste sites, ISO 14001 Lead Auditor Certified.	Geology and Hazardous, Toxic, Radioactive Waste Sections. Review of previous environmental documentation and site visit.
Rich Muller	B.S. in Biology; M.S. in Oceanography; 35 years experience in environmental impact assessment and environmental management for all branches of the military, FEMA, NOAA, and FBOP.	Resources Area Leader - Water Resources Lead. Data gathering; analysis; report writing; response to comments; and support for the preparation of Land Use and Transportation sections.

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Jerry Thompson	B.S. Environmental Studies; M.S. Natural Resources Management; 20 years experience assessing and managing endangered and other species on public and private land for DoD, and federal, state and Tribal governments.	Resource Area Leader - Biology/ Wetlands, Land Use, and Aesthetics and Visual Resources.
Paula Bienenfeld	B.A. Anthropology; M.A. Anthropology; Ph.D. Anthropology; 25 years experience in cultural resources management; 12 years experience in NEPA and Army planning, including BRAC '95.	Resource Area Leader - Cultural Resources.
Mark Dunning	Ph.D. Sociology; 30 years of experience in social effects analysis, water resources planning, regional economics analysis, and NEPA analysis.	Resource Area Leader - Socioeconomic Resources.
Jennifer Bassett-Hales	B.S. Public Policy, Management, and Planning; 5 years experience with NEPA and natural resource management.	Preparation of Utilities section; peer review of Air Quality and Noise.
Holly Bisbee	B.A. Anthropology; 10 years experience in archaeological field work; 5 years experience in cultural resources management; 2 years experience in environmental issues, including BRAC '05.	Support/ Cultural Resources and Socioeconomics; data collection; preparation of supporting sections, document review.
Leigh Goldstein	B.A. Environmental Biology and Anthropology; M.S. Health Evaluation Sciences; 5 years experience in environmental and land use issues, including those related to BRAC properties.	Support/ preparation of supporting sections.
Paul Holland	B.A. History; M.S. Nature, Society, and Environmental Policy; 4 years of research and consulting experience in environmental and social public policy.	Support/ Noise; review and preparation of noise analysis.
Marian Mabel	B.A. English; B.A. Economics; M.A. Public Policy; Ph.D. Environmental Science, Policy, and Management; 15 years experience in environmental policy and economic development, socioeconomic assessment of economic and institutional change.	Prepared Socioeconomics, Land Use, Water Resources Sections. Maintain Administrative Record.
Tim Messick	B.A. Botany; M.A. Biology; 13 years experience in botanical and wetland impact assessments and restoration planning, followed by 12 years experience in technical and information graphics, cartography, visual simulation, and web design.	Prepared graphics for selected figures.
Daniel Moreno	M.A. Geography; 25 years of experience in applying GIS to NEPA, natural resource studies, and military installation mapping.	GIS/ Mapping Lead.
Elizabeth Pratt	B.S. Business Administration; 3 years experience in socioeconomic data gathering and environmental analysis including BRAC properties.	Support/ document review.
James Wilder	M.S. Environmental Engineering; 30+ years experience in environmental engineering.	Air Quality and Noise assessments.

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8 REFERENCES

- ACE Ethanol LLC. 2007. Air Permit #05-DCF-165, issued 23 February 2006 by the State of Wisconsin Department of Natural Resources, accessed 8 August 2007 (permitted emissions).
- Badger State Ethanol. 2007. Company web page (badgerstateethanol.com/products_co2.htm). Products: CO2. Accessed 3 August 2007. Air Permit #06-POY-165, issued 9 August 2006 by the State of Wisconsin Department of Natural Resources, accessed 8 August 2007 (permitted emissions).
- Braun, E.L. 1967. Deciduous Forest of Eastern North America. New York, NY: Hafner Press.
- City of Hooks. 2002. Hooks, Texas Business Data (www.city-data.com). Accessed 28 August 2006.
- City Data. 2002. New Boston, Texas Business Data (city-data.com/business/econ-New-Boston-Texas.html). Accessed 5 September 2006.
- City Data. 2002. Texarkana, Texas Business Data (www.city-data.com/business/econ-Texarkana-Texas.html). Accessed 5 September 2006.
- City of New Boston 2006. New Boston, Texas Home Page (newbostontx.org). Accessed 23 August 2006.
- City of Texarkana, Texas. 2001. 2001 Texas Comprehensive Plan (ci.texarkana.tx.us/departments/planzone/complan.html). Adopted 25 June 2001. Accessed 6 June 2007.
- Code of Federal Regulations. 1987. 7 CFR Part 658. The Natural Resource Conservation Service Final Rule, Farmland Policy. 5 July 1984; proposed revisions published on 8 January 1987.
- Conner, R.N and J.G. Dickson. 1997. Relationships Between Bird Communities and Forest Age, Structure, Species Composition and Fragmentation in the West Gulf Coastal Plain. Texas Journal of Science. 49(3) Supplement: 123-138.
- Coulee Area Renewable Energy. 2007. Air Permit #06-POY-342, issued 20 March 2007 by the State of Wisconsin Department of Natural Resources, accessed 8 August 2007 (permitted emissions).
- Council on Environmental Quality. 1997. Environmental Justice: Guidance Under the National Environmental Policy Act. EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Annotated with Proposed Guidelines on Terms in the Executive Order. Executive Office of the President (<http://ceq.eh.doe.gov/nepa/regs/ej/ej.pdf>). 10 December. Accessed 29 January 2007.
- Cowardin, L.M., et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31. Office of Biological Services, Washington, DC.

REFERENCES

Environmental Assessment for Disposal and Reuse of
Lone Star Army Ammunition Plant and Red River Army Depot, Texas



-
- Day & Zimmermann. No Date. Commercial Opportunities at Lone Star Army Ammunition Plant brochure. Obtained July 2006.
- Defense Base Closure and Realignment Commission (DBCRC). 2005. Final Report to the President. U.S. Department of Defense. 8 September 2005.
- Eyre, E.H. (ed). 1980. Forest Cover Types of the United States and Canada. Washington, DC. Society of American Foresters.
- Intergovernmental Panel on Climate Change. 2007. Climate Change 2007: Climate Change Impacts, Adaptation and Vulnerability. Summary for Policymakers.
- Institute for Agricultural and Trade Policy (IATP). 1996. Water Use by Ethanol Plants. Dennis Keeney, Ph.D., Senior Fellow and Mark Muller, Director, Environment and Agriculture Program. October.
- Lone Star Army Ammunition Plant (LSAAP). 2006a. Lone Star Army Ammunition Plant, Texarkana, Texas Installation Action Plan. March.
- LSAAP. 2006b. Air Quality Emissions Inventory, Lone Star Army Ammunition Plant. Prepared by Trinity Consultants.
- LSAAP. 2002. Environmental Assessment Volume I of III. Prepared by Altec Environmental Consultants for Day & Zimmermann, Inc. Lone Star Division. December.
- LSAAP. 2001. Installation Action Plan. March 2001.
- Office of the Secretary of Defense. 1994. Memorandum, "Asbestos, Lead Paint and Radon Policies at BRAC Properties. 31 October.
- Page, Lawrence M. and Brooks M. Burr. 1991. Peterson Field Guide: Freshwater Fishes. Houghton Mifflin Company. Boston, MA.
- Parsons. 2004. Storm Sewer Repair Field Report: Repair Chromium Wastewater and Stormwater Drainage Systems at Main Industrial Area, Red River Army Depot, Texarkana, TX. Prepared for Red River Army Depot and Corps of Engineers Fort Worth. April.
- Red River Army Depot (RRAD). 2006. Red River Army Depot Installation Action Plan.
- RRAD. 2004a. Draft Integrated Cultural Resources Management Plan for Red River Army Depot. Prepared by Tetra Tech EM Inc.
- RRAD. 2004b. Red River Army Depot Water Management Plan. April.
- Red River Redevelopment Authority (RRRA). 2007. Lone Star/Red River Reuse Master Plan. Prepared for Red River Redevelopment Authority by RKG Associates, Inc. et al. April.
- Sai, Prakash. 2006. Spreadsheet: Lone Star Army Ammunition Plant Utility Usage for 2005.
- Sustainable Forestry Initiative Sustainable Forestry Board and American Forest and Paper Association. 2004. Sustainable Forestry Initiative Standard (SFIS) 2005-2009 Standard.

REFERENCES

Environmental Assessment for Disposal and Reuse of
Lone Star Army Ammunition Plant and Red River Army Depot, Texas



-
- Tetra Tech. 2002. Planning Level Survey Report for Fauna and Vegetative Communities. Prepared for USACE under Contract No. DACA01-96-D-0011. March.
- Texarkana Chamber of Commerce (CoC). 2006. Texarkana Chamber of Commerce Community Profile 2006-2007 (texarkana.org/com-profile2.pdf). Accessed June 27, 2006; September 5, 2006. (therightcorner.com). Accessed 10 August 2006.
- Texarkana Gazette. 2006. Various (rrcp.org/news.html). Accessed May – August 2006.
- Texas Commission on Environmental Quality (TCEQ). 2007. Before You Build: Air Permits to Construct (tceq.state.tx.us/permitting/air/newsourcereview/construct_permit.html). Accessed May 2007.
- TCEQ. 2006. TCEQ Website Air Quality Information (tceq.state.tx.us/implementation/air/industei/psei/psei.html). Last updated November 2006. Accessed May 2007.
- Texas Education Agency, 2005. 2005-2006 Students Economically Disadvantaged, County Totals by District Name; School Districts in Bowie County; 2005-2006 Student Enrollment, County Totals by District Name (tea.state.tx.us/adhocrpt/adg06019/html). Accessed 5 March 2007.
- Texas Forest Service and Texas Forestry Association. 2004. Texas Forestry Best Management Practices. August.
- Texas Historical Commission, 2001. Preserving Historic Cemeteries, Texas Preservation Guidelines. 2001. Austin, TX.
- Texas Military Preparedness Commission (TMPC). 2006. Texas – The Defense Community: A Master Plan for the Future. Annual Report 2006/2007. State of Texas Office of the Governor (www.governor.state.tx.us/divisions/tmpc/files/masterplan2006.pdf). Accessed May 2007.
- Texas Natural Resource Conservation Commission (TNRCC). 2000. Outdoor Burning in Texas. Report RG-49 (Revised). November.
- TPWD. 2005a. Annotated County Lists of Rare Species in Bowie County. March 2.
- TPWD. 2005b. Letter Correspondence Presenting Rare, Threatened, or Endangered Species Within or Near RRAD and LSAAP. July 25.
- UIC-WOLHAA. 2005. Installation No. 48305 Inventory, LSAAP. April 6.
- United States Army (U.S. Army). 2006a. Environmental Condition of Property Report, Red River Army Depot. Prepared by URS Corporation. November 30.
- U.S. Army. 2006b. Environmental Condition of Property Report, Lone Star Army Ammunition Plant. Prepared by URS Corporation. November 20.
- U.S. Army. 2006c. Base Realignment and Closure Guidelines for Compliance with the National Environmental Policy Act. April.
- U.S. Army. 2006d. Integrated Natural Resources Management Plan, Red River Army Depot and Lone Star Army Ammunition Plant, Texarkana, Texas. Prepared by

REFERENCES

Environmental Assessment for Disposal and Reuse of
Lone Star Army Ammunition Plant and Red River Army Depot, Texas



- Tetra Tech EM Inc. for U.S. Army Installation Management Agency, Northwest Region. March.
- U.S. Army. 2006e. Red River Army Depot, Texarkana, Texas Site Assessment Report: Transition from the Army to the Community. Prepared by Staubach. 2 May.
- U.S. Army. 2006f. LSAAP, Texarkana, Texas Site Assessment Report: Transition from the Army to the Community. Prepared by Staubach. 2 May.
- U.S. Army. 2002a. Easement for Water, Sanitary Sewer and Industrial Wastewater Utility Systems Located on Red River Army Depot, Bowie County, TX.
- U.S. Army. 2002b. Easement for Electric Utility System Located on Red River Army Depot, Bowie County, TX.
- U.S. Army Center for Health Promotion and Preventative Medicine (USACHPPM). 2003. Environmental Noise Consultation No.52-EN-01HH-03 Noise Contours for RRAD. October.
- USACHPPM. 1997. Environmental Noise Consultation No. 52-69-6013-97, Updated Environmental Noise Contours for Demolition Operations, Lone Star Army Ammunition Plant, Texarkana, Texas. 19 August.
- USACHPPM. 1992. Environmental Noise Study No. 52-34-Q494-91, Lone Star Army Ammunition Plant, Texarkana, TX, 29 July – 30 September. January.
- United States Army Corps of Engineers (USACE), Mobile District. 1998. Final Environmental Assessment for BRAC 95 Disposal and Reuse of Property at the Red River Army Depot, Texarkana, TX. September.
- USACE. 1994. Natural and Cultural Resource Management Plan RRAD and LSAAP, Bowie County, TX. Fort Worth District, Fort Worth, TX.
- USACE. 1993. Final Environmental Assessment for Functional Realignment Activities at the RRAD, TX. Fort Worth District, Fort Worth, TX. August.
- USACE. 1990. RRAD Draft Environmental Data Report. January.
- United States Census (U.S. Census). 2000. General Demographic Characteristics, Summary File 1 (SF1) 100-Percent data (factfinder.census.gov). Accessed 2 January 2007. Summary File 3; Summary File 2, PCT2. Accessed 3 January 2007. State and County QuickFacts (quickfacts.census.gov). Accessed 15 September 2006.
- U.S. Census. 2002. U.S. Census Summary Statistics NAICS (census.gov/econ/census02/data/metro4/M4550.htm). Accessed 30 August 2006. 2000 Current Population Survey, revised 22 August 2002 (census.gov/hhes/poverty/threshld/thresh00.htm). Accessed 29 January 2007.
- United States Department of Agriculture. 1980. Prime and Other Important Farmlands, Bowie County.
- USDA Forest Service. 1988. Forest Resources of East Texas. Resource Bulletin SO-136. Southern Forest Experiment Station. New Orleans, LA.

REFERENCES

Environmental Assessment for Disposal and Reuse of
Lone Star Army Ammunition Plant and Red River Army Depot, Texas



-
- U.S. Department of the Army (USDoA). 1978. Installation Assessment. Chemical Demilitarization and Installation Restoration Program. July.
- U.S. DoA. 2004. Red River Army Depot-Regulation 200-8: Directorate of Public Works, Waste Management. 15 September.
- USDoA. 2002a. Easement for Water, Sanitary Sewer and Industrial Wastewater Utility Systems Located on Red River Army Depot, Bowie County, TX.
- USDoA. 2002b. Easement for Electric Utility System Located on Red River Army Depot, Bowie County, TX.
- USDoA. 1978. Installation Assessment. Chemical Demilitarization and Installation Restoration Program. July.
- United States DoC (U.S. DoC). 2005. Bureau of Economic Analysis, Regional Economic Accounts (bea.gov/bea/regional). Local Area Personal Income, Table CA34, Average wage per job. Accessed 3 January 2007.
- USDoC 2000. Bureau of Economic Activity, Regional Economic Information Systems (bea.gov/bea/regional/bearfacts). Table C25 SIC (1969-2000). BEA Table CA25. Regional Economic Accounts (BEARFACTS). Accessed 2 January 2007.
- U.S. Department of Defense (USDoD). 2006. Base Realignment and Development Manual. DoD 4165.66-M. Office of the Deputy Under Secretary of Defense (Installations and Environment). 1 March.
- United States Department of Education. 2006. Impact Aid Section 8003, Payments for Federally Connected Children; FY 2006 Categorical Details (ed.gov/programs/8003/dr.html). Accessed 5 March 2007.
- United States Department of Labor (USDOL). 2005. Bureau of Labor Statistics, Local Area Unemployment Statistics (data.bls.gov/cgi-bin/dsrv). Accessed 19 September 2006.
- United States Environmental Protection Agency (USEPA). 2007. Air Data Website. Access to Air Quality Data (<http://epa.gov/air/data/reports.html>). Accessed May 2007.
- USEPA. 2006a. Air Data Website. Access to Air Quality Data (<http://www.epa.gov/air/data/>). Accessed 14 September 2006.
- USEPA. 2006b. Green Book: Nonattainment Status of Each County By Year (epa.gov/air/oaqps/greenbk/anay.html). Accessed 14 September 2006.
- USEPA. 1978. Report No. 550/9-74-004, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Prepared by the U.S. Environmental Protection Agency Office of Noise Abatement and Control. March.
- U.S. Fish and Wildlife Service (USFWS). 1999. Letter Correspondence Regarding the Occurrence of Federally Listed Threatened and Endangered Species in Bowie County. March 18.

REFERENCES

Environmental Assessment for Disposal and Reuse of
Lone Star Army Ammunition Plant and Red River Army Depot, Texas



-
- USFWS. 1998a. Wetlands Inventory Report for RRAD and LSAAP, Bowie County, Texas. National Wetlands Inventory Program, St. Petersburg, Florida. June.
- USFWS. 1998b. Letter Correspondence Regarding the Occurrence of Federally Listed Threatened and Endangered Species in Bowie County. 22 July.
- University of Texas at Austin (UTA). 2007. Herps of Texas (zo.utexas.edu/research/txherps/). Accessed June.
- UTA. 2006. Texas State Historical Association. The Handbook of Texas Online (tsha.utexas.edu/handbook/online/articles/RR/rnr1.html). Accessed 18 October 2006. Urbanchuk, J.M., and J. Kapell. 2002. *Ethanol and the Local Community* (ethanolrfa.org/Ethanol_Local_Community.pdf). Accessed June 2007.

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Lone Star Army Ammunition Plant and Red River Army Depot, Texas



9 PERSONS CONSULTED

- Coleman, Tom. 2006. Personal communication. Red River Army Depot (RRAD).
17 August.
- Galloway, Jerry. 2006. Personal communication. Lone Star Army Ammunition Plant
(LSAAP). 19 June.
- Haltom, Jonathan. 2006. Personal communication. LSAAP. 19 June.
- Hodgson, Gary. 2007. Personal communication. LSAAP. May.
- Hutsell, Lonnie. 2006. Personal communication. Traffic Operations, Atlanta District, Texas
Department Of Transportation, 20 September.
- Jabon, Tony. 2007. Personal communication. Managing Consultant, Trinity Consultants. 8
August.
- Moore, Don. 2006. Personal communication. RRAD. 19 June.
- Ramsauer. 2007. Personal communication. BRAC Environmental Coordinator, RRAD. 21
May.
- Ramsauer, Ross. 2006. Personal communication. September-November.
- Self, David. 2008. Personal communication. Environmental Coordinator, LSAAP.
September.
- Self. 2007. Personal communication. LSAAP. May.
- Sigler, Stephanie. 2006. Personal communication. Army Environmental Center.
November.
- Sewell, Rod. 2006. Personal communication. BRAC Environmental Coordinator, LSAAP.
August-November.
- Walker, Kenneth R. 2006. Personal communication. LSAAP. 20 July.
- Webster, Vera. 2006. Personal communication. DZI/LSAAP. 1 August.
- Wright, Micki. 2007. Personal Communication. Texarkana Chamber of Commerce
Tourism Director. 11 June.

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ACRONYMS AND ABBREVIATIONS

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10 ACRONYMS AND ABBREVIATIONS

AAP	Army Ammunition Plant
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos-containing Material
ADNL	A-weighted day/night sound level
amsl	Above Mean Sea Level
AOC	Area of Concern
AQCR	Air Quality Control Region
AQRV	Air Quality Related Values
Army	U.S. Department of the Army
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
Base Closure Act	Defense Base Closure and Realignment Act of 1990
BEA	Bureau of Economic Analysis
bgs	Below Ground Surface
BRAC	Base Realignment and Closure
CAA	Clean Air Act
CDNL	C-weighted day/night sound level
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
dB	decibel
dBC	C weighted Sound; suitable for use when the ear is exposed to higher sound levels
dBp	Decibels above one picowatt
DBCRC	Defense Base Closure and Realignment Commission
DNL	Day-Night Noise Level

ACRONYMS AND ABBREVIATIONS

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DoD	U.S. Department of Defense
DZI	Day & Zimmermann, Inc.
EA	Environmental Assessment
ECP	Environmental Condition of Property
EDC	Economic Development Conveyance
EIFS	Economic Impact Forecast System
EIS	Environmental Impact Statement
EO	Executive Order
ER,A	Environmental Restoration, Army
ESA	Endangered Species Act
ESCA	Environmental Services Cooperative Agreement
ETA	Early Transfer Authority
FAR	Floor Area Ratio
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FNSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FY	Fiscal Year
GOCO	Government-Owned, Contractor-Operated
HEBG	High Explosive Burning Ground
HEDG	High-Explosive Demolition Ground
HUD	Department of Housing and Urban Development
IAP	Installation Action Plan
ICRMP	Integrated Cultural Resources Management Plan
ICUZ	Installation Compatible Use Zone
INRMP	Integrated Natural Resources Management Plan
IPMP	Integrated Pest Management Plan
IRP	Installation Restoration Program
IWTP	Industrial Wastewater Treatment Plant
kV	kilovolt
kVA	kilovolt-amperes
kWH	kilowatt hours

ACRONYMS AND ABBREVIATIONS

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LBP	Lead-based Paint
L_{eq}	Equivalent Noise Level
LIR	Low Intensity Reuse
L_{peak}	peak noise level
LRA	Local Redevelopment Authority
LRS	Lone Star Railcar Storage Company
LSAAP	Lone Star Army Ammunition Plant
MEC	Munitions and Explosives of Concern
Mgd	million gallons per day
MHIR	Medium-High Intensity Reuse
MLIR	Medium-Low Intensity Reuse
MLRS	Multiple Launch Rocket System
mm	millimeter
MMRP	Military Munitions Response Program
MOU	Memorandum of Understanding
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NCA	Noise Control Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRC	Nuclear Regulatory Commission
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
OB/OD	Open Burning/Open Detonation
OSHA	Occupational Safety and Health Administration
OTC	Ordinance Training Center
PA/SI	Preliminary Assessment/Site Investigation
PCBs	Polychlorinated Biphenyls

ACRONYMS AND ABBREVIATIONS

Environmental Assessment for Disposal and Reuse of
Lone Star Army Ammunition Plant and Red River Army Depot, Texas



pCi/L	picoCuries per liter of air
PM10	particulate matter measuring less than 10 microns in diameter
PM2.5	particulate matter measuring less than or equal to 2.5 microns in diameter
PMP	Pest Management Plan
PSD	Prevention of Significant Deterioration
ppm	parts per million
PSS	Palustrine Scrub/shrub
PVC	Polyvinyl Chloride
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RDX	Cyclotrimethylenetrinitramine (Research Department Composition X)
RFI	RCRA Facility Investigation
ROI	Region of Influence
RRAD	Red River Army Depot
RRAD-WEP	Red River Army Depot western excess property
RRCP	Red River Commerce Park
RRRA	Red River Redevelopment Authority
RTV	Rational Threshold Value
SHPO	State Historic Preservation Office
SPCC	Spill Prevention, Control and Countermeasure
SWEPCO	Southwestern Electric Power Company
SWMU	Solid Waste Management Unit
SWPPP	Storm Water Pollution Prevention Plan
TCEQ	Texas Commission on Environmental Quality
TES	Threatened and Endangered Species
TNER	Texas North Eastern Railroad Service
TNRCC	Texas Natural Resource Conservation Commission
TNT	Trinitrotoluene
TPDES	Texas Pollutant Discharge Elimination System
TPWD	Texas Parks and Wildlife Department

ACRONYMS AND ABBREVIATIONS

Environmental Assessment for Disposal and Reuse of
Lone Star Army Ammunition Plant and Red River Army Depot, Texas



tpy	tons per year
TSCA	Toxic Substance Control Act
USACE	U.S. Army Corps of Engineers
USC	United States Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VOC	Volatile Organic Compound
µg/m ³	micrograms per cubic meter

ACRONYMS AND ABBREVIATIONS

Environmental Assessment for Disposal and Reuse of
Lone Star Army Ammunition Plant and Red River Army Depot, Texas



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APPENDIX A COMPREHENSIVE REUSE PLAN



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12 SITE REDEVELOPMENT PLAN

A. INTRODUCTION

The site redevelopment plan described in Chapter 12 is designed to achieve the economic development goals articulated by the Red River Redevelopment Authority Board of Directors, the leadership of Bowie County and the surrounding communities. This is a seminal project for North East Texas and the region's civic leadership is committed to the long-term success of this effort.

The site redevelopment plan describes the future land use, land parcelization, development phasing and conveyance strategy for both facilities over the next 15 years. This section also includes an estimated range of future utility and infrastructure costs to prepare each site for reuse. These key reuse assumptions are then modeled in a 15-year financial proforma, which projects future revenues, operating expenses, and debt service payments.

Given the sheer size of the two facilities, the RRRRA must manage its resources wisely and selectively reinvest in areas that have the potential to capture private investment and create jobs. This will be accomplished through a cooperative agreement between the Army, Day and Zimmerman, Bowie County, and the Red River Redevelopment Authority. The site redevelopment plan is the foundation on which all future agreements and business decisions will be made.

B. SUMMARY OF MAJOR FINDINGS AND CONCLUSIONS

- The northeastern portion of the Lone Star property is tentatively being designated for use by the current government contractor at Lone Star, Day and Zimmerman, Inc. The current land use plan assumes that roughly 2,213 acres would be made available to their operations, east of Central Avenue and north of Old Boston Road.
- With the existence of the Texas Northeastern Railroad (TNER) short-line extending west from Texarkana at the property's northern boundary, the Lone Star facility has access to both the Union Pacific and Kansas City Southern rail lines. This creates potential opportunities for large warehouse and distribution users.

- The preferred development phasing plan for Lone Star assumes that during the first 5 years, the level of utility and infrastructure investment will be quite substantial due to the construction of one or two new ethanol production plants with an estimated construction value between \$150 and \$300 million.
- In order to achieve the preferred development phasing plan, the RRRRA will have to undertake an aggressive utility and infrastructure investment program. Under the preferred scenario, the RRRRA could be faced with millions in upfront infrastructure costs, \$3.3 to \$3.6 million of which would be required to build a new 1.5 million GPD sewage treatment plant that would be located at Parcel L6.
- The LSAAP site could receive favorable attention from prospective tenants due to the rail availability and size of the site. Future decisions as to planning rail construction can only be made based on the needs of specific shippers. Currently, the LSAAP site could receive unit trains (110 cars each) two to three times per week from the TNER system.
- The ability of the RRRRA to extend sanitary sewer to RRAD-WEP will be constrained by cost factors, since the far eastern edge of the excess property is several miles west of the existing Red River Commerce Park. These limitations may require the City of New Boston to provide water and sewer; however, a long-standing lawsuit with Texarkana Water Utilities (TWU) may restrict their ability to serve the site.
- There is a Kansas City Southern (KCS) switchyard in Texarkana; however, marketing agreements between the TNER and UP systems may preclude the KCS as a cost effective rail provider to either RRAD or LSAAP. The KCS rail system provides potential reuse benefits because of the access to Pacific Rim cargo through the Port of Lazaro Cardenas in Mexico; however, the TNER and UP lines are owned and affiliated with the Union Pacific system. For reuse purposes, the UP connection is primary, the TNER is secondary to the UP and the KCS connection is subsidiary to both.

Redevelopment Vision

The LSAAP will be marketed as a regional, multi-modal warehouse/distribution center, with rail access and foreign trade zone designation. Direct rail links with the deepwater port, Lazaro Cardenas in southern Mexico, has been established by the Kansas City Southern Railroad and creates a potential market opportunity for the Lone Star facility.

C. SITE REDEVELOPMENT PLAN

1. Lone Star Army Ammunition Plant (LSAAP)

In order for the LSAAP to realize its economic development potential, the facility will require considerable public and private investments in utilities, infrastructure, new buildings, and targeted marketing. Despite this challenge, the Red River Redevelopment Authority views this project as one of the most important economic development initiatives in the history of Bowie County and North East Texas. With approximately 15,500 acres of mostly undeveloped forest land, LSAAP must be transformed into a new regional economic hub. As presented earlier in this plan, the large size of this property far exceeds the region's capacity to absorb land for job generating purposes. As such, LSAAP must be marketed to a larger set of end users who currently may not be located within the North East Texas region, but would view the site and its competitive advantages as a positive business location.

The following section describes how the LSAAP facility will be positioned to capture future employment and investment opportunities that capitalize on the competitive advantages of both

the site and the region. While it is very difficult to predict the types and number of companies that will want to locate at LSAAP in the future, the redevelopment plan described below is designed to position the property to meet the potential needs of a wide variety of mostly industrial end users.

a.) Site Access

The primary access point for the LSAAP property will be the current Gate 4, which is located just east of the current Main Gate (Gate 7), which is utilized by Day and Zimmerman, Inc. (DZI). Gate 4 enters directly onto Central Avenue from U.S. Highway 82 and is located approximately ½ mile from Exit 212 of Interstate 30. Central Avenue is the main north/south travel route on the property.

Gates 1, 2 and 7 will be maintained for use by the current government contractor, if they plan to relocate to the northeastern section of the Lone Star property. A secondary access point will be maintained by the Red River Redevelopment Authority at Gate 14, which is located near Area BB, approximately 3.3 miles west of the proposed main gate and less than a mile from Exit 208 of Interstate 30. This access point will be used by heavy equipment or trucks entering the site (e.g., timber trucks, etc.) in order to avoid excessive wear and tear on the central road network.

b.) Conceptual Land Use Plan

- **Warehouse/Distribution** - The conceptual land use plan presented in Exhibit 12-1 illustrates the proposed future land use designations for the Lone Star property. Given the site's current environmental conditions and the community's desire for job creation, the future land use plan reflects a variety of light industrial, warehouse/distribution, and commercial uses. With the existence of the Texas Northeastern Railroad (TNER) short-line extending west from the Texarkana switching yard at the property's northern boundary, the Lone Star facility has access to both the Union Pacific and Kansas City Southern rail lines. This creates potential opportunities for large warehouse and distribution users. In order to capture this opportunity, the consultants have set aside approximately 2,705 acres (17.5%), most of which is located between U.S. Highway 82 and Fifth Street and between Central Avenue and the western border of Lone Star. Another 635-acres of land is served by rail and is located at the southwestern portion of the site, which is served by a southern rail spur that travels through a portion of the Red River Army Depot (RRAD) property and connects to the Union Pacific line. Given the poor condition of this southern rail spur and the potential access and security issues associated with traversing RRAD property, this southern spur is not considered a primary rail access point at this time.

The LSAAP will be marketed as a regional, multi-modal warehouse/distribution center, with rail access and foreign trade zone designation. The distribution center will cater to domestic companies looking for improved access to foreign markets, primarily Mexico and the Pacific Rim, and foreign companies looking for direct access to large consumer markets in North America. Direct rail links with the deepwater port Lazaro Cardenas in southern

Expanded Marketing Focus

The large size of the LSAAP property far exceeds the region's capacity to absorb land for job generating purposes. As such, LSAAP must be marketed to a larger set of end users who currently may not be located within the North East Texas region, but would view the site and its competitive advantages as a positive business location.

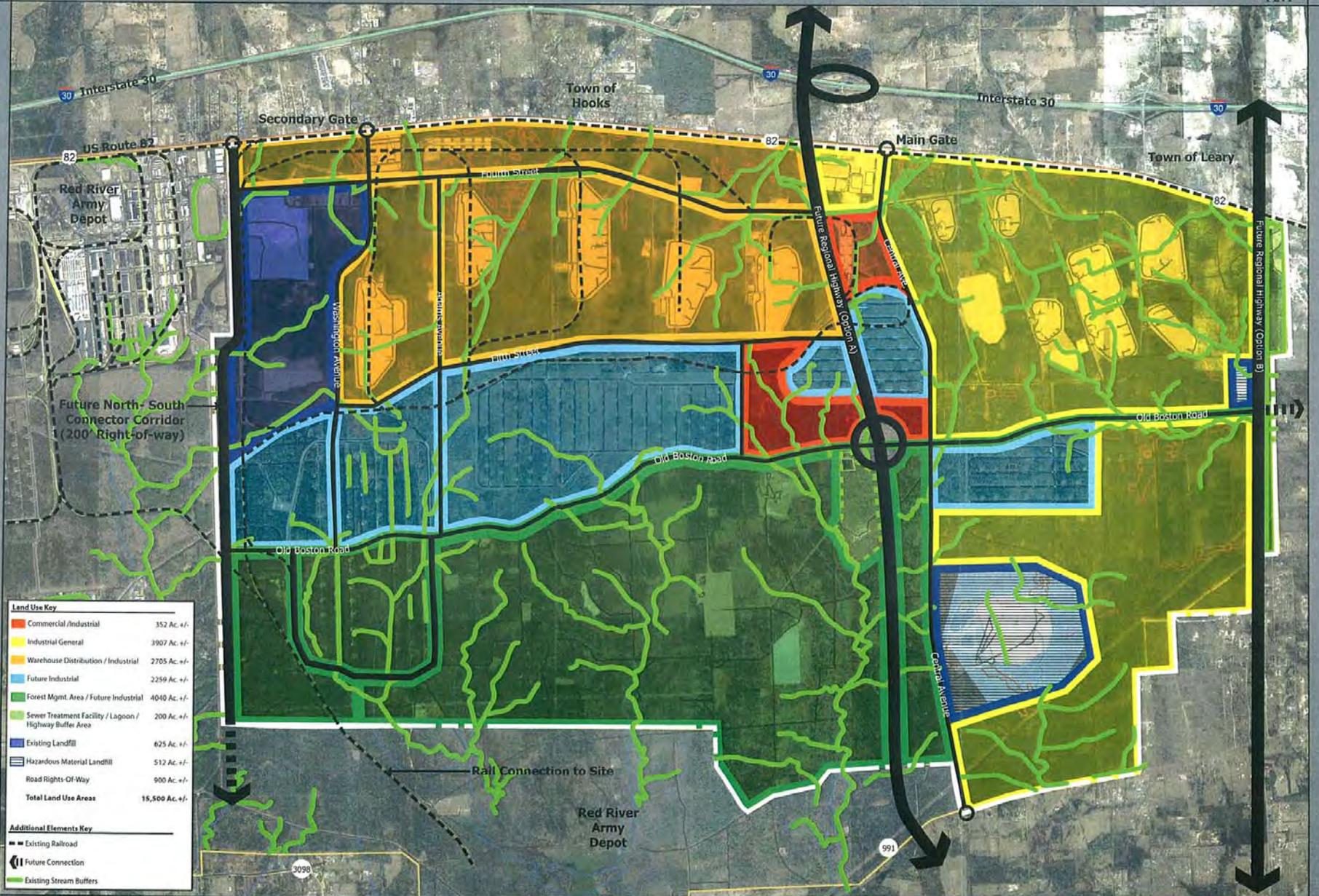
The LSAAP will be marketed as a regional, multi-modal warehouse/distribution center, with rail access and foreign trade zone designation. The distribution center will cater to domestic companies looking for improved access to foreign markets, primarily Mexico and the Pacific Rim, and foreign companies looking for direct access to large consumer markets in North America. Direct rail links with the deepwater port Lazaro Cardenas in southern Mexico, has been established by the Kansas City Southern Railroad and creates a potential market opportunity for the Lone Star facility

Mexico, has been established by the Kansas City Southern Railroad and creates a potential market opportunity for the Lone Star facility.

- **Industrial/General** - The northeastern portion of the Lone Star property is tentatively being designated for use by the current government contractor at Lone Star, should they decide to continue their on-site operations. The current land use plan assumes that roughly 2,213 acres would be allocated to their operations, east of Central Avenue and north of Old Boston Road.

The RRRA would maintain open public access to Central Avenue and DZI would locate within a new secured fence line. A 93-acre parcel with frontage along U.S. Highway 82 would also be classified as industrial general and could be utilized by DZI as their administrative headquarters. Another 1,601 acres south of Old Boston Road has also been designated for future industrial uses, and could be used to accommodate DZI's future operations or other companies that might want to locate here.

- **Commercial/Industrial** - The conceptual land use plan also calls for approximately 352 acres for commercial/industrial use, primarily for complementary commercial operations to serve the future needs of people working at the Lone Star facility, as well as those living in nearby communities such as Leary and Hooks. The potential for commercial uses is created by the proposed construction of a new interstate highway (I-69) through the Lone Star property. U.S. Highway 59, which connects to southern Mexico and the Houston metropolitan area, creates a highway corridor through east Texas, which passes through Texarkana, TX. Since the precise right-of-way for the new Interstate 69 in Bowie County has not yet been decided, the consultants have identified two potential highway corridor options through Lane Star that would bring the new highway either along the far eastern edge of the property or directly through the middle (west of Central Avenue), which would open up future development opportunities around two new interchange locations.
- **Landfill** - The existing landfill operations located in northwest portion of the site (Area A), west of Washington Avenue, are planned for continued use and could become a more convenient and perhaps lower cost municipal landfill option during the site remediation phase. Eventually, the facility could be used by companies located at the Lone Star property and perhaps could serve the future landfill needs of nearby communities. Approximately 625 acres have been set aside for these operations.
- **Future Industrial** - The existing storage igloo and magazine storage areas (Areas T, U, V, and W) are located in four parcels throughout the property covering roughly 1,584 acres. These areas have been designated for future industrial uses, primarily due to the high cost of removing the reinforced bunkers (as much as \$60,000/unit by some estimates), and the availability of other developable land areas. The plan does not anticipate the need to develop these areas within the foreseeable future, and new development will be encouraged in adjacent areas, until which time, future demand justifies the cost of removing these bunkers.



Lone Star Army Ammunition Plant
 Conceptual Land Use
 Bowie County, Texas

Red River Redevelopment Authority
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- **Forest Management Area/Future Industrial** - The largest single land use designation is classified as forest management area/future industrial, which covers more than 4,040 acres and is located south of Old Boston Road and west of Central Avenue, extending to the far southern boundary of the Lone Star property. This land is being reserved for future industrial uses, but its predevelopment function will be as a forest management area, where timber resources will be managed and harvested, and the revenue from timber sales will be used to pay for future infrastructure investments (e.g., rail and road replacement and repair, utility extensions, etc.). Until which time when this area would be needed for economic development, the RRRRA intends to manage the timber resources in a responsible and sustainable manner. Without the potential revenue from timber sales, the RRRRA would not be able to reinvest in the property at a level sufficient to redevelop the site as described in the reuse master plan.
- **Hazardous Materials Landfill** – A 490-acre parcel located at the southern eastern end of Central Avenue is designated as a hazardous materials landfill. This area is currently identified as the High Explosive Demolition Grounds and contains approximately 100 acres. Another 22-acre asbestos landfill is located at the far southeast corner of Parcel L33 (Parcel L36). The RRRRA proposes to retain this facility for use during the environmental remediation phase.

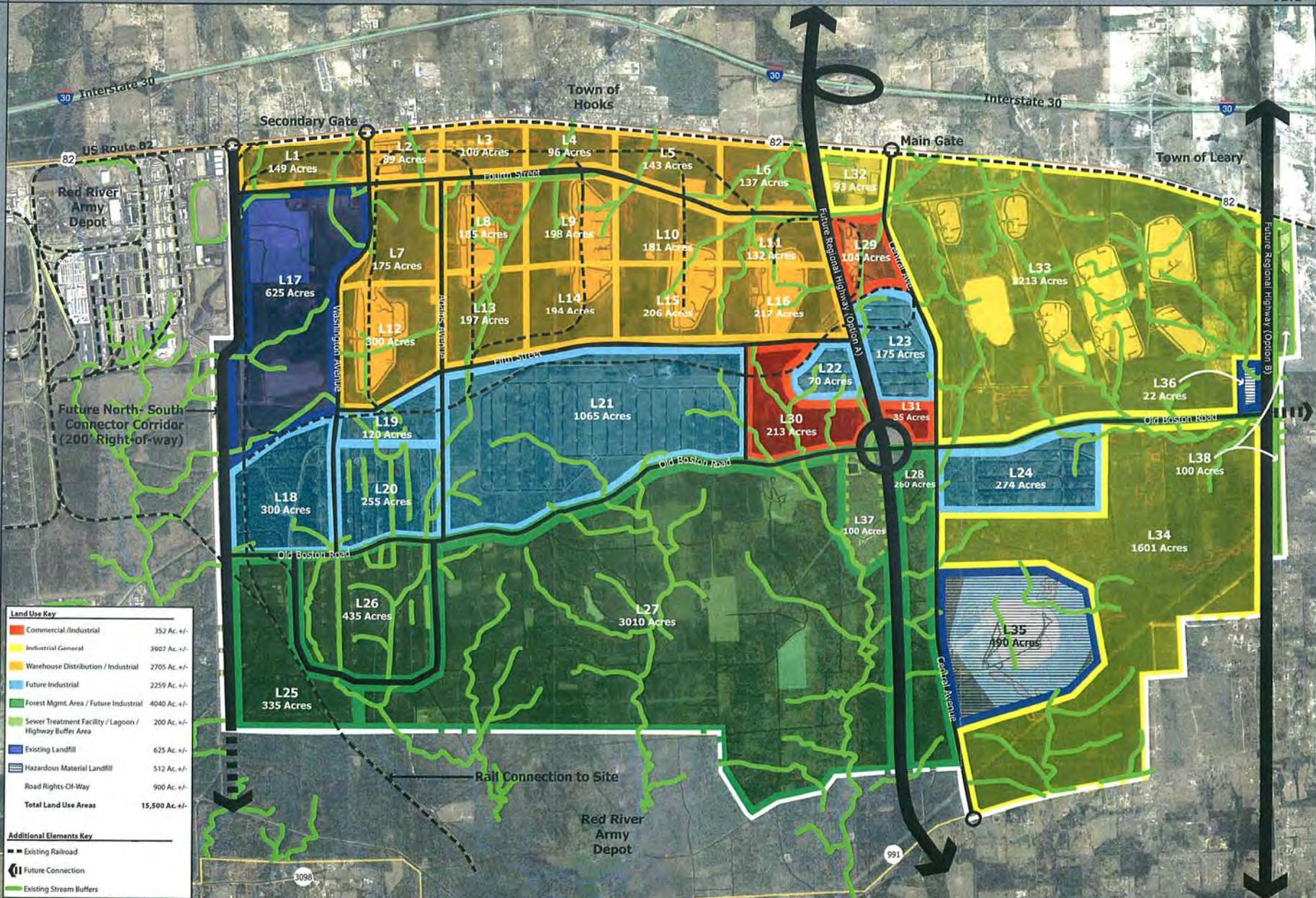
c.) Land Parcelization Plan

The land parcelization plan illustrates a general lotting scheme for the redevelopment of LSAAP (Exhibit 12-2). Some of the large land use areas with the greatest redevelopment potential have been subdivided into smaller and more marketable development sites to accommodate the types of companies that will be recruited by the local redevelopment authority.

- The centerpiece of the redevelopment will be a regional warehouse/distribution center within a foreign trade zone. Sixteen separate parcels (L1-L16) comprise the 2,705-acre warehouse/distribution area, with development sites ranging in size from 89 acres to 300 acres. The central location for future distribution uses is likely to be located between Fourth and Fifth Streets and between Washington Avenue and the proposed highway right-of-way running through the middle of the site. Lone Star's trunk utilities and main access roads create an internal loop system that currently serves Areas B, C, E, F, G, H (See: Exhibit 2-2). In order to support new development, utility laterals and access roads will have to be extended into the interior of these parcels.

This central area, which contains over 1,985 acres (Parcels L7-L16) and is served by rail, could support the largest of warehouse and distribution users. Even at a very low floor-area-ratio of 5%, this area could support nearly 4.3 million square feet (SF) of building space, depending on the site layout. At a more realistic FAR of 13%, the area could support more than 11.2 million SF of space, which would put it on par with some of the largest distribution centers in the Southwestern U.S.

Parcels L17 and L36 (647 acres) contains existing landfill operations and the RRRRA would continue operating these facilities as a municipal and asbestos landfill. Approximately 22 acres (Parcel L36) at the northwest corner of the intersection of Old South Boston Road and the proposed interstate is the registered (non-permitted) Eastern Active Landfill. This landfill contains construction waste and asbestos. Approximately one million pounds of asbestos from RRAD have been disposed in separate asbestos cells in the Eastern Active Landfill, and additional cells can be constructed as needed. In each of the production line areas, asbestos, lead paint, and universal wastes will need to be removed from the structures prior to MEC clearance. The Red River Redevelopment Authority (RRRA) intends



Lone Star Army Ammunition Plant
 Land Parcelization Plan
 Bowie County, Texas

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to continue to operate the Eastern Active Landfill, and proposes that all asbestos and general building debris created during the remediation phase at LSAAP be disposed in this landfill.

- Parcels L25-L28 comprise the 4,040-acre forest management/future industrial area, which has not been subdivided into smaller parcels, given the fact that it is not expected to develop in the foreseeable future. This area will become an actively managed and renewal forest and will provide predictable timber revenues in support of future infrastructure investments in the northern portion of the property. However, it should be noted that the forest management area is not the only location where timber will be managed, harvested and reforested. Similar practices will occur throughout both Red River and Lone Star properties, however, other timbered areas may be eventually redeveloped earlier given their location and their access to roads and utilities. The RRRRA proposes to utilize plantation cutting practices in the forest management areas and to harvest timber on a 35-year rotation cycle.
- Parcels L29-L31 include three commercial/industrial parcels totaling 352 acres located near a proposed interchange of the future Interstate 69. If the interstate right-of-way does not come through the Lone Star property, these parcels will be marketed to industrial users.
- Parcels L18-L24 include above ground magazine and storage bunker areas and other areas that are not expected to redevelop in the foreseeable future. The construction of a new interstate might increase the value of these parcels enough to justify the cost of removing the magazines/bunkers. These parcels contain approximately 2,259 acres of future industrial land that will not likely be needed for development during the first three phases.
- Parcels L32-L34 contain approximately 3,907 acres of industrial general land. As mentioned previously, parcels L31 and L32 (2,306 acres) are tentatively planned as Day and Zimmerman's future operations center and production area, should they decide to continue their on-site operations.
- Parcel L35 equals 490 acres, including a 390-acre safety buffer around the existing 100-acre High Explosive Demolition Grounds. Past demolition activities in this area have created a kick-out zone of exploded ordnance and material fragments have been disbursed into the adjacent forest. In the future, MEC contaminated soils from other remediated areas on the facility will be excavated and disposed onsite in L35. It is estimated that the disposal of contaminated materials at Parcel L35 will save the Army tens of millions of dollars during the environmental clean-up phase due to reduced transportation and soil treatment costs, as well as tipping fees in approved off-site landfills. Once remediation work has concluded, this site will be permanently capped and secured from public access. In addition, no timber harvesting will be permitted in the kick-out zone as a public safety measure.
- Parcel L38 contains 100 acres and will be set aside as a potential right-of-way for the proposed Interstate 69 corridor. While no decision has been made about the future location of the I-69 corridor in Bowie County, this right-of-way will be reserved along the eastern border of the property. In the event that the interstate is not constructed at this location, this area will be retained as a buffer zone between future industrial uses at LSAAP and adjacent privately-owned properties.

- Parcel L37 contains 100 acres for the existing sewage treatment plant located off Old Boston Road.

d.) Development Phasing Plan

The development phasing plans described below largely reflect the period following the environmental remediation phase at LSAAP and the RRAD-WEP. Currently, the RRRRA is pursuing an early transfer of both properties with the intent to expedite the clean-up phase and prepare properties for redevelopment. While the Lone Star property is being remediated, it is anticipated that Day and Zimmerman, Inc. will continue to operate on portions of the facility. The company has active or partially active operations throughout the facility including production lines in Area B, F, G, K, O, P, and R. DZI currently has federal contract commitments that extend company's mission until the 1st Quarter of 2009. DZI has requested the use of the Area B production line until January 2009.

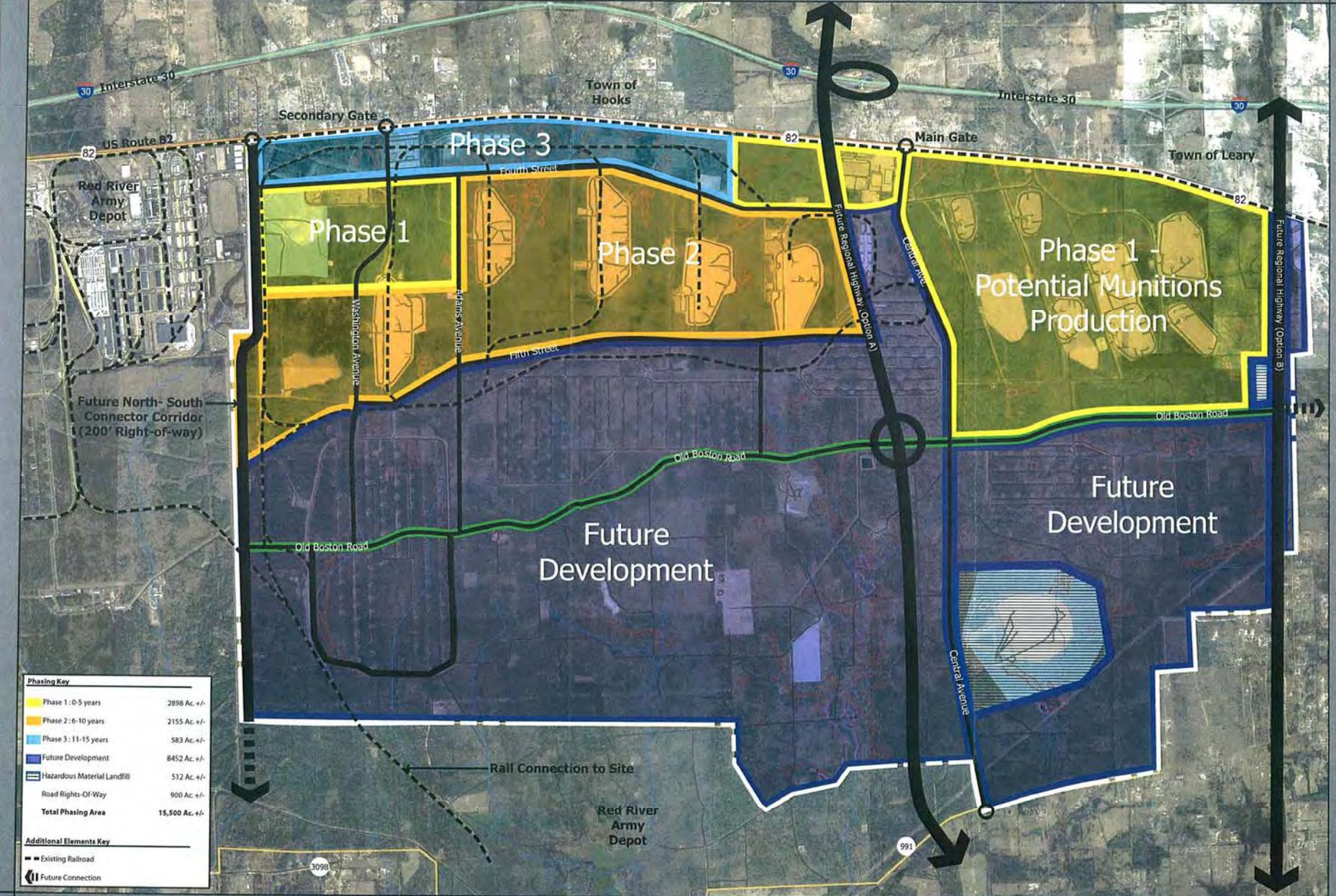
The denoting of development phases in the context of this plan represents how and when the RRRRA will direct its utility and infrastructure investments, based on anticipated market opportunities. As such, the completion of a given development phase does not indicate that all land acres within that phase have been absorbed and developed. It simply means that capital investments must be made during each phase in order to capitalize on existing or emerging market opportunities in the future.

- **Preferred Development Phasing Plan** - The preferred development phasing plan for Lone Star assumes that during the first 5 years the level of utility and infrastructure investment will be quite substantial due to the construction of one or two new ethanol production plants with an estimated construction value of between \$150 and \$300 million.

The preferred development phasing plan presented in Exhibit 12-3 shows early development and landfill activities occurring along Fourth Street (Parcels L7 and L17). Parcel L7 is located north of the current Area B production line, but has never been developed and is not known to be contaminated. This site would be suitable for at least one ethanol plant. The site is located less than 1 mile from Exit 208 of Interstate 30 and has rail access via TNER's short-line from the Texarkana switching yard. It is anticipated that early development may be necessary to meet the business objectives of the ethanol plant owners, who have requested more than 200 acres for two separate plants. While Parcel L7 (175-acres) is not large enough to accommodate both plants, Parcel L12 (Area B) will be available once DZI has completed its current mission and the site has been cleaned up.

Large Investments Required	Upfront	Utility
<p><i>In order to achieve this preferred development phasing plan, the RRRRA will have to undertake an aggressive utility and infrastructure investment program. Under preferred scenario, the RRRRA could be faced with millions in upfront infrastructure costs, \$3.3 to \$3.6 million of which would required to build a new 1.5 million GPD sewage treatment plant that would be located near Parcel L6.</i></p>		

In order to achieve this preferred development phasing plan, the RRRRA will have to undertake an aggressive utility and infrastructure investment program. Under preferred scenario, the RRRRA could be faced with millions in upfront infrastructure costs, \$3.3 to \$3.6 million of which would required to build a new 1.5 million GPD sewage treatment plant that would be located near Parcel L6. In addition, Parcel L32 would be used to meet the administrative and support needs of DZI through the lease of several existing buildings in this area.



Lone Star Army Ammunition Plant
 Preferred Development Phasing Plan
 Bowie County, Texas

Red River Redevelopment Authority
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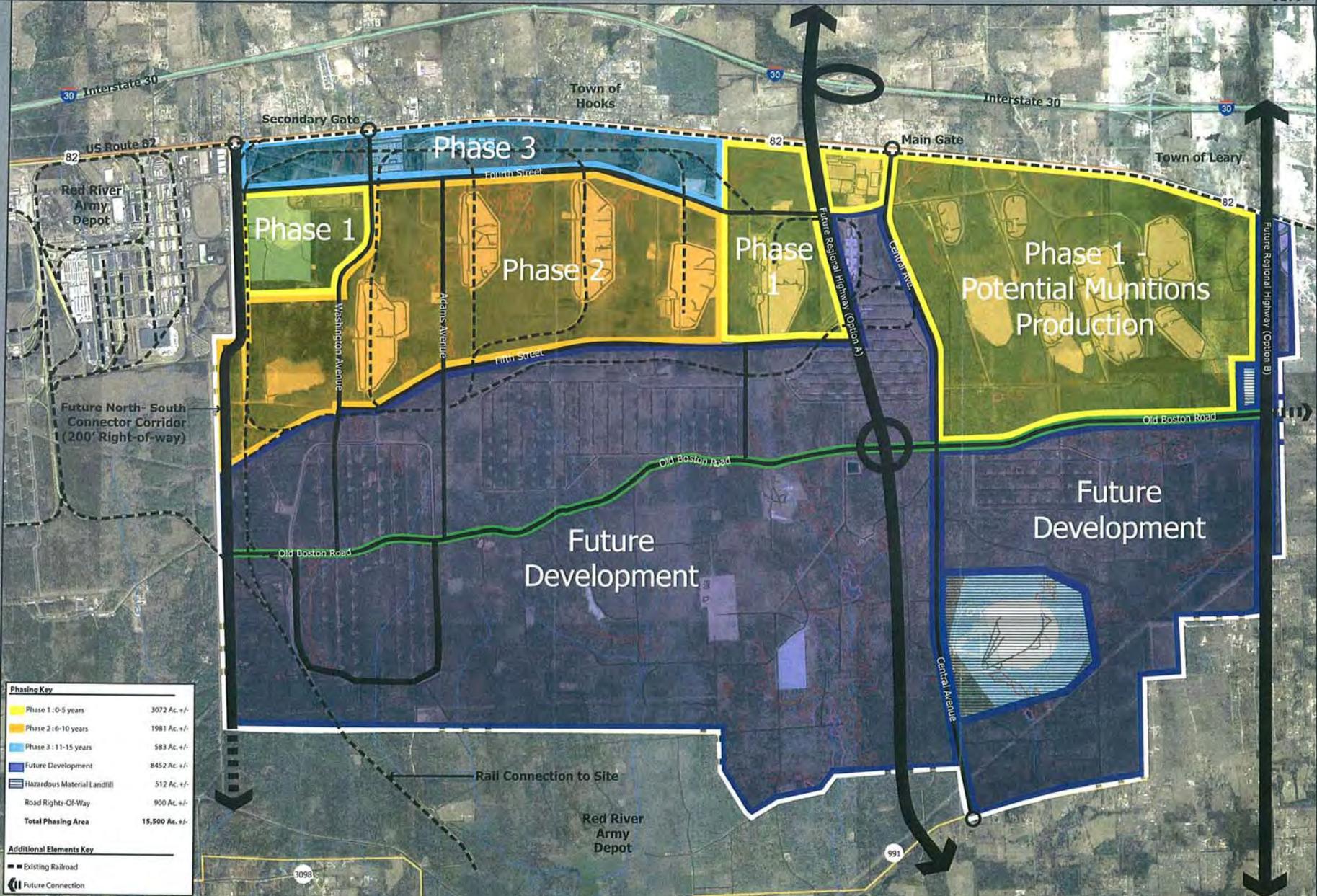
In addition to the development of Parcel L7, the existing landfill at Parcel L17 (Area A) will continue to operate as a municipal landfill and will help reduce disposal costs during site remediation phase. While this facility will not receive hazardous materials, the facility is a RCRA-D permitted landfill currently permitted to serve the needs of LSAAP and RRAD. This facility is a Type 1 landfill capable of accepting municipal wastes and Class II industrial wastes, including materials contaminated with up to 1,500 ppm total petroleum hydrocarbons (TPH). This landfill is reported to be approximately 10% full, and there is no expiration date for the existing landfill permit. As this time, it has not been determined if the landfill will be opened to accept the waste stream from adjacent municipalities, but that may be a possibility. Parcel L33 (2,213 acres) has been designated for DZI's continued operations if they should decide to remain at LSAAP.

Phase 2 will include the central warehouse/distribution area defined by Parcels L8-L16. While this large area is not likely to be fully developed during Phase 2 (Years 6-10), it is anticipated that the RRRRA will be able to prepare these parcels for redevelopment during this period and attract several new warehouse/distribution users. The utility and infrastructure investments leveraged by the construction of the ethanol plant(s) in Phase 1 will prepare this area for redevelopment. In addition, the southern portion of Parcel L17 would be included in Phase 2, if additional landfill space is needed.

Phase 3 would include the northern most warehouse/distribution parcels fronting U.S. Highway 82. Five parcels ranging in size from 89 acres to 143 acres and totaling 583 acres would be targeted in Years 11-15. These are smaller parcels served by rail, however, these parcels are also impacted by the presence of the Texas Northeastern Railroad short-line that runs along the southern edge of Highway 82 and potentially restricts access to these sites from the highway. Obtaining rail crossings and access points to each one of these development sites off Highway 82 is not likely to happen given railroad safety concerns. That will require users to access these sites from Fourth Street, which maybe viewed as less convenient by some companies.

- **Alternative Development Phasing Plan** - In the event that the ethanol plants are not constructed at Lone Star, the reuse plan contains an alternative phasing plan that assumes a more modest investment and development scenario (Exhibit 12-4). Under this scenario, it may take several years to position Lone Star as a regional, multi-modal warehouse/distribution center and in the interim, the property may attract development levels similar to those experienced at the Red River Commerce Park, which is also being marketed and developed by the Red River Redevelopment Authority (RRRA). Of course, if targeted companies were attracted early in the redevelopment process, the utility and infrastructure investment program would be accelerated based on available cash flows. However, the RRRRA would not anticipate making these upfront investments on speculative basis.

Phase I would begin at Parcels L6, L11 and L16, which is an area that is currently served by all essential utilities and infrastructure. Given the poor condition of the sewer lines and the likely contamination underlying much of the sewer collection system, miles of old, clay tile pipe may have to be replaced as new development extends down Fourth and Fifth Streets in the future. During the environmental remediation phase, it is likely that some soils below cracked and open sewer lines have been contaminated with hazardous residues washed from the munitions production lines into open sewer drains. These trenches may have to be remediated and the old sewer lines removed. However, the alternative development phasing plan assumes that minimal sewer replacement will be required during Phase I, since the main trunk line that runs down Central Avenue from the sewage treatment plant is newer PVC collection line and does not have to be replaced at this time.



Lone Star Army Ammunition Plant
 Alternative Development Phasing Plan
 Bowie County, Texas

Red River Redevelopment Authority
 May 08, 2007



Parcel L33 (2,213 acres) has been designated for DZI's continued operations if they should decide to remain at LSAAP.

Phase 2 contains nine parcels (L7-L10, L12-L15, and the southern half of Parcel L20) totaling approximately 1,981 acres. Phase 2 (Years 6-10) would include utility and infrastructure investments along Fourth Street to prepare the central part of the property for larger warehouse and distribution users. In all likelihood, the upgrading of rail infrastructure maybe needed during Phase 2 depending on the size and type of users attracted to this area. The southern 325 acres of Parcel L17 would allow for additional municipal landfill operations depending on the existing capacity of the active landfill (Area A) at that time.

Phase 3 under the alternative scenario is essentially identical to the preferred development phasing plan.

2. Red River Army Depot Western Excess Property (RRAD-WEP)

Unlike the Lone Star facility, the RRAD is largely untouched and does not include any existing production-related structures, utilities, or major infrastructure improvements. As such, the property's 3,835 acres are not well positioned to support development in the near-term. The following section describes the future redevelopment plan for RRAD-WEP and the challenges that must be addressed to achieve economic development benefits at this location.

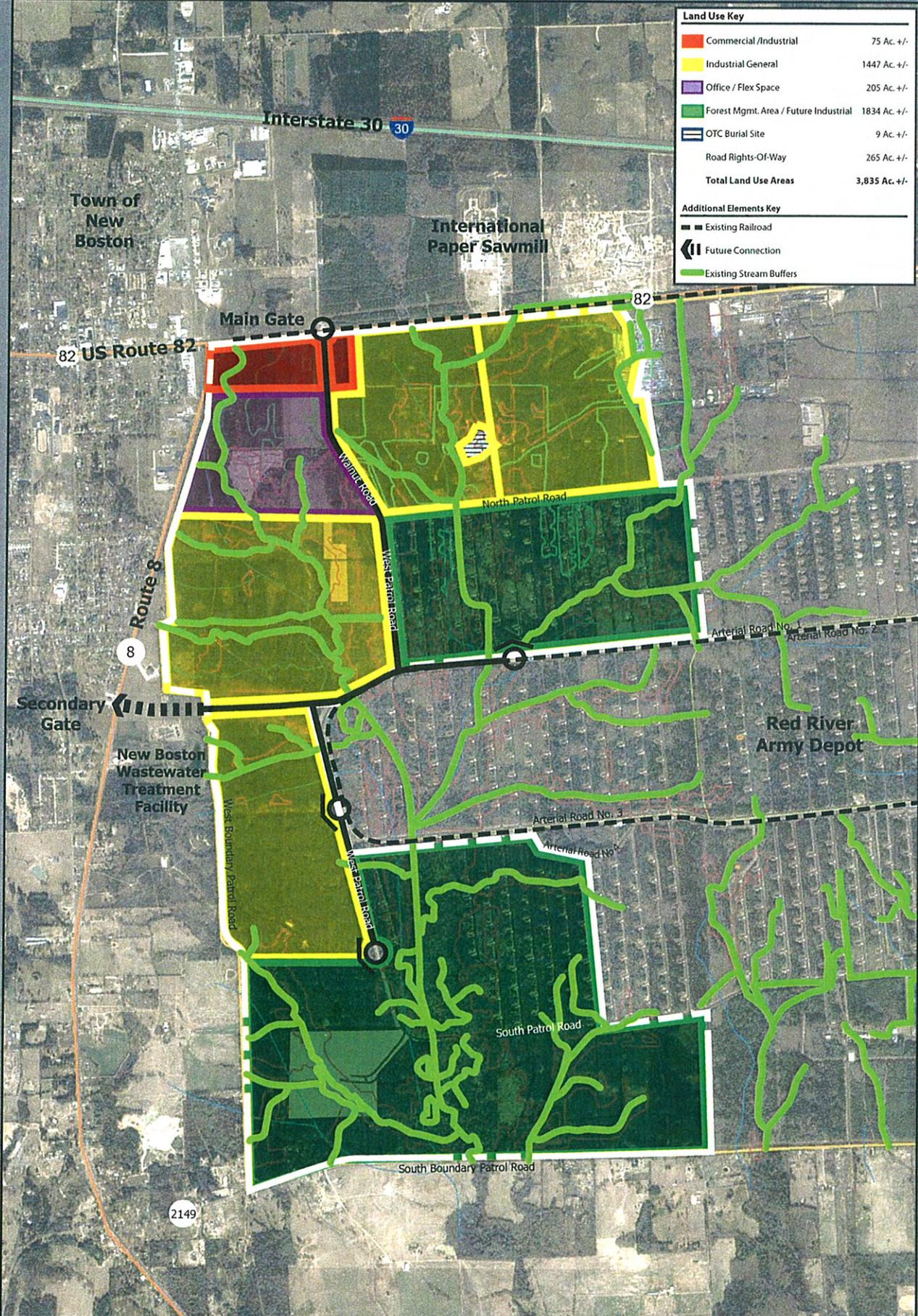
a.) Site Access

Primary access into the Red River excess property will occur off U.S. Highway 82 approximately 2,200 feet from the intersection of State Highway 8 and Highway 82 and about 1 ¼ miles from Exit 201 of Interstate 30. A secondary access point is proposed along Highway 8 approximately 2 miles south of the Interstate 30 interchange.

b.) Conceptual Land Use

The conceptual land use plan for the Red River property identifies four primary land uses for the 3,835-acre property (Exhibit 12-5). Similar to the Lone Star property, the land use plan reflects the RRRA's desire to generate economic development benefits at this location. However, it should be reiterated that the potential existence of wetlands or wetland soils on the Red River property could greatly impact its development potential. As presented in Chapter 4 of this report, previous wetland investigations have identified a variety of wetland soils running north to south through the middle of the western excess property. While the designation of jurisdictional wetlands is beyond the scope of this report, it is recommended that additional field investigations be conducted in the future to determine the extent of wetland conditions on both properties.

- **Commercial/Industrial** – Approximately 75 acres have been designated for commercial/industrial uses at the corner of U.S. Highway 82 and State Highway 8 in the City of New Boston, TX. This corner location offers commercial highway frontage that could support 500,000 to 1,000,000 square feet of commercial building space at a 30% floor-area-ratio. While local market demand is not likely to support a large scale commercial development in the near future, New Boston officials support the expansion of higher value commercial uses at this intersection.



Land Use Key	
■	Commercial /Industrial 75 Ac. +/-
■	Industrial General 1447 Ac. +/-
■	Office / Flex Space 205 Ac. +/-
■	Forest Mgmt. Area / Future Industrial 1834 Ac. +/-
	OTC Burial Site 9 Ac. +/-
	Road Rights-Of-Way 265 Ac. +/-
Total Land Use Areas	3,035 Ac. +/-

Additional Elements Key	
	Existing Railroad
	Future Connection
	Existing Stream Buffers

Red River Army Depot
 Conceptual Land Use Plan
 Bowie County, Texas

Red River Redevelopment Authority
 May 08, 2007

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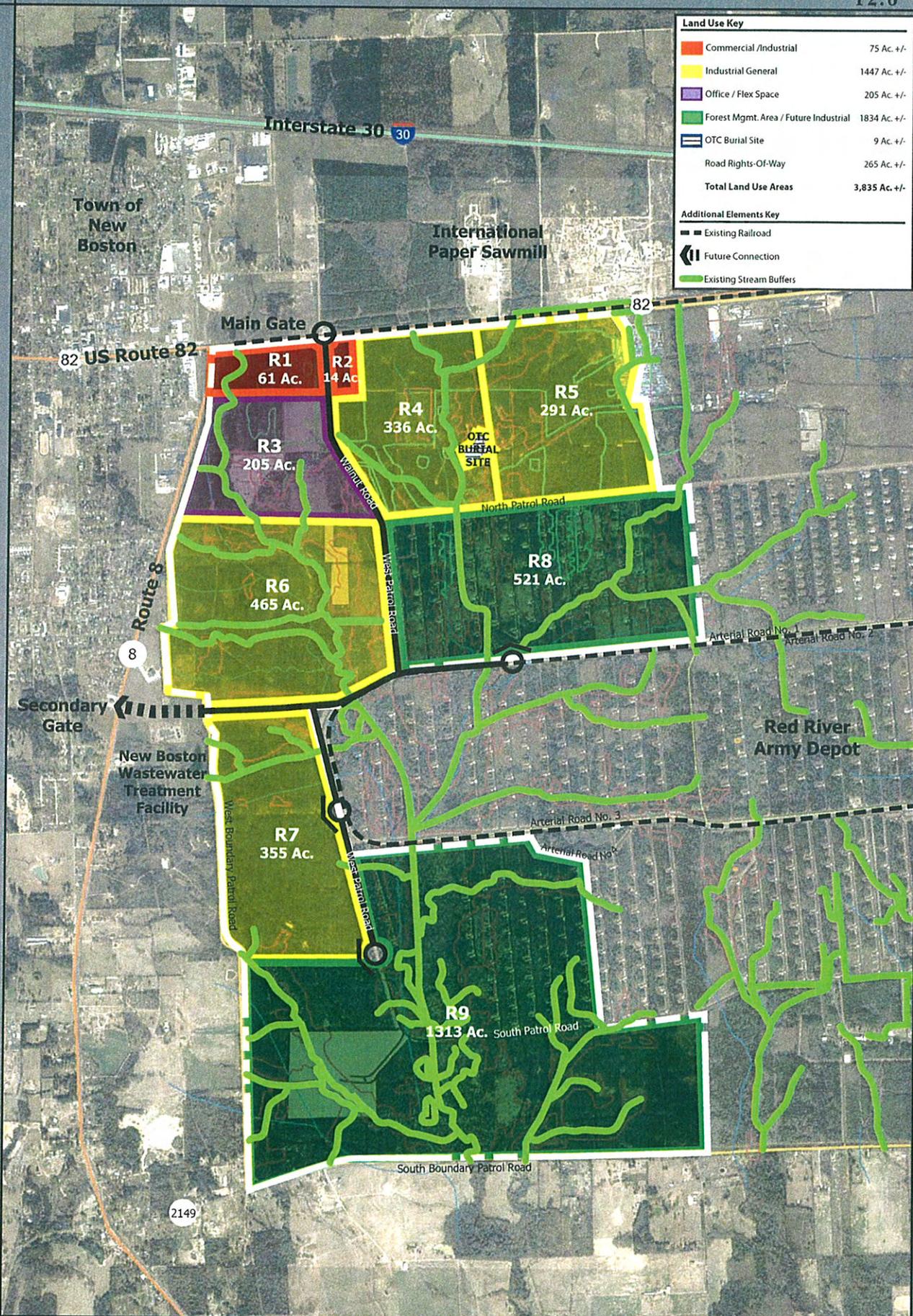
RKG **EDSA**

- **Office/Flex Space** – As the City of New Boston grows and redevelopment occurs at LSAAP, the demand for support office space, repair shops, machine and mechanic shops, and contractor yards will increase to support the business operations at Lone Star. To meet this demand, the conceptual land use plan designates 205 acres for office and flex space operations. Flex space a type of building designed to be versatile, which may be used in combination with office, research and development, quasi-retail sales, and including but not limited to industrial, warehouse and distribution uses. A typical flex building will be one or two stories with at least half of the rentable area being used as office space, have ceiling heights of 16 feet or less, and have some type of drive-in door. Because of lower lease rates (\$3 to \$4 cheaper than single-story office space), flex buildings have been viewed as budget space, but now companies increasingly are utilizing this type of space to address specialized needs.
- **Industrial General** – Four parcels consisting of approximately 1,447 acres have been set aside for general industrial uses, primarily smaller-scale, light industrial operations. Unlike the Lone Star property, which will be planned and marketed to attract large and very large users, the RRAD-WEP will be marketed to regional companies. The presence of streams and wetland soils could severely impact portions of the industrial general properties, particularly those parcels fronting Highway 82.
- **Forest Management Area/Future Industrial** – The forest management/future industrial area consist of two large parcels totaling 1,834 acres. Both parcels currently are impacted by the presence of storage bunkers, streams, and unknown wetlands. These conditions could increase the cost of, or even prohibit, future development activities. As such, the property will be managed for its timber resources. The revenues generated by timber sales will be used to make utility and infrastructure improvements to other developable areas on the property.

c.) Land Parcelization Plan

Exhibit 12-6 contains the land parcelization plan for the Red River excess property. The plan divides the 3,835 acres into nine separate parcels and four land uses. Development parcels range in size from a 14-acre commercial parcel at the north entrance of the site to a 1,313-acre forest management/future industrial parcel at the far south. The RRAD-WEP does not have an existing system of paved roads but rather gravel patrol roads. As such, each development site will require new access roads in most cases.

- Parcels R1 and R2 comprise 75 acres and are designated for commercial/industrial uses. These two sites will front on a new access road called Walnut Road that will enter the site from Highway 82.
- Parcel R3 is a 205-acre parcel designated for office/flex uses. Access to Parcel R3 will be accessible from Highway 8 and from the proposed new access road off Highway 82.
- Parcels R4-R7 consist of 4 larger parcels ranging in size from 291 acres to 465 acres. A total of 1,447 acres are designated for industrial general development. These parcels can be accessed from Highway 82 (Parcels R4 and R5), a new access road from Highway 8 (R6 and R7) and through a series of internal patrol roads that will require paving.



Red River Army Depot
 Land Parcelization Plan
 Bowie County, Texas

Red River Redevelopment Authority
 May 08, 2007



- Parcels R8 and R9 are designed as a future forest management/future industrial area and is comprised of 1,834 acres. These parcels will be accessed by existing patrol roads and internal logging roads.

d.) Development Phasing Plan

A three-phase development plan has been prepared for the Red River property, but future development will depend largely on market demand and the cost and benefit of extending utilities and infrastructure to these parcels (Exhibit 12-7). The ability of the RRRRA to extend sanitary sewer to RRAD-WEP will be constrained by cost factors, since the far eastern edge of the excess property is several miles west of the existing Red River Commerce Park. These limitations may require the RRRRA to negotiate with third parties (City of New Boston, TWU or other providers) to provide water and sewer service.

- **Phase 1 (Years 1-5)** – Parcels R1 and R2 have the greatest potential for development, primarily due to the availability of nearby utilities and infrastructure along Highway 82. Local commercial demand will determine the development pace of these parcels.
- **Phase 2 (Years 6-10)** – Phase 2 includes Parcel R2 designated for office and flex space.
- **Phase 3 (Years 11-15)** – Phase 3, which includes Parcels R4 and R5, will be developed in later years for general industrial uses. Given the competition for industrial uses created by the redevelopment of LSAAP, it may take longer for industrial absorption to occur at Red River.

All remaining parcels at Red River are designated as long-term, future development areas beyond Year 15.

D. UTILITY IMPROVEMENT PLAN

The redevelopment of the LSAAP and RRAD-WEP facilities site to commercial and industrial uses will require a significant investment in the upgrade and expansion of major utility systems and infrastructure. The proposed upgrades are shown on the Proposed Utility Location Map (Exhibits 12-8, 12-9 and 12-10) for both the LSAAP and RRAD-WEP sites. The following section highlights the range of improvements that might be required in order to achieve the proposed development vision.

1. Wastewater Collection and Treatment

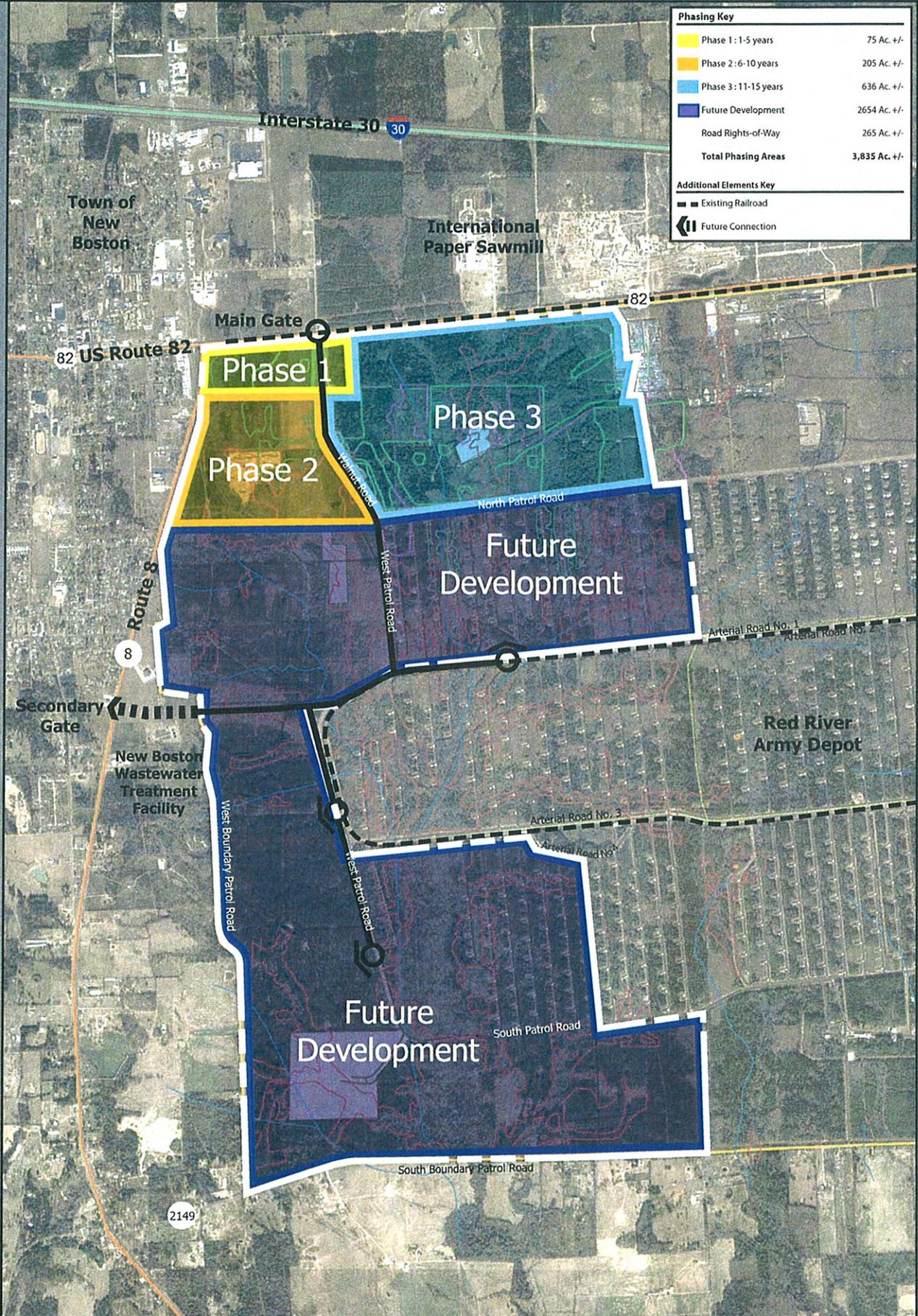
a.) Lone Star Army Ammunition Plan

The main trunk-line at LSAAP can be used for the continued outflow and treatment from RRCP and RRAD to the WWTP. All laterals at LSAAP require abandonment due to deteriorated condition and environmental impacts. The WWTP requires upgrades to maintain capacity, improve treatment and meet new permit limitations.

A new WWTP is needed to address the requirements of any new users during redevelopment. The capacities and treatment capabilities will need to address these new commercial and industrial users. The new WWTP will be strategically sited to allow the following:

Phasing Key	
Phase 1: 1-5 years	75 Ac. +/-
Phase 2: 6-10 years	205 Ac. +/-
Phase 3: 11-15 years	636 Ac. +/-
Future Development	2654 Ac. +/-
Road Rights-of-Way	265 Ac. +/-
Total Phasing Areas	3,835 Ac. +/-

Additional Elements Key	
	Existing Railroad
	Future Connection



Red River Army Depot
 Development Phasing Plan
 Bowie County, Texas

Red River Redevelopment Authority
 May 08, 2007

0 500 1000 2000 3000 NORTH **RKG** **EDSA**

- Streamlined permitting since the discharge will not flow into a water supply reservoir,
- The elimination of several lift stations so that system operates by gravity, and
- The elimination of several miles of sewer main and associated I&I concerns.

The planned upgrades to the existing WWTP to meet new permit requirements are estimated to range from \$2.2 million to \$2.6 million. To construct a new 1.5 MGD WWTP to serve new development is expected to cost in the range of \$3.3 million to \$3.6 million (Table 12-1).

Gravity sewer main construction necessary to support future development will be performed in a phased approach. Based on a strategically located central WWTP, three primary sanitary sewer main branches will be needed as follows:

- A branch to serve the northern halves of Areas B, C, E, F, G and Areas BB, D and L, which is estimated to cost \$2.0 million to \$2.4 million (Exhibit 12-8 and 12-9).
- A branch to serve the southern halves of Areas B, C, E, F, G and Areas H and V, which is estimated to cost \$1.8 million to \$2.2 million.
- A branch to serve the areas east of Central Avenue including Areas J, K, M, N, P, Q, R and S, which is estimated to cost \$2 million to \$2.4 million.

The cost to construct these basic collection mains to these areas will range from \$5.8 million to \$7 million. The cost does not include installation of service laterals which will be constructed for specific users. The ultimate development of the southwestern portion of the site may require an additional main trunk line to that area for which costs have not been estimated.

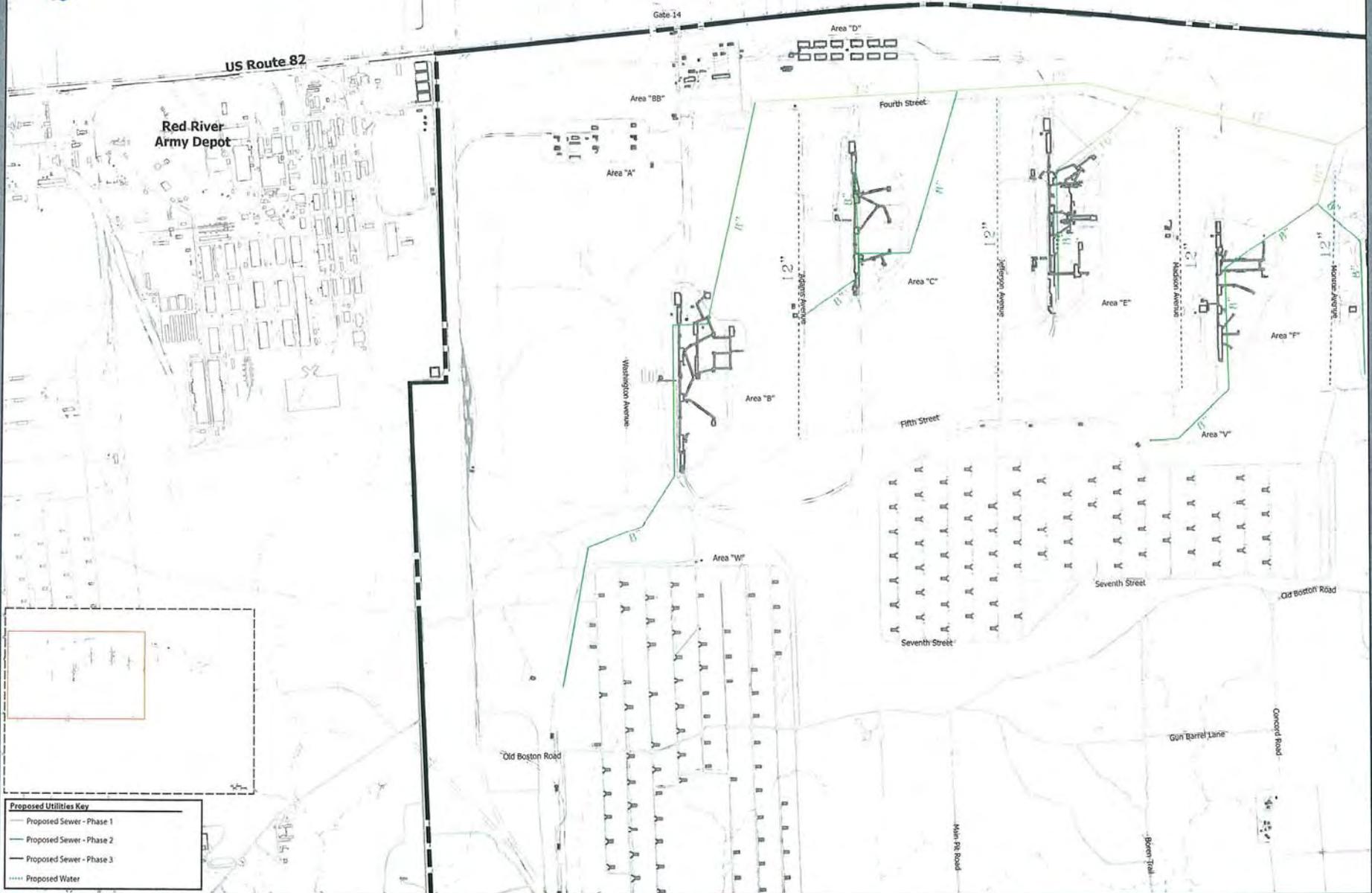
The cost to provide wastewater treatment and collection to such a large area is extremely variable. In summary, a new WWTP is needed to replace the existing obsolete and poorly located treatment plant. The cost to extend mains from the new plant to the redeveloped areas will be made on an "as needed" basis. The following table shows estimated costs for redevelopment.

Table 12-1
Future Sewer Improvement Plan
Lone Star Army Ammunition Plant

Item	Description	Cost Range
New WWTP	New Plant 1.5 MGD	\$3.3 to \$3.6 million
Provide Gravity Sewer to the northern half of the production areas	Phase I Sewer Replacements	\$1.8 to \$2.2 million
Provide Gravity Sewer to the southern half of the production areas	Phase II Sewer Replacements	\$2.0 to \$2.4 million
Provide Gravity Sewer to the eastern side of the production areas	Phase III Sewer Replacements	\$2.0 to \$2.4 million

Source: MTG Engineers, 2007

Note: The scheduling of wastewater improvements can only be determined based on the pace and location of new users in the redeveloped areas.



Lone Star Army Ammunition Plant
 Proposed Utilities Location Map - Northwest
 Bowie County, Texas

Red River Redevelopment Authority
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Lone Star Army Ammunition Plant
 Proposed Utilities Location Map - Northeast
 Bowie County, Texas

Red River Redevelopment Authority
 May 08, 2007



b.) Red River Army Depot-West Excess Property

The RRAD footprint requires all new sewers. Connection to either the RRCP or New Boston via lift station will be determined based on construction and operational economics. For smaller users, lift stations and force mains to the New Boston system may be sufficient (Exhibit 12-10). For larger or industrial flows, a new treatment plant or package system installed by the RRRRA will probably be the best alternative.

Because of the variable nature of the how and when this property will develop, it is difficult to estimate the cost of providing sewer service to the area. Cost could range from \$500,000 for laterals, lift stations and force mains to \$3.6 million for a new WWTP. It is to be noted that the heavier users of sewer will probably be located at the LSAAP site in order to not have to duplicate the cost of providing additional WWTPs.

3. Potable and Raw Water**a.) Lone Star Army Ammunition Plant**

For LSAAP the main distribution loop with purchased water from TWU can be used for well into the future. All service laterals to the production areas will have to be abandoned due to deteriorated condition and environmental impact. New service laterals can be installed by RRRRA based on redevelopment phases. For the southern area (below Fifth/Sixth Streets), a new southern loop should be planned.

Table 12-2 shows the redevelopment costs to provide water service to the interior of Areas G, F, E and B. However, for future developments fronting Fourth Street, water service is generally available at no additional cost to the RRRRA. For all redevelopment purposes, the RRRRA will have to provide water service. It will be difficult to maintain chlorine residuals with the large diameter mains and present water demand. Having RRRRA as the singular service provider for the LSAAP redevelopment will ensure the system integrity for all users.

TWU operates a thirty-inch potable water line adjacent to the site. There is sufficient capacity in its system to add heavy water users. Up to 5 MGD of treated water may be possible for future industries. In addition about 100 MGD of raw water is available by permit from Lake Wright Patman.

Table 12-2**Lone Star Ammunition Plant****Preferred Reuse Alternative - Water Service Redevelopment Costs**

Item	Description	Estimated Cost
Provide Water Service to Area G	Construct 12" Water Main (4,300 LF)	\$150,000 to \$250,000
Provide Water Service to Area F	Construct 12" Water Main (5,000 LF)	\$200,000 to \$300,000
Provide Water Service to Area E	Construct 12" Water Main (6,600 LF)	\$280,000 to \$280,000
Provide Water Service to Area B	None Needed for Flows < 1,000 gpm	\$1,500,000
Provide Water Service to Any Area	For Flows > 1,500 gpm	\$1.0 to \$1.5 million

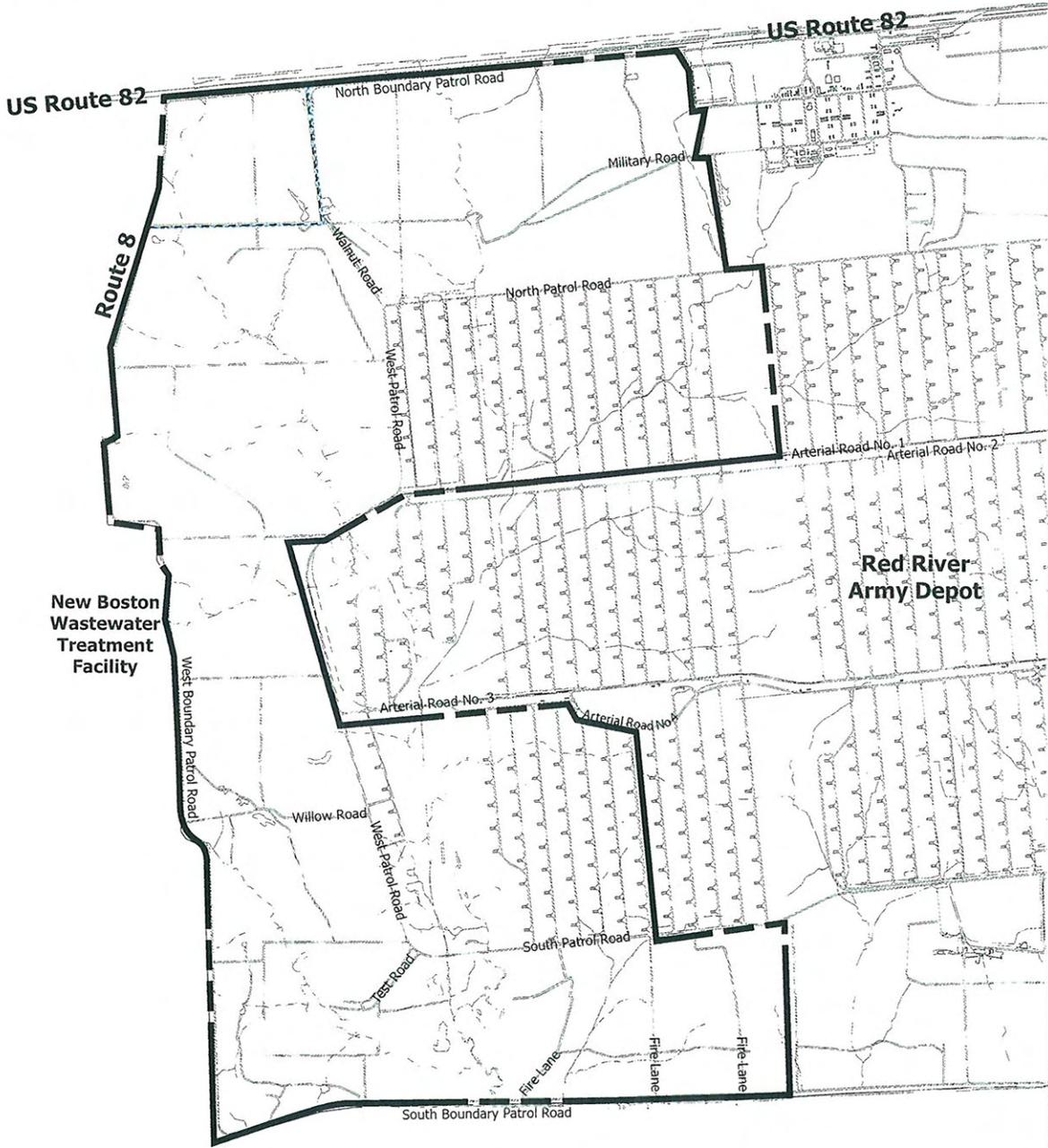
Note: These improvements can be made independent of each other. Availability is approximately 1,000 gpm

Source: MTG Engineers, 2007

Proposed Utilities Key	
	Proposed Sewer
	Proposed Water

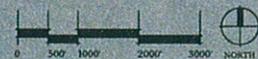
Town of
New
Boston

International
Paper Sawmill



Red River Army Depot
 Proposed Utilities Location Map
 Bowie County, Texas

Red River Redevelopment Authority
 May 08, 2007



b.) Red River Army Depot-West Excess Property

The RRAD-WEP footprint requires all new water lines which can be connected to the RRCP. RRAA can coordinate providing water to this area for development. Because of the variable nature of the how and when this property will develop, it is difficult to estimate the cost of providing water service to the area. Cost could range from \$250,000 to \$500,000 for water lines and fire hydrants to service a 400 acre commercial development. It is to be noted that the heavier users of water probably will be located at the LSAAP site in order to not have to duplicate the costs of providing large water capacity at both sites.

4. Electrical**a.) Lone Star Army Ammunition Plan**

For LSAAP, the main distribution loop can be used well into the future. However, all service lines to the production areas will have to be abandoned. New service lines can be installed by RRAA based on redevelopment phases. The local electrical company, SWEPCO, can provide service to the area. Some issues exist in maintaining service to DZI for the balance of their contract while they locate to their final footprint. The RRAA can coordinate these logistics with DZI following early transfer.

b.) Red River Army Depot-West Excess Property

The RRAD footprint requires all new power lines. These will be connected to the SWEPCO system from New Boston. SWEPCO can provide the operation and maintenance to the system in keeping with their PUCT regulations. A new substation on the RRAD footprint could assist both the privatized area and expanding RRAD missions.

5. Natural Gas**a.) Lone Star Army Ammunition Plan**

For LSAAP, the existing system cannot be operated by the local gas provider, Centerpoint Energy Gas Transmission Pipeline, due to the age and type of construction. All service lines to the production areas will probably have to be abandoned due to deteriorated conditions and environmental impacts. New service lines can be installed by RRAA based on redevelopment phases.

b.) Red River Army Depot-West Excess Property

The RRAD footprint requires all new gas lines. These can be connected to the Centerpoint Energy's existing natural gas distribution system from New Boston. Centerpoint Energy can provide the operation and maintenance to the system in keeping with their Texas Railroad Commission regulations.

6. Storm Water**a.) Lone Star Army Ammunition Plan**

Storm water permitting and management will be required based on specific use. There is sufficient area on the LSAAP site for RRAA to provide regional management as required. Discharge monitoring and permitting can be undertaken based on development activity. Annual budgets will be required to address maintenance activities for the creeks, roadside ditches and culverts.

b.) Red River Army Depot-West Excess Property

Storm water permitting and management will be required based on specific use. There is sufficient area on the RRAD site for RRAA to provide regional management as required. Discharge monitoring and permitting can be undertaken based on development activity.

Annual budgets will be required to address maintenance activities for the creeks, roadside ditches and culverts.

E. TRANSPORTATION IMPROVEMENT PLAN

1. Road Maintenance Costs

There are approximately 32 miles of paved roads and 109 miles of unpaved road. Road maintenance basically will be caretaker status until redevelopment occurs. The cost to provide the maintenance is described in Table 12-3. This number will increase as the road system becomes fully utilized.

Table 12-3
Lone Star Ammunition Plant
Annual Road Maintenance Costs

Item	Description	Estimated Cost
Repave roads	1.0 mile per year	\$100,000
Regrade roads	4 miles per year	\$25,000
Replace culverts/ditches	Annual Cost	\$10,000
Emergencies/Contingencies	Annual Cost	\$15,000

Source: MTG Engineers, 2007

2. Road Improvements

As part of the redevelopment plan, new road construction could be required in subsequent development phases. Table 12-4 is a list of improvements needed to achieve redevelopment in subsequent phases south of Fifth Street. The Old Boston Road reconstruction is required in order for the southern two thirds of LSAAP to develop. This east/west road will connect to FM 2148 on the east side. The off-site construction will occur between LSAAP and the state road. For development north of Fifth Street, the existing road network is generally serviceable to meet most user needs.

Table 12-3
Lone Star Ammunition Plant
Road Improvement Costs (to open southern portions of LSAAP)

Item	Description	Estimated Cost
Old Boston Road (Onsite)	6.5 miles of new road	\$6,500,000
Old Boston Road (Offsite)	1.5 miles of new road	\$1,500,000
RRAD (SH8 to US82)	1.25 miles of new road	\$1,250,000

Source: MTG Engineers, 2007

RRAD roads are comprised of a north to south road at the existing gate with an east to west connection to Highway 8. This road loop will open approximately 400 acres for development at the northwest corner of the site.

3. Future Rail Concerns

The Union Pacific (UP) rail system is classified as main-line rail. In general shipping or freight rates are less costly. In order to use the UP connection located to the south near Redwater, UP has suggested that significant rail upgrades and/or maintenance is needed. These are as follows:

- Construct new switching at spur off main line for approximately \$600,000.
- Reconstruct UP spur into RRAD/LSAAP for approximately \$2 million to \$3 million.

One particular concern with using the UP spur is getting permission and security clearances to cross a short section of RRAD at the southwestern part of LSAAP. If a decision is made to upgrade this spur, RRAD, RRA and UP will have to coordinate efforts. It is to be noted that between 1998 and 2001, UP brought three heavily loaded, 80-car unit trains per week through this connection without the aforementioned improvements. At this time UP has not responded to information requests as to the need for the above improvements (operational or maintenance).

The TNER rail system is a short-line track from Texarkana. This system terminates in New Boston near the International Paper sawmill. Rates on this system are typically higher than a mainline system due to switching costs from the mainline to the shortline track. Some upgrades to the TNER system will be required if heavy shippers of freight are placed at the LSAAP site during redevelopment. The TNER will make these repairs based on freight type, number and sustainability.

There also is a Kansas City Southern (KCS) switchyard in Texarkana; however, marketing agreements between the TNER and UP systems could preclude the KCS as a viable rail provider to either RRAD or LSAAP. The KCS rail system provides potential reuse benefits because of the access to Pacific Rim cargo through Mexico; however, the TNER and UP lines are owned and affiliated with the UP system.

Rail Connections to Mexican Port Could be Impacted by Rail Competitors

Marketing agreements between the TNER and Union Pacific systems could preclude the KCS as a viable rail provider to either RRAD or LSAAP. The KCS rail system provides potential reuse benefits because of the access to Pacific Rim cargo through Mexico; however, the TNER and UP lines are owned and affiliated with the UP system.

For LSAAP on-site tracks, LRS has maintained an annual maintenance budget of approximately \$250,000 for rail, ballast and tie upgrades. This has worked for their operations, but expanded use of the rail due to redevelopment requires a higher annual maintenance commitment. Budgets between \$250,000 and \$500,000 per year should be maintained to keep rail a viable shipping option for redevelopment. The current or future rail operator on LSAAP should be responsible for these annual maintenance costs.

For budgeting the internal rail maintenance, the cost to minimally repair the tracks is \$150 per foot and includes tie upgrades and ballast. To provide new rails, ties, ballast and drainage improvements could cost \$300 per foot. Complete reconstruction has a long service life (more than 40 years).

4. Future Rail Viability

From discussions with both the UP and TNER systems, the LSAAP site could receive favorable attention from prospective tenants due to the rail availability and size of the site. Future decisions as to planning rail construction can only be made based on the needs of specific shippers. Currently, the LSAAP site could receive unit trains (110 cars each) two to three times per week from the TNER system. For shipments less than this amount (between 2 and 100 cars per week), TNER will serve the LSAAP site on an as needed basis with current rates. Both the UP and TNER systems indicated that they can place the LSAAP site on their marketing data bases once the property transfer has been made.

F. JOB CREATION AND ECONOMIC DEVELOPMENT PROJECTIONS

1. Historical Job Creation at Red River Commerce Park

For the past ten years, the Red River Redevelopment Authority (RRRA) has functioned as one of North East Texas' most aggressive and successful economic development entities. Simply put, the RRRA pursues opportunities for business attraction, retention and expansion, on behalf of the citizens of Bowie County and the larger North East Texas region. The RRRA has been successful over the past ten years in creating a stabilized job generation program on portions of the Red River Army Depot that were excessed during the 1995 BRAC round. Approximately 600 net new jobs have been created on the site, an average of 60 net new jobs annually. Table 12-5 provides a summary of the existing tenant base at the Red River Commerce Park.

Table 12-5
Red River Commerce Park Existing Tenant Raster
1998-2007

Tenant	Industry	Estimated Employment	Occupied Square Footage	Year Started at RRCP
RRRA	Municipal	7	9300	1998
Best Built Portable Buildings	Prefabricated Structures	10	17800	1999
Genova Products	PVC Pipe Distributor	1	2576	2000
Oak Grove Golf Course	Services/ Recreation	20	20000	2001
Lear Siegler Services	Manufacturing	400	422745	2002
CAS	Defense	20	15827	2002
URS	Engineering Svcs Industrial	15	3618	2003
Surplus Plus	Maintenance	15	31718	2004
Burns Picture Frames	Household Items	10	26000	2004
Express RX	Pharmaceutical	20	23600	2004
Lindsey & Osborne	Management	5	4800	2004
Green Valley Trucking	Trucking	1	0	2005
BAE Systems	Technology	20	4000	2006
Quail Tools	Manufacturing	20	40000	2007
Total	-	564	621984	-

Source: Jeffrey Donohoe Associates LLC, 2007

2. Job Creation Projections

However, the RRRA is approaching the limit on the amount of development it can support in the existing Red River Commerce Park. It is anticipated that the Commerce Park will achieve build-out within the next three to five years. As the RRRA's available land from the 1995 BRAC round declines, the RRRA will re-focus this economic development effort to sites at the Lone Star facility. The RRRA will continue its aggressive approach to economic development, working tirelessly to expand employment opportunities within the region.

Going forward, the RRRA will use a multi-pronged approach to the redevelopment of the Lone Star and Red River properties. The RRRA has identified a four-part strategy to pursue the attraction of new jobs, retention of existing jobs and expansion of existing employers.

a.) Maintain Existing Jobs

First and foremost, the RRRA will focus on retaining existing jobs on-site. This means working with existing tenants at the Red River Commerce Park, as well as ensuring that existing employers on the Lone Star site have the opportunity to continue operations. RRRA's first effort in this regard was to create a redevelopment strategy which supports continued operations for Day and Zimmermann (DZI). DZI operates the LSAAP on behalf of the government, and employs an estimated 275 people. The redevelopment plan allows DZI to continue its operations, while focusing on the commercialization of its products and technologies. In addition, other on-site tenants at Lone Star, such as Tec Linens, American Dehydrated Foods, Munitions Tech Division and Lone Star Railcar Services, employ approximately 60 people on-site, and RRRA has developed a strategy to maintain these critical jobs as well.

b.) Continued Economic Development Marketing

RRRA has aggressively marketed the Bowie County region as a business location, primarily through trade associations, conferences, publicity and personal marketing by key staff. The

results have been solid – long-term, steady growth of jobs on-site. As discussed above, RRRRA has created an average of approximately 60 net new jobs annually over the past ten years. It is anticipated that the RRRRA will be able to create an average of 60 net new jobs annually at the excess Lone Star and Red River properties as they become available for redevelopment. For the next several years, a portion of these jobs are expected to be accommodated at the Commerce Park, but as that site reaches capacity, more of the new jobs are expected to locate at Lone Star.

c.) Capitalize on the State's Position as a Leader in Energy

The State of Texas has a long history of being a leader in the field of energy. However, because of its location and proximity to the raw materials, the State has only recently begun to attract the attention of alternative fuels plants. The RRRRA has a memorandum of understanding and real estate development option in place with an ethanol production company. The company indicates that they plan to construct two ethanol plants, as well as an associated cellulose plant. The projected construction cost for these facilities is estimated to be \$350 to \$400 million, creating between 4,000 and 6,000 person-years of construction employment. Operational employment at the plants is expected to be between 75 and 100 permanent employees.

d.) "Swing for the Fences"

While the RRRRA's existing marketing and business attraction efforts have shown significant results, every economic developer dreams of "hitting a home run". For some communities and regions, the home run comes in the form of a major manufacturing facility. In the recent past, several car companies have dramatically altered the landscape of communities by developing new auto and truck plants. For the RRRRA, the availability of large tracts of land with excellent highway access and rail service means that the dream could be related to large-scale warehouse and distribution opportunities. As discussed elsewhere in this report, large-scale warehouse development is an industry that is attractive for Lone Star and Red River, based on growth in the industry, quality of transportation access, availability of a sufficient workforce and the presence of utilities. The RRRRA will aggressively pursue large-scale warehouse and distribution uses for the site, in order to capitalize on the excellent rail and highway access, as well as available infrastructure systems. While it is difficult to definitively forecast when a large-scale user might be recruited to the site, RRRRA is confident that at least one million square feet of warehouse space will be developed at the site in the next twelve to fifteen years. This would create an estimated 700 to 1,100 permanent jobs in the warehousing and distribution industry on-site.

Table 12-6 shows projected job creation and retention activities at Lone Star and Red River. As shown, the retention of existing jobs, the completion of the ethanol plants and the ongoing marketing efforts of the RRRRA are projected to result in more than 500 jobs on-site within five years, and more than 750 jobs on-site within ten years. In total, the RRRRA projects total employment of more than 2,000 on-site over the next fifteen to twenty years, as a result of the redevelopment of Lone Star and Red River.

Table 12-6
15-Year Projection of Job Creation and Retention
Long Star Army Ammunition Plant/Red River Army Depot-WEP

	Development Year														
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
New Annual On-Site Jobs															
Jobs Retained On-Site	275														
Doy & Zimmermann, Inc	4														
Lone Star Rollcar	30														
American Dehydrated Foods	20														
Tec Liners	5														
Other On-site Tenants															
New Jobs Attracted to Site															
Ethanol Plants			35												
Continued Business Recruitment and Expansion - RRRRA		10	20	30	40	50	60	60	60	60	60	60	60	60	60
Marketing															
Large-Scale Distribution/Warehouse															
Public Works and Maintenance	3														400
Total Direct On-Site Jobs	337	10	55	65	40	50	60	60	60	60	60	60	60	60	460
Cumulative On-Site Jobs															
Jobs Retained On-Site	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275
Doy & Zimmermann, Inc	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Lone Star Rollcar	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
American Dehydrated Foods	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Tec Liners	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Other On-site Tenants															
New Jobs Attracted to Site															
Ethanol Plants			35	70	70	70	70	70	70	70	70	70	70	70	70
Continued Business Recruitment and Expansion - RRRRA		10	30	60	100	150	210	270	330	390	450	510	570	630	690
Marketing															
Large-Scale Distribution/Warehouse															
Public Works and Maintenance	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Cumulative Direct On-Site Jobs	337	347	402	467	507	557	617	677	737	1,197	1,257	1,317	1,377	1,437	1,897
On-site Jobs (Beginning of Year)	334	337	347	402	467	507	557	617	677	737	1,197	1,257	1,317	1,377	1,437
Jobs added - current year	3	10	55	65	40	50	60	60	60	60	60	60	60	60	460
On-site jobs - end of year	337	347	402	467	507	557	617	677	737	1,197	1,257	1,317	1,377	1,437	1,897
Estimated Square Footage to Support Jobs															
Building SF to Support Existing Tenants	302,500	302,500	302,500	302,500	302,500	302,500	302,500	302,500	302,500	302,500	302,500	302,500	302,500	302,500	302,500
Doy & Zimmermann, Inc	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Lone Star Rollcar	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000
American Dehydrated Foods	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000
Tec Liners	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other On-site Tenants															
Building SF to Support New Companies															
Ethanol Plants			52,500	105,000	105,000	105,000	105,000	105,000	105,000	105,000	105,000	105,000	105,000	105,000	105,000
Continued Business Recruitment and Expansion - RRRRA		11,000	33,000	66,000	110,000	165,000	231,000	297,000	363,000	429,000	495,000	561,000	627,000	693,000	759,000
Marketing															
Large-Scale Distribution/Warehouse	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Public Works and Maintenance															
Cumulative Direct On-Site Jobs	349,000	360,000	434,500	520,000	619,000	685,000	751,000	817,000	1,383,000	1,449,000	1,515,000	1,581,000	1,647,000	2,213,000	

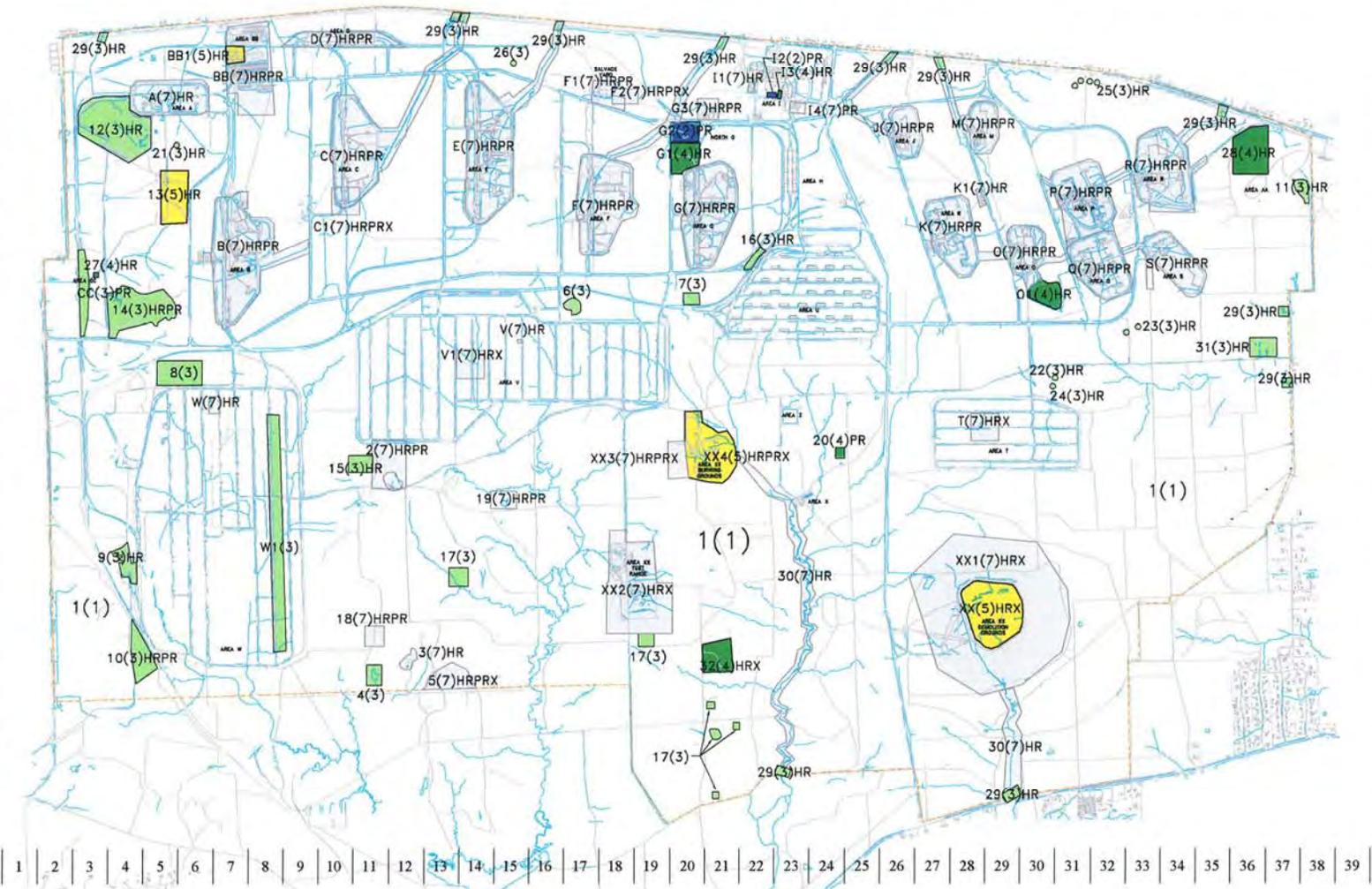
Source: IPA LLP, 2007

APPENDIX

Appendix A – Environmental Condition of Property Parcel Map
Lone Star Army Ammunition Plant
Red River Army Depot-West Excess Property

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LEGEND

- LSAP BOUNDARY
- EXAMPLE PARCEL DESIGNATION 99(7)HRPR
- 99 PARCEL DESIGNATION
- (7) ECP CATEGORY
- HR HAZARDOUS SUBSTANCE RELEASE
- HRX PETROLEUM SUBSTANCE RELEASE OR DISPOSAL
- X EXPLOSIVE HAZARD/ARC, WHICH INCLUDES DMH, UED, AND MC
- ECP CATEGORY 1 AREA WHERE NO RELEASE OR DISPOSAL OF HAZARDOUS SUBSTANCES OR PETROLEUM PRODUCTS OR THEIR CONTAMINANTS HAS OCCURRED AND MONITORING OF EACH SUBSTANCE FROM ADJACENT AREAS
- ECP CATEGORY 2 AREA WHERE RELEASE OR DISPOSAL OF PETROLEUM PRODUCTS HAS OCCURRED
- ECP CATEGORY 3 AREA WHERE RELEASE, DISPOSAL, OR MONITORING OF HAZARDOUS SUBSTANCES HAS OCCURRED, BUT NO REMEDIAL ACTION NECESSARY TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT HAVE BEEN TAKEN
- ECP CATEGORY 4 AREA WHERE RELEASE, DISPOSAL, OR MONITORING OF HAZARDOUS SUBSTANCES HAS OCCURRED, BUT REMEDIAL ACTION NECESSARY TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT HAVE BEEN TAKEN
- ECP CATEGORY 5 AREA WHERE RELEASE, DISPOSAL, OR MONITORING OF HAZARDOUS SUBSTANCES HAS OCCURRED, BUT NO REMEDIAL ACTION OR MONITORING HAS BEEN TAKEN AND ALL RELATED ACTIONS HAVE NOT BEEN TAKEN YET
- ECP CATEGORY 6 AREA WHERE RELEASE, DISPOSAL, OR MONITORING OF HAZARDOUS SUBSTANCES HAS OCCURRED, BUT REMEDIAL ACTION HAS NOT YET BEEN TAKEN
- ECP CATEGORY 7 AREA THAT ARE UNEVALUATED OR REQUIRE ADDITIONAL EVALUATION

URS

ENVIRONMENTAL CONDITION OF PROPERTY PARCEL MAP
LONG STAR ARMY AMMUNITION PLANT

DATE: 01/11/04	PROJECT NO: 04-100	SCALE: 1"=100'	DATE: 01/11/04	PROJECT NO: 04-100
DESIGNER: URS	DATE: 01/11/04	PROJECT NO: 04-100	DATE: 01/11/04	PROJECT NO: 04-100

December 30, 2004 8:10:48 a.m.
Project: 04-100-100-100

